ENVIRONMENTAL • GEOTECHNICAL
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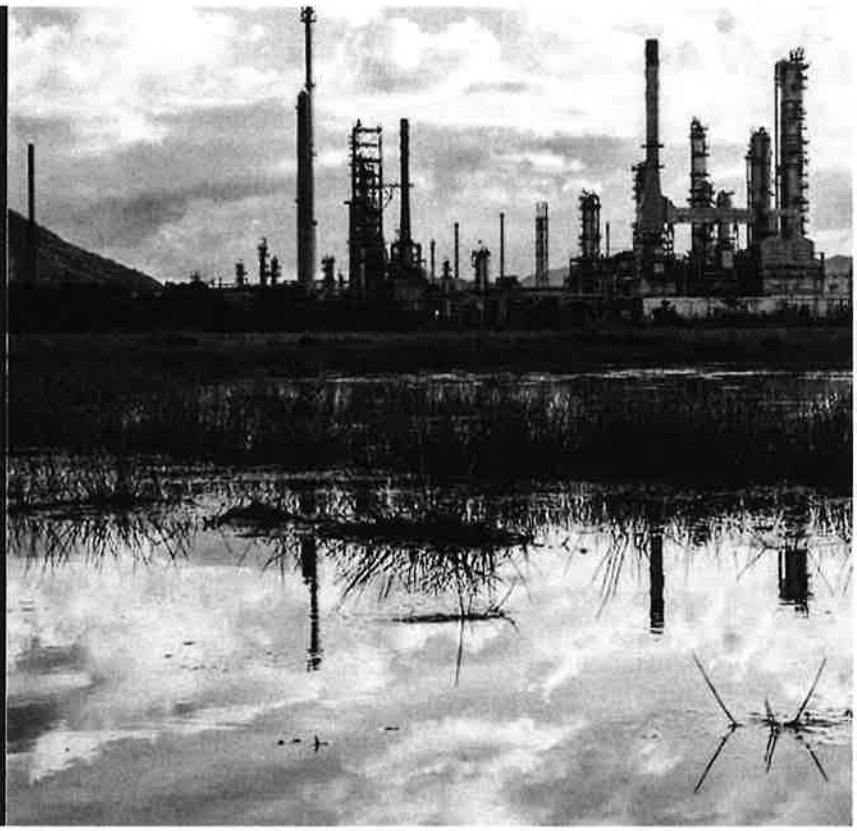
Prepared for:
Minnesota Pollution Control Agency

Proposal For:
Remediation Master Contract – Category B

Requisition Number:
R3201-2000008034

Date:
March 30, 2018



Dane Ralston
Senior Project Manager
ATC Group Services LLC
5301 East River Road, Suite 101
Fridley, Minnesota 55421
Telephone: 612-270-4272
Fax: 651-635-9080
dane.ralston@atcgs.com

ATC 35 YEARS 1982-2017

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Technical Proposal

1. Cover Letter

March 30, 2018

Ms. Mary Heininger
Minnesota Pollution Control Agency
Contract Specialist
520 Lafayette Road North
St. Paul, Minnesota 55155-4194

Subject: Proposal for Category B – Petroleum Environmental Services
Minnesota Pollution Control Agency
Request for Proposal for Remediation Master Contract

Dear Ms. Heininger,

ATC Group Services LLC (ATC) would like to thank you for the opportunity to submit a proposal in response to your Request for Proposal (RFP), dated February 28, 2018. Please accept the attached submission for ATC to perform activities covered under Category B, Petroleum Environmental Services in the RFP.

As part of this RFP response, ATC reviewed Section 5 of the RFP, Classification Levels and Rates. ATC accepts all classifications and hourly rates provided in Rate Schedules 1 and 2 of Section 5. Additionally, ATC reviewed Section 6 of the RFP, Supplies and Equipment Pricing. ATC accepts all list prices summarized in the Equipment Rates table of Section 6.

ATC was established in 1982 and employs over 1,900 employees in more than 115 offices, located strategically throughout the U.S. ATC's corporate headquarters is located in Lafayette, Louisiana. Work for the scope of services covered in the RFP will be conducted from the Fridley, Minnesota office. The Fridley office has a staff of 27 employees. The Fridley branch has been providing environmental consulting services for approximately 29 years, including many projects completed through the guidance of the MPCA Petroleum Remediation Program.

Experienced staff members in our Fridley office provide services in four main practice areas: Environmental Assessment and Remediation, Due Diligence, Industrial Hygiene, and Environmental Compliance. Each practice area has one manager who oversees all work performed in their practice area. Entry and mid-level employees are trained to perform tasks within each of the designated practice areas. The Fridley branch is managed by Mr. Steve Heikkila, who is a licensed Professional Engineer in the State of Minnesota, with over 37 years of experience in the environmental industry.

Our experience with environmental assessment projects includes prior report review, Phase I Environmental Site Assessments (ESAs), Limited Phase II Site Investigations, leak site investigations, corrective action plan development and implementation, and health and safety planning.

ATC has performed activities under the MPCA Master Contract for approximately eight years. Work performed under the Master Contract would continue to be managed by Mr. Dane Ralston, the manager of the Environmental Assessment and Remediation Group. Mr. Ralston has been with ATC for approximately 14 years. As such, he knows the capabilities of the employees in the branch, allowing for effective delegation of tasks and responsibilities. Mr. Ralston also has over 14 years of experience managing

environmental leak assessments in Minnesota. Mr. Ralston is a Minnesota licensed Professional Soil Scientist (license number 48035) and possesses the required Design of Construction Stormwater Pollution Prevention Plan (SWPPP) certification through the University of Minnesota. Mr. Ralston's contact information is as follows:

Mr. Dane Ralston, P.S.S.
Environmental Assessment and Remediation Manager
5301 East River Road, Suite 101
Fridley, Minnesota 55421
Office: 651-635-9050
Mobile: 612-270-4272
Fax: 651-635-9080
dane.ralston@atcgs.com
http://www.atcgroupservices.com

Mr. Ralston is available via mobile phone twenty-four hours a day, seven days a week. Throughout Mr. Ralston's management of the Master Contract, he has made himself immediately available at all times, including during time away from the office, to organize services, provide specific billing and invoicing information, and to discuss, inform, and interact with MPCA project managers. In the unlikely event that Mr. Ralston is unavailable; the following team members provide alternative contacts for the contract:

- Steve Heikkila, P.E. – Branch Manager (612-840-3129)
- Colin Snowberg – Project Scientist (651-747-7899)
- Sean Dobie – Project Scientist (651-324-2131)

ATC remains confident that we can continue to provide excellent service to the State of Minnesota. ATC appreciates this opportunity and we look forward to continuing our relationship with you. If you have any questions, please contact us at 612-270-4272, or via e-mail at dane.ralston@atcgs.com.

Sincerely,
ATC Group Services LLC

Dane Ralston, P.S.S.
Environmental Assessment and Remediation Manager

Steve Heikkila, P.E.
Branch Manager

2. Qualifications and Capabilities

2.1 General Qualifications

ATC Group Services, LLC (ATC) was founded in 1982, in Sioux Falls, South Dakota, and established a presence in the Twin Cities metropolitan area in 1989. ATC's corporate headquarters is located in Lafayette, Louisiana. ATC provides environmental assessment and remediation, due diligence, environmental compliance, industrial hygiene, and occupational health services throughout the United States. For more than 35 years, members of the Petroleum, Real Estate, Retail, Financial, Insurance, Construction, Education, Healthcare, Hospitality, Manufacturing, Telecommunications, and Government sectors have counted on ATC as a one-stop resource for their environmental needs. Our comprehensive cross-sector experience provides us with a significant big-picture advantage over many of our competitors. Regardless of the issue we are hired to address, we understand that ATC has been hired to look out for the MPCA's interests with objectivity, and to do so in a timely, professional, and confident manner.

ATC maintains a highly qualified multi-disciplinary staff of over 1,900 employees in over 115 offices nationwide. Our professionals have completed thousands of projects and understand how to deliver creative and effective solutions to unique problems. With ATC, the MPCA will have access to a network of qualified professionals with certifications, registrations, and training. Our professionals include environmental scientists, soil scientists, geologists, remedial design engineers, industrial hygienists, safety professionals, ecologists, chemists, and hydrologists. Our resources provide the distinct advantages of a local focus with a multi-disciplinary, national support network.

ATC's project management, engineering and technical services, and field staff proposed for the MPCA Contract are headquartered in the Fridley, Minnesota office. Currently, our Fridley office is staffed with 27 professionals, including civil and environmental engineers, soil scientists, geologists, environmental scientists, industrial hygienists, regulatory specialists, and CADD specialists. Our staff professionals perform tasks in four main project areas: Environmental Assessment and Remediation, Due Diligence, Industrial Hygiene, and Environmental Compliance. Employees are not limited to activities in one of the four groups, rather employees are cross-trained to work in multiple disciplines.

Key staff members included in this proposal have been performing petroleum release investigations for the MPCA Petroleum Remediation Program (PRP) since 1996. Petroleum release investigations are a core business practice area of ATC's Fridley branch. In the 22 years that ATC has been leading these investigations, we have closed hundreds of leak sites. We are currently investigating 15 active MPCA leak sites. Our current investigations are generally in the Limited Site Investigation (LSI) or Remedial Investigation (RI) phases; however, two active investigations will require excavation of impacted soil as a corrective action, including one site in southern Minnesota with a planned excavation of up to 2,800 cubic yards (yd^3) of petroleum saturated soil.

ATC's project managers and field staff stay up-to-date with guidance revisions by attending Consultant Days or other training events, whenever offered by the MPCA. ATC's primary point of contact for the Master Contract, Mr. Dane Ralston and three additional ATC staff, were in attendance at the Consultants Day presented by the MPCA on May 24, 2017. During the May 2017 Consultants Day, the MPCA announced changes to the Monitoring Report and Investigation Report Forms. In addition, MPCA representatives discussed new requirements for petroleum volatile organic compound (PVOC) analysis, which includes 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, and naphthalene. The MPCA also provided information regarding a new initiative to monitor former leaded gasoline additives and recalcitrant compounds, including methyl-tertiary-butyl-ether (MTBE), 1,2-dichloroethane (DCA), and 1,2-dibromoethane (EDB). MPCA staff also discussed the new required minimum of six quarters of groundwater monitoring to establish plume stability.

Mr. Ralston was also present at the "Vapor Intrusion Boot Camp" held on April 13, 2017. ATC knows that attendance at these events is essential to keep up with continually evolving MPCA guidance for petroleum release sites.

While ATC staff have expertly coordinated hundreds of petroleum release investigations, that is not our only area of expertise. We also have significant experience conducting Phase I Environmental Site Assessments (ESAs) and Phase II Site Investigations, providing contaminated property redevelopment assistance, underground storage tank (UST) compliance and training, spill prevention planning and prevention, and multi-media compliance audits. The varied and extensive knowledge and experience residing in ATC's Fridley location will continue to provide great benefit to the MPCA and the Petroleum Remediation Program.

ATC is also familiar with the UST rules for the State of Minnesota. ATC is one of a select few consultants certified to provide UST operator training for Class A and B operators, in accordance with MPCA regulations. We have developed training materials, prepared training courses, and conducted training for numerous UST operators throughout the State.

ATC's UST Operator Training includes the following topics:

- Roles and responsibilities of UST operators;
- Federal, state, and local UST and aboveground storage tank (AST) requirements, including spill or release reporting and inspection documentation;
- Design of tank systems, how the design meets tank regulations, tank system description, and recurring permit requirements;
- Standard operating procedures for petroleum product handling and delivery; and
- Review of applicable, site-specific Best Management Practice (BMP) guidelines.

The training program also includes a hands-on, outdoor demonstration of an existing UST system, its components, and inspection/maintenance procedures at each UST site.

2.2 Knowledge of Consultant Guidance For UST/AST Release Investigation and Cleanup

Knowledge of MPCA guidance documents and policies is one of ATC's strengths and differentiates us from our competitors. ATC takes great pride in discussing the site investigation and cleanup process with responsible parties (RPs) that have recently received a "Storage Tank Release Investigation and Corrective Action" letter from the MPCA. As part of discussions with RPs, ATC generally discusses the contents of Guidance Document 1-01, *Petroleum Remediation Program General Policy*. ATC explains the general process of a Site Investigation, including completion of a receptor survey, oversight of drilling, field screening of soils, submittal of samples for laboratory analysis, and preparation of Guidance Document 4-06, *Investigation Report*, to document receptor survey results and field activities and to present the Site Conceptual Model and provide a Site Management Decision.

Following the discussion of the general process, ATC walks the RP through the Petrofund reimbursement process, including the 90% eligibility rule for "reasonable and necessary costs". ATC's understanding of guidance and reimbursement processes has typically resulted in nearly 90% reimbursement of project costs for our clients. Meaning that, due to our knowledge and execution of investigation requirements, in most cases ATC recovers the entirety of eligible costs on behalf of our clients.

ATC understands that Guidance Document 1-01 is written for a general audience and not intended as consultant guidance. Therefore, in addition to ATC's knowledge of general policy and ability to discuss policy and procedures with those unfamiliar with the program, ATC is also familiar with the state-specific

nuances of the detailed guidance documents that constitute the Petroleum Remediation Program, having utilized and referenced the entire MPCA guidance document suite since its inception.

Recent guidance changes reviewed by the MPCA during Consultant's Day and the "Vapor Intrusion Boot Camp" appear to be the most significant since the original introduction of vapor intrusion sampling. Specifically, plume stability monitoring now requires six quarterly samples, groundwater samples must be submitted for PVOCs instead of benzene, toluene, ethylbenzene, and xylenes (BTEX), recalcitrant compounds being monitored more closely, and guidance for sites with sensitive groundwater conditions was put in place in Guidance Document 4-18. ATC's project managers and all field staff have reviewed the revised guidance and are current on their understanding of state requirements for petroleum investigations.

In order to ensure strict adherence to revised investigation guidance, ATC maintains a binder with printed guidance documents that is carried to each site, during fieldwork. In addition, ATC's project managers remain constantly reachable by field crews in the instance that questions arise that require an interpretation of a nuanced guidance scenario. Following the May 2017 Consultants Day and the issuance of Guidance Document 4-18 in October 2017, ATC's field binder was updated with the new and revised guidance documents.

2.3 Federal and State Agency Experience

ATC's Fridley Office has environmental contract experience with several federal, state, and local agencies. Specifically, ATC has completed within the past five years or has active contracts with:

Federal Environmental Contracts

U.S. Postal Service (USPS) – ATC has provided environmental consulting services to the USPS for over eight years from our Fridley office. One of the most significant projects was completing compliance inspections of underground storage tank systems at 155 facilities located in 26 States. ATC trained all staff, created client-approved inspection protocols that included federal, state, and local tank requirements and fire code issues. In addition, ATC provided direct assistance to conduct corrective action planning and implementation at the facility level, developing Operation, Management, and Maintenance (OMM) plans that reflect site-specific tank systems and state and local requirements. Additionally, we have performed UST removal assessments, training for UST operators at vehicle maintenance facilities, stormwater monitoring and reporting, and Spill Prevention, Control, and Countermeasure (SPCC) Plan and Stormwater Pollution Prevention Plan (SWPPPs) preparation and associated training.

State Environmental Contracts

Minnesota Pollution Control Agency (MPCA) – ATC has worked for the MPCA for approximately eight years, providing petroleum investigation services at orphan sites under the Master Contract (the Contract). Mr. Ralston has managed projects under the Contract for approximately seven years. While an MPCA Contractor, ATC has obtained site closure for 27 sites, and have 3 sites currently being investigated. Sites managed through the Contract have consisted primarily of Limited Site Investigations, Remedial Investigations, and soil excavation corrective actions.

Minnesota Department of Transportation (MnDOT) – ATC has worked for MnDOT for approximately three years, providing highway corridor due diligence and emergency response oversight services. ATC completed Phase I and Phase II projects for highway corridors up to a length of 9 miles. ATC was also awarded a sole-source contract with MnDOT to oversee the state highway spill cleanup program throughout the state, on behalf of MnDOT. As part of the spill cleanup contract, ATC effectively serves as a regulator, reviewing other consultant's reports to document adequate soil excavation for the recovery of materials spilled on MnDOT right-of-ways. Mr. Ralston has served as the primary point of contact on the MnDOT contract since award, with Mr. Sean Dobie serving as the primary MnDOT spill coordinator.

Regional Environmental Contracts

Mille Lacs Band of Ojibwe (the Band) – ATC has assisted the Band with Brownfields activities at various sites located on the Mille Lacs Band Reservation, near Onamia, Minnesota. All work for the Band is covered under United States Environmental Protection Agency (USEPA) Brownfields grants. Projects have consisted of Quality Assurance Project Plan (QAPP) and Sampling Analysis Plan (SAP) preparation for submittal to the EPA, a Feasibility Study for wastewater lagoon decommissioning, Public Participation Plans, Phase I ESAs, Phase II Site Investigations, and drilling oversight.

Hennepin County – ATC has been providing environmental services to Hennepin County's Department of Environmental Services since 2011. We've provided services for their road construction corridors consisting of Contingency Plan implementation by overseeing contaminated soil excavation and arranging for soil disposal.

Municipal Environmental Contracts

City of Cannon Falls – ATC has a contract with the City of Cannon Falls to perform a Phase I ESA, Phase II Site Investigation, and prepare a Response Action Plan for a former automotive dealership in the city. The building is being demolished and replaced and the site is being redeveloped.

City of Ramsey – ATC completed a contract with the City of Ramsey to assess a petroleum leak site and prepare a Response Action Plan for the redevelopment of the former Municipal Center.

City of Arden Hills – ATC completed a contract with the City of Arden Hills to prepare a Phase I ESA.

2.4 Project Management Plan

ATC will utilize a centralized management approach under Senior Project Manager, Mr. Dane Ralston, who will be the primary point of contact for the MPCA under this contract. Mr. Ralston has 14 years of experience managing environmental release investigations and will lead ATC's project management team. Mr. Ralston will execute sound decisions based on his extensive knowledge of MPCA guidance documents, while assuring standardized deliverables, maximizing efficient communications, controlling costs, and assuring accurate completion of required contracting documents and invoices.

This management plan provides the necessary framework to implement, administer, and manage projects in an efficient, timely, and cost-effective manner. Mr. Ralston will oversee the projects and provide appropriate personnel and technical expertise to meet the project objectives on time and on budget.

Mr. Ralston will be the centralized point of contact for all customer service, problem solving, and public management issues. If a service or problem solving issue arises that Mr. Ralston is unable to handle personally, Mr. Steve Heikkila, the ATC Branch Manager will be consulted in order to assist with problem resolution. Mr. Ralston will answer general questions from the public, where appropriate. If a sensitive issue or situation with a private citizen arises, Mr. Ralston will confer with the MPCA project manager to resolve the issue.

General Policy for Managing Projects

ATC's general policy for managing projects is a traditional approach consisting of the following basic steps:

- Planning: ATC's project manager reviews all information provided by the MPCA in order to develop a scope of work and a work plan that will effectively assess the risks associated with the contaminated site.
- Initiation: Once the project is awarded, ATC's project manager hires the necessary subcontractors and allocates the necessary ATC staff resources to complete the scope of work presented in the work plan.
- Execution: ATC completes the field tasks required, including receptor surveys and field oversight and sampling.
- Monitoring: ATC's project manager reviews data generated by the laboratory, compares data to the Site Conceptual Model (SCM) to test the continued validity of the SCM, and provides updates to the MPCA project manager.
- Closing: ATC prepares a report documenting the results of the investigation, and presents a site management decision for the site.

In the case of many environmental projects, these traditional steps for managing projects are iterative, and are repeated until a closure recommendation is appropriate.

Quality Management

ATC has developed a **Corporate Quality Assurance Plan** that describes in detail all quality assurance procedures used by ATC. Our approach to quality is based on identifying the important quality goals of the project, planning a project approach that incorporates those goals, defining a system to measure and evaluate performance to the goals, and documenting the performance relative to the goals.

Kickoff Meetings

Prior to sending a field technician to any site for sampling, ATC's project manager holds a meeting with the technician to discuss the requested scope of work, the budget available for the work, and any unique circumstances associated with a site. Additionally, ATC prepares a "Work Request Form" for all field tasks

that documents the same information. These kickoff meetings ensure accurate implementation of activities presented in the site work plan. Additionally, the meetings ensure that budgets are not exceeded due to lack of knowledge of the amount of time allotted to each task.

Additionally, ATC's project manager discusses the project with subcontractors prior to site mobilization to ensure that ATC staff and subcontractors mutually understand the project goals and objectives.

Use of Technology

ATC utilizes a suite of on-line management tools that provide the project manager strict control of time applied to the project, and imposes restraints and efficiency goals, where warranted. ATC will also utilize the required invoicing spreadsheets to track previously billed amounts, current billed amounts, retainage amounts, and project completion percentages. With these tools, the status of any project can be reviewed in a comprehensive manner at any given time. ATC prepares draft invoices on a weekly basis. When draft invoices are received, Mr. Ralston enters the invoice information into the MPCA project status spreadsheets. This weekly entry of invoiced data allows for tracking of the progress of projects from a budgetary and percent completion standpoint.

Project Financial Controls

ATC utilizes a proven flexible accounting system, BST Global (BST), which is fully integrated with the firm's financial accounting and payroll systems. ATC's project manager uses BST to:

- Establish work assignments and task budgets
- Track "real-time" expenditures against budgets
- Review current costs and generate invoices
- Identify progress against pre-determined milestones
- Estimate Cost of Completion given expenditures to date, task budgets, and progress on tasks
- Develop a historical database of actual costs associated with various types of work assignments and activities

ATC's project manager can use BST to accumulate and summarize the following by tasks:

- ATC professional and support labor hours and costs
- Expenses (travel, per diem, equipment, other and subcontractor costs)

ATC's project manager can use BST to summarize the following data into reports:

- Weekly detail reports
- Invoices and Supporting Cost Detail Reports
- Monthly Financial Status Reports

2.5 Health and Safety Philosophy

ATC's health and safety and business philosophy is to conduct business in a manner that allows each employee to work each day without incident or injury.

It is the Policy and primary concern of ATC to develop and maintain safe and healthy worksite conditions for ATC employees, ATC subcontractors, and the general public. This shall be accomplished through the application of the ATC Hazard Communication Program, ATC Vehicle Safety Policy, ATC Behavior Based Safety Program, Medical Surveillance Program, Radiation Protection Program, monthly safety meetings, safety training courses and programs, and through procedures and Policies as outlined in this Manual.

In keeping with our safety policy, ATC will make every attempt to provide equipment and create conditions that will make for a safe workplace, and safety education shall be provided to employees as necessary.

ATC requires compliance with the Health and Safety Policy Manual and established work procedures. Failure on the part of any employee to comply with the Policy may result in disciplinary action and possibly termination of employment. In addition, subcontractors are also expected to abide by the applicable provisions of the ATC Safety Program and Policies.

The name of the person with primary responsibility for safety programs within the Company is the ATC Director of Health and Safety.

Contact information
Daniel Mickelson
Director of Health and Safety
ATC Group Services LLC
221 Rue de Jean, Suite 200
Lafayette, Louisiana 70508
(480) 355-4635

The name of the person with primary responsibility for safety programs within the Fridley, Minnesota branch is the Branch Safety Officer.

Contact information
Sean Dobie
Branch Safety Officer
ATC – Fridley, Minnesota
5301 East River Road
Fridley, Minnesota 55421
(651) 324-2131

Site Safety Checklist – Prior to conducting any fieldwork activities, ATC will complete a Site Safety Checklist. The checklist will help identify any particular hazards at the site, and any hazards due to specific work activities at the site. This would include any motorized equipment being operated on a given day. The intent is to supply specific hazard information for the Tailgate Safety Meetings to ensure that all workers are aware of and prepare for those hazards. The Site Safety Checklist (or appropriate sections) must be updated whenever changes at the site occur.

Job Safety Analysis – The Job Safety Analysis (JSA) is a key safety management tool utilized to define and control the hazards associated with field tasks. Prior to mobilizing to a site, ATC assesses potential safety risks associated with individual steps that are components of the site work as a whole. A JSA is prepared for each individual step in site work, such as opening a monitoring well, gauging a monitoring well, collecting groundwater samples with a bailer, etc. Where necessary, control measures are included to eliminate, reduce, or mitigate each hazard.

Tailgate Safety Meetings – Meetings will be held prior to work activities on a daily basis when two or more ATC and/or subcontractor employees are present. Attendance for these meetings will be mandatory and require a confirmation signature by all participants. When visitors are present at the site, they will be included in the Tailgate Safety Meetings, or if they arrive after a meeting has been completed, they will be provided with an overview of the hazards discussed during previous Tailgate Safety Meetings and provide a signature confirming that the information has been conveyed to them.

Behavior Based Safety Program – ATC's Behavior Based Safety (BBS) program consists of safety audits performed at random times on randomly chosen employees. Every employee in every ATC branch is required to complete at least one BBS audit every month. The responses provided in these BBS audits are tabulated by ATC corporate health and safety personnel to determine the most common activities that weren't performed safely over the past month. Items included on the BBS audit questionnaire form include: carries and wears appropriate PPE, familiar with location and content of HASP, uses correct tools, maintains clear walkways, and uses proper techniques for lifting and moving equipment.

Management Health and Safety Program Policy Statement

In recognition of the need for ATC's management to establish policies to aid in the prevention of on-the-job accidents and injuries, and in compliance with Occupational Safety and Health standards, this Health and Safety Policy has been developed.

With the proper utilization of these policies and procedures, it is ATC's primary goal, to reduce to a minimum, occupational injuries experienced by our employees. ATC's management is firmly committed to provide our employees with the necessary tools and resources to be able to perform the duties of their job safely. Not only can injuries have a serious physical and emotional impact on the employees themselves, but can also have a negative effect on family members and coworkers.

It is ATC's firm belief that all accidents and injuries are preventable and the company's Health and Safety Program must provide for continual improvement through continual review of best practices and policy updates based on changes in federal, state, and local regulations.

The elimination of on-the-job exposures, injuries, and illnesses is the most important responsibility of ATC's management. This responsibility must be treated in the same manner as our business philosophies relating to service, quality, and accountability.

For ATC's OHSMS to be effective, it is necessary for each employee to actively participate in the Health and Safety program and to take a serious interest in the prevention of incidents. Management fully intends to provide, through administration of the program, the leadership and direction to which supervisory personnel and employees will respond.

It is our earnest goal for all ATC managers and employees to devote their serious attention toward making ATC's Health and Safety program an integral part of their lives. ATC employees and managers must always remember that no job is so important and no service is so urgent that we cannot take the time to perform our work safely.

2.6 Key Staff Resumes and Staff Matrix

ATC's Fridley office is staffed with a total of 27 employees. Some employees are home-based, from locations in Minnesota and Wisconsin. Others are based out of our Milwaukee, Wisconsin location, which is a satellite office to our Fridley location. Our staff has a wide range of capabilities, including petroleum and non-petroleum site investigations and remediation, environmental due diligence, training, and compliance auditing for all environmental programs.

ATC will provide two primary contacts on the contract: Mr. Dane Ralston, P.S.S., and Mr. Steve Heikkila, P.E., who together offer more than 50 years of consulting experience.

Mr. Ralston specializes in the assessment and remediation of contaminated properties. He began his career as a field technician, performing all aspects of field sampling. In his approximately 14 years with ATC, he has become a Senior Project Manager and currently serves as the Manager of the Environmental Assessment and Remediation Group, directing project staff, while completing investigations in accordance with MPCA Guidance Documents and within the established timelines and budgets.

Mr. Heikkila is the Branch Manager of the Fridley ATC branch. Mr. Heikkila's role in the Contract will be as an additional primary contact and liaison to the MPCA. He will ensure that adequate resources are being devoted to work on MPCA sites and will ensure the MPCA's satisfaction with ATC's work throughout the term of the Contract.

Mr. Colin Snowberg, a secondary contact, is a Project Scientist and has been working for ATC for approximately six years. Mr. Snowberg currently performs field duties, drafting, report preparation, and project management tasks for a range of projects but his primary project responsibility is petroleum leak site assessment. Mr. Ralston works closely with Mr. Snowberg on all aspects of leak site investigation management.

Mr. Sean Dobie, and additional secondary contact, is ATC's Branch Safety Officer and is responsible for ensuring that ATC employees perform activities in a safe manner. Additional responsibilities of Mr. Dobie include directing monthly safety meetings, coordinating and directing the annual training and refresher training programs for OSHA, 40-hour hazardous waste program, and 8-hour refresher training.

All of ATC's professional staff members are college educated and provide a range of professional expertise in the areas of engineering, soil science, geology, CADD, and field services. Mr. Ralston will assign staff members to projects, as needed to complete project requirements.

A matrix table of ATC personnel, their education, years of experience, MPCA contract classification, licenses, OSHA certification, and a brief summary of relevant work experience is attached on the following page. Resumes of several key team members follow the matrix table.

Name	Personnel Classification	OSHA Certifications	Education	Total Years of Experience	Years with ATC	ATC Office Location	Registrations, Certifications, and Licensure
Dane Ralston	Project Manager, Scientist 2	40-hour HAZWOPER, Annual Refresher	BA, MS	18	14	Fridley, MN	Professional Soil Scientist (PSS) - Minnesota, U of M Erosion and Stormwater Management Design of Construction SWPPP Certification, First Aid
Steve Heikkila	Engineer 2 & 3, Project Manager	40-hour HAZWOPER, Annual Refresher	BS	37	7	Fridley, MN	Professional Engineer (PE) - Minnesota, PE - North Dakota, PE – South Dakota, First Aid
Colin Snowberg	Field Technician, GIS/CADD Specialist, Project Manager, Scientist 1, Scientist 2	40-hour HAZWOPER, Annual Refresher	BA, MS	7	6	Fridley, MN	First Aid
Sean Dobie	Field Technician, GIS/CADD Specialist, Project Manager, Scientist 1, Scientist 2	40-hour HAZWOPER, Annual Refresher	BS	13	13	Fridley, MN	Wetland Delineator, First Aid
Alexander Braaten	Field Technician, GIS/CADD Specialist, Scientist 1	40-hour HAZWOPER, Annual Refresher	BA	4	4	Fridley, MN	First Aid
Samantha DeWitte	Field Technician, GIS/CADD Specialist, Scientist 1	40-hour HAZWOPER, Annual Refresher	BA	<1	<1	Fridley, MN	First Aid
Tai Yeow	Field Technician, GIS/CADD Specialist, Project Manager, Scientist 1, Scientist 2	40-hour HAZWOPER, Annual Refresher	BS	21	13	Fridley, MN	CHMM Overview Course, First Aid
Morgan Maldonado	Field Technician, Scientist 1	40-hour HAZWOPER, Annual Refresher	BS	5	5	Fridley, MN	First Aid
Lucas Bicknell	Field Technician, GIS/CADD Specialist, Scientist 1	40-hour HAZWOPER, Annual Refresher	BS, MS	5	2	Fridley, MN	U of M Erosion and Stormwater Management Design of Construction SWPPP Certification
Jennifer Michaelson	Engineer 1 & 2, Project Manager	40-hour HAZWOPER, Annual Refresher	BS	22	21	Home office (Manitowoc, WI)*	PE - Wisconsin
Scott Rademaker	Field Technician, Scientist 1, Scientist 2	40-hour HAZWOPER, Annual Refresher	BS	20	7	Milwaukee, WI*	Professional Geologist (PG) - Wisconsin
Charlie Cashman	Field Technician, Scientist 1, Scientist 2	40-hour HAZWOPER, Annual Refresher	BS	28	28	Home office (Madison, WI)*	Professional Hydrologist (PH) - Wisconsin, Site Assessor - Wisconsin, First Aid
Brett Godsey	Scientist 1, Scientist 2	40-hour HAZWOPER, Annual Refresher	BA, JD	20	8	Fridley, MN	First Aid

Footnotes:
* - ATC's Milwaukee, WI branch is a satellite branch of the Fridley, Minnesota branch. All employees, including home office employees listed above report directly to Steve Heikkila, Branch Manager for ATC Fridley.
** - There are a total of 27 employees located in the Fridley branch. Only 13 are included above. Administrative employees and those without applicable project experience were omitted from the above list.

Dane Ralston, P.S.S.

Summary of Experience
Mr. Ralston is the manager of the Environmental Assessment and Remediation Group and a Senior Project Manager in ATC's Fridley, Minnesota office. He has a Master's Degree in Soil Science with an emphasis on soil physics. He has a total of 16 years' experience in the environmental industry and an additional 2 years of environmental research experience. His professional experience includes project management, regulatory program compliance, client management and interaction, technical review, Phase I and Phase II environmental site assessments, underground storage tank assessments, leak site assessments, vapor intrusion assessments, drilling/soil boring/monitoring well installation oversight, remedial/response action monitoring, spatial data analysis and interpretation, and management of field and technical staff.

Education
University of Virginia, Charlottesville, VA - B.A. Environmental Sciences, 2000

North Dakota State University, Fargo, ND - M.S. Soil Science, 2003

Professional Registrations
P.S.S. Registered Professional Soil Scientist, Minnesota (MN, #48035, 2010)

University of Minnesota Erosion and Stormwater Management Program, Certified Design of Construction Stormwater Pollution Prevention Plans (2018)

Significant Projects
Regional Petroleum Retailer, Remedial Investigation / Alexandria, Minnesota.
> Investigated soil and groundwater contamination at a retail petroleum filling station in Alexandria, Minnesota. LNAPL present within a former UST basin resulted in continual dissolution of PVOCs and GRO into the water table aquifer. Additionally, 1,2-dichloroethane (1,2-DCA) was identified in groundwater samples as a result of the former dispensing of leaded gasoline at the site. Directed groundwater monitoring on a network of 15 water table monitoring wells (at depths of up to 35 feet bgs) and 6 deep aquifer monitoring wells (at depths of up to 120 feet bgs). Installed water table monitoring wells located approximately 50 feet apart to delineate LNAPL, in accordance with Guidance Document 2-02. Through monitoring of the deep well network, demonstrated that the site was not a source of 1,2-DCA in the resource aquifer for the City of Alexandria. Through monitoring of the water table monitoring wells, demonstrated that LNAPL is mobile but not migrating. Coordinated access with multiple private and municipal entities for off-site monitoring wells; located north, south, east, and west of the site. Prepared Guidance Document 4-08, Monitoring Report Form; recommending site closure. An MPCA determination on closure is pending.

Regional Petroleum Retailer, Remedial Investigation and Corrective Action / Mendota Heights, Minnesota.
> Assessed soil and groundwater contamination at a retail petroleum filling station site in Mendota Heights, Minnesota. Significant LNAPL was observed in monitoring wells at the site, up to a maximum thickness of approximately 13 feet. Oversaw the installation of a dual-phase extraction system at the site, including the installation of recovery wells, piping, and system components. Performed system start-up and operation and maintenance activities at the site. The extent of subsurface LNAPL was assessed using Laser Induced Fluorescence (LIF) technology to determine LNAPL distribution and evaluate system capture. Oversaw the advancement of the LIF borings at the site and directed subcontractor to advance additional borings when further LNAPL delineation was required. Reviewed reports for remediation system operational effectiveness and provided recommendations for system modifications.

Site Investigation / Spring Valley, Minnesota.

> Evaluated soil and groundwater contamination at a former retail petroleum filling station site in Spring Valley, Minnesota. Significant LNAPL was observed on the site and also on the adjacent leak site property to the north. Coordinated the contracting of an LIF drilling contractor to delineate the LNAPL plume at the site. Prepared Guidance Document 7-02, Conceptual Corrective Action Design Report (CCAD), recommending the excavation and disposal of up to 2,800 cubic yards of petroleum saturated soil. MPCA review of the CCAD Report indicated agreement with ATC recommendations. Currently in the process of preparing bid specifications for the excavation of 2,800 cubic yards of petroleum saturated soil.

Site Investigation / Ward Springs, Minnesota

> Investigated soil and groundwater contamination at a former retail petroleum filling station in Ward Springs, Minnesota. The former filling station had been converted into a residence with a private, sand point water supply well. Benzene was identified in the water supply well at a concentration exceeding the HRL. Coordinated installation of a granular activated carbon (GAC) treatment system for the water supply to temporarily mitigate benzene in the water supply. Coordinated the installation of a replacement water supply well into a deeper formation as the permanent solution. Sampling of water from the replacement well indicated VOCs at non-detectable concentrations.

US EPA Brownfield Grant, Mille Lacs Band of Ojibwe, Mille Lacs, Minnesota

> Currently managing a contract with the Mille Lacs Band of Ojibwe in Mille Lacs, Minnesota, to perform environmental consulting services funded by US EPA Brownfield grants. Projects include Phase I Environmental Site Assessments (ESAs), Phase II subsurface investigations, feasibility studies, and public participation plans. Wrote a Quality Assurance Project Plan (QAPP) for Mille Lacs Band's properties requiring investigation and remediation. The QAPP was approved by the EPA.

Chlorinated Solvent and Hydraulic Oil Release / Manufacturing Facility / Private Client / North Dakota

> Manage the investigation and remediation of TCE and hydraulic oil impacts to soil, groundwater, and soil vapor beneath a large manufacturing facility. Elevated solvent concentrations detected in soil vapor borings beneath the building footprint necessitated the installation of a sub-slab depressurization system to mitigate vapor intrusion risks. Solvents detected in groundwater samples collected from soil borings necessitated the installation of deep monitoring wells to ensure the municipal water supply was not impacted by the release. Hydraulic oil observed in temporary wells in soil borings was delineated using LIF technology to delineate the extent of the free phase plume.

Phase II Site Investigation Due Diligence / Various Locations, Minnesota.

> Evaluated subsurface soil and groundwater conditions for potential environmental impact. Projects were completed for various clients for the purchase, sale, refinance, or foreclosure of real property. Phase II investigations included soil boring oversight; soil, groundwater, and soil gas sampling; and report preparation.

Subsurface Investigation and Remediation, Petroleum Tank Release Sites / Minnesota.

> Assessed subsurface soil and groundwater conditions for the presence of petroleum contaminants. Investigations included soil boring oversight, monitoring well installation, impacted soil and groundwater delineation, LNAPL plume delineation, data analysis, soil excavation, and report writing. Investigation sites have included retail petroleum filling stations, industrial and commercial properties, and residential homes. Prepared and reviewed final reports, proposals, and work plans for submittal to the client and the MPCA. Obtained closure for hundreds of release sites throughout the State of Minnesota.

Training

> 40-Hour OSHA Training for Workers at Hazardous Waste Sites
> 8-Hour Refresher OSHA Training

Steve Heikkila, P.E.

Summary of Experience
Mr. Heikkila is the Branch Manager at ATC's Fridley, Minnesota, office where he oversees 27 technical and administrative staff providing professional consulting services in the areas of environmental due diligence, subsurface investigation and remediation, compliance permitting and auditing, and industrial hygiene. He is a registered civil engineer in Minnesota, North Dakota, and South Dakota with 37 years of diverse project and management experience in the environmental consulting arena. Mr. Heikkila has extensive experience in environmental due diligence, compliance permitting, investigation and remediation, program/contract management, and quality control. He participates on environmental assessment teams made up of attorneys, lenders, and corporate officials on commercial and industrial merger and acquisition projects across the country. These involve Phase I/II assessments, property condition assessments, asbestos- and lead-containing material surveys, radon assessments, multi-media compliance audits, soil/groundwater remediation, and preparation of detailed capital and O&M cost estimates to address wastewater treatment, air pollution control, and solid and hazardous waste treatment and disposal.

Education
University of Minnesota, Minneapolis, MN - B.S. Civil Engineering (Environmental Emphasis), 1981

Professional Registrations
P.E. Registered Professional Civil Engineer, Minnesota – Licence #19701
P.E. Registered Professional Civil Engineer, North Dakota – License #PE-8659
P.E. Registered Professional Civil Engineer, South Dakota – License #13212

Significant Projects

Phase I ESA and Brownfield Redevelopment Investigation, Roseville, Minnesota
Directed a brownfield redevelopment project that received Brownfield Pilot Grant funds from the US EPA for a 170-acre area occupied by a trucking terminal in Roseville, MN. Project included a comprehensive Phase I ESA, soil and groundwater investigation, and remedial action. Wrote proposal for an innovative area-wide groundwater investigation that was awarded an additional US EPA grant funding. Managed area-wide groundwater investigation and report preparation.

Area-Wide Investigation Summary
Managed a project for Minnesota Brownfields LLC to summarize area-wide approaches used across the country to assess wide-spread contamination in soil, ground water or soil vapor. Research involved analysis of state and federal regulations, identification of options for managing environmental data, assessing potential legal assurances, analysis of case studies, and recommendations.

Phase I ESA, Minnesota Twins Proposed Ballpark Site, Minneapolis, Minnesota
Completed a detailed Phase I environmental site assessment (ESA) of the Minnesota Twins Ballpark property in downtown Minneapolis for Hennepin County in 2006 to identify potential sources of soil and groundwater contamination a the site. Also completed a Phase I ESA Update at the site for the Minnesota Twins Ballpark Authority and Briggs & Morgan law firm in 2007 to determine whether any additional environmental liabilities were present after construction of the ballpark had begun.

US EPA Brownfield Grant, Mille Lacs Band of Ojibwe, Mille Lacs, Minnesota
Managed a contract with the Mille Lacs Band of Ojibwe in Mille Lacs, Minnesota, to perform environmental consulting services funded by US EPA Brownfield grants. Projects include Phase I Environmental Site Assessments (ESAs), Phase II subsurface investigations, feasibility studies, and public participation plans. Wrote a Quality Assurance Project Plan (QAPP) for Mille Lacs Band's properties requiring investigation and remediation.

Subsurface Investigation, Minneapolis, Minnesota

Supervised Phase I/II investigation of the former petroleum bulk storage facility in Minneapolis involving a comprehensive historical analysis of previous uses, soil and groundwater sampling and analysis, free product recovery, soil gas vapor monitoring, indoor air monitoring, remedial design, and O&M.

Investigation and Remediation, St. Paul, Minnesota

Managed numerous assessment and subsurface investigation projects conducted pursuant to the MPCA's Voluntary Investigation and Cleanup (VIC) program, including the Williams Hill Redevelopment Area for the St. Paul Port Authority. Assisted client in receiving state grant funding for the project and a Certificate of Completion for soil and groundwater from the VIC Unit for that site.

Fluorescent Lamp Recycler Closure Oversight, Confidential Insurance Client, Minnesota

Provided review of closure plan and oversight of on-site closure activities of a fluorescent lamp recycling operation in our client's tenant space. Soft and hard building surfaces had been contaminated with mercury from handling fluorescent lamps in the tenant space. Purpose of the oversight was to assure compliance with environmental elements of the client/tenant contract, agreements with the state regulators, and their own sampling and analysis plan.

Engineering Review and Construction Oversight for Radio Tower Bay Dewatering Project, Minnesota Land Trust and Minnesota Department of Natural Resources, Duluth, Minnesota

Conducted engineering review and construction oversight for a project involving the dredging and dewatering of sediment from Radio Tower Bay in the St. Louis River. The client's goal was to restore Radio Tower Bay to its natural condition prior to the disposal of wood waste from a turn-of-the-century lumber mill. The project required the sampling, analysis, and characterization of potential contamination of the sediments prior to dredging of approximately 120,000 cubic yards of wood and sediment. It also involved the review of engineering drawings for the construction of a dewatering facility located a mile downstream on property owned by US Steel.

RCRA Facility Assessments, US EPA, Hazardous Waste Facilities Nationwide

Managed projects for the US EPA, conducting 40+ audits of RCRA-regulated facilities across the country to document hazardous waste management activities, assess potential for release of hazardous constituents to the environment, and develop sampling plans. Facilities included oil / chemical refineries, foundries, waste recycling and reclamation facilities, and military installations. Also served as QA/QC Manager under the same contract overseeing contractors performing investigations of subsurface soil and groundwater at sites hazardous waste generator sites with documented or threatened releases.

Emergency Response Coordination, US Postal Service

Managed anthrax emergency planning and response activities at the USPS Incident Command Center (ICC) in Washington, D.C., in October and November, 2001. Assisted USPS in the development of standard operating procedures for collecting samples for anthrax analysis from 14 facilities across the country, coordinated DPRA's sampling teams, and served on an interagency ICC management team for overall coordination of the effort.

Training

> 40-Hour OSHA Training for Workers at Hazardous Waste Sites
> 8-Hour Refresher OSHA Training

Colin Snowberg

Summary of Experience
Mr. Snowberg is a Project Scientist in the ATC Group Services, Fridley, Minnesota office. He has eight years of environmental consulting experience. His capabilities include sub-surface investigative work, field investigations, and preparation of documents ranging from Phase I Environmental Site Assessments to Site Investigation reports. His fieldwork experience includes aboveground and underground storage tank (AST/UST) assessments, environmental due diligence (Phase I/II), subsurface soil and groundwater investigations for petroleum, hydrocarbon, and chlorinated solvent releases, vapor intrusion assessments, and monitoring well installation. He is highly proficient using a variety of drafting and geospatial software.

Education
University of Minnesota Duluth, Duluth, MN – B.A. Geography, 2008

University of Dublin – Trinity College, Dublin, Ireland – M.S. Environmental Science, 2010

Professional Registrations
Asbestos Building Inspector Initial Training Course, Lake States Environmental, Ltd., 2017

Significant Projects

Petroleum Leak Site Assessment and Remediation / Various Clients / Minnesota
> Investigate impacted soil, groundwater, and soil gas at petroleum leak sites throughout the state. Assess potential human health and environmental risks associated with observed impacts. Develop investigation strategy, coordinate subcontractors and field staff, delineate contaminant plumes, prepare Site Conceptual Models, and prepare documentation reports. Oversee the installation and collection of groundwater samples from permanent monitoring wells, and preparation of monitoring reports. Oversee the excavation and disposal of impacted soils.

UST/AST Assessment / Various Clients / Minnesota
> Oversee the removal or excavation of storage tanks at numerous site throughout the state. UST excavation oversight experience includes soil screening, sampling, and coordinating and documenting the disposal of excavated soils. AST assessment experience includes advancing soil boring and hand auger borings to delineate soil impacts, soil sampling, and soil excavation oversight.

Chlorinated Solvent and Hydraulic Oil Release / Manufacturing Facility / Private Client / North Dakota
> Oversee the advancement of soil borings and sub-slab soil gas borings inside a large manufacturing complex. Elevated solvent concentrations detected in soil gas borings beneath the building footprint necessitated the installation of a sub-slab depressurization system for sub-slab vapor remediation. Solvents detected in groundwater samples collected from soil borings necessitated the installation of deep monitoring wells to ensure the municipal water supply was not impacted by the release. Hydraulic oil observed in temporary wells in soil borings was delineated using laser induced fluorescence (LIF) technology to delineate the extent of the hydraulic oil plume.

Dioxin Sampling / Radio Tower Bay / St. Louis River, Duluth, Minnesota
> Perform coring and collection of wood waste and river sediment for dioxin analysis in Radio Tower Bay in the St. Louis River as part of a dredging and habitat restoration project. Samples were collected at precise locations using a sub-meter GPS unit. The results of this investigation directed the future approach to this high cost, large-scale project.

Phase I Environmental Site Assessments (ESA) / Various Clients / Minnesota and North Dakota
> Environmental assessment, including: geologic, historical, and regulatory research, and site visits to identify recognized environmental conditions and potential environmental liabilities prior to transfer,

sale, refinancing, or foreclosure for a variety of properties, including retail, manufacturing and agricultural properties.

Fuel Oil Utility System Investigation / Manufactured Housing Community / Private Client / Minnesota

> Oversee the excavation, cutting, evacuation, and sealing of a damaged fuel oil line formerly used for supplying fuel oil to residences of a manufactured housing community prior to the installation of a natural gas system. Oversee the removal of contaminated soil and groundwater adjacent to, and within damaged portions of the fuel oil disbursement system.

Phase II Subsurface Investigations / Various Clients / Minnesota

> Investigate impacted soil, groundwater, and soil gas. Assess potential human health and environmental risks associated with observed impacts. Develop investigation strategy, coordinate subcontractors and field staff, delineate contaminant plumes, and prepare documentation reports.

Subsurface Site Investigation / Brownfield Redevelopment / Mille Lacs Band of Ojibwe / Onamia, Minnesota

> Oversaw investigation of petroleum impacts from a former fuel oil UST adjacent a private residence to evaluate subsurface soil and groundwater conditions for petroleum contaminant which included soil boring oversight, hand augering, soil and groundwater sampling, soil gas sampling, and impacted surface soil delineation. Water samples were collected from the on-site domestic supply well.

Sub-slab and Indoor Air Sampling / Dry Cleaners / Minot, North Dakota

> Conducted 12-hour indoor sub-slab soil gas sampling, including drilling through the concrete floor, installing permanent sub-slab vapor sampling points, and documenting and shipping samples. Due to the concentrations of contamination found, 24-hour indoor air sampling was performed to assess potential health risks to employees in the building.

Training

> 40-Hour OSHA Training for Workers at Hazardous Waste Sites
> 8-Hour Refresher OSHA Training

Sean Dobie

Summary of Experience
Mr. Dobie is a Project Scientist in the ATC Fridley, Minnesota office. He has 13 years of environmental consulting experience as a field technician and project manager. He also serves as the Branch Safety Officer (BSO) for the Fridley ATC branch. His responsibilities include project management, field personnel training/oversight, sub-surface investigative work, retail petroleum emergency response activities, field investigations, and preparation of documents ranging from Phase I Environmental Site Assessment reports to Limited Site Investigation and Remedial Investigation reports. His field work includes aboveground and underground storage tank (AST/UST) assessments, environmental site assessments (Phase I/II), property condition assessments, wetland delineations, subsurface soil and groundwater investigations for petroleum and chlorinated hydrocarbon releases, vapor intrusion assessments, emergency response activities, petroleum remediation system operation and maintenance (O&M), vapor mitigation system installations, monitoring well installation oversight; groundwater monitoring; and soil, groundwater, and vapor sampling.

Education
University of Minnesota Duluth, Duluth, MN - B.A. Environmental Studies, Geology, 2005

Professional Registrations
Asbestos Inspector, Lake States Environmental, Minnesota Department of Health, Wisconsin Department of Natural Resources

Wetland Delineator, University of Minnesota

Significant Projects
Regional Petroleum Retailer, Remedial Investigation and Corrective Action / Mendota Heights, Minnesota.
> Evaluated soil and groundwater contamination at a retail petroleum filling station site in Mendota Heights, Minnesota. Significant LNAPL was observed in monitoring wells at the site, up to a maximum thickness of approximately 13 feet. Performed system operation and maintenance activities at the site. The extent of subsurface NAPL was assessed using Laser Induced Fluorescence (LIF) technology to determine NAPL distribution and evaluate system capture. Assisted with the oversight of LIF borings. Oversaw the installation of additional downgradient monitoring wells to assess the extent of a 1,2-dichloroethane plume in the deep aquifer underlying the site. Collected soil and groundwater samples during monitoring well installation and quarterly groundwater monitoring.

Regional Petroleum Retailer, Remedial Investigation / Sartell, Minnesota.
> Evaluating soil and groundwater contamination at a retail petroleum filling station in Sartell, Minnesota. Benzene and GRO concentrations were significantly elevated, indicating the possible presence of an on-going release at the site. Assisted with obtaining access for three off-site borings. Oversaw the installation of on- and off-site soil borings and monitoring wells for the investigation.

Leaking Underground Storage Tank Site Management / Various Commercial Facilities / Minnesota, Wisconsin, and North Dakota
> Evaluation of subsurface soil and groundwater conditions for petroleum contaminants in accordance with applicable state guidance documents. Investigations include soil boring oversight, monitoring well installation, impacted soil delineation, soil and groundwater sampling, and report writing including, MPCA Limited Site Investigation (LSI) reports and Remedial Investigation (RI) Reports, and reimbursement applications.

Monitoring Well Installation / Speedway SuperAmerica / Several sites throughout Minnesota and Wisconsin

> Oversaw installation of monitoring wells following product releases from USTs, dispensers, and product lines. Coordinated a drill team in order to assess soil and groundwater conditions.

Phase II Subsurface Investigations / Various Property Developers / Minnesota, Wisconsin, and North Dakota.

> Evaluation of subsurface soil and groundwater conditions for potential environmental impact. Phase II investigations include monitoring well installation, impacted soil delineation, soil and groundwater sampling, and report writing.

Retail Petroleum Emergency Responses / Speedway SuperAmerica / Minnesota and Wisconsin

> Coordinated emergency response activities following petroleum leaks or spills, including collaboration with store managers and contractors, LNAPL recovery, soil borings and sampling, and recovery well installation oversight for more than 50 sites. Assisted in preparation of technical documents to the MPCA for recommended additional investigation or site closure.

Site Investigation / Chlorinated Solvent Release / Industrial Manufacturing Facility / Albert Lea, Minnesota.

> Completed soil gas survey beneath existing building on the site and near down gradient edge of groundwater plume to evaluate potential impacts to indoor air. Implemented a response action plan at the site and filed for a deed restriction to obtain a No Further Action determination from the MPCA VIC program.

Site Investigation / Industrial Aluminum Manufacturing Facility / St. Paul, Minnesota.

> Assisted in soil and groundwater investigation at an industrial/manufacturing facility that specialized in aluminum recycling and manufacturing. Previous use of the facility involved the manufacturing of aluminum cans. Soil probes were advanced inside and outside of the site buildings. Due to the presence of impacted soils beneath the buildings on the site, active remediation was not possible at the site.

Site Investigation, Vapor Intrusion Assessment, Remediation System Design and Implementation / Former Dry Cleaning Facility / Richfield, Minnesota.

> Assisted in the investigation of soil, soil gas, and groundwater impacts at a former dry cleaning facility at Minneapolis suburban strip mall location. Solvents released from the dry cleaning operations impacted soils, resulting in very high PCE sub-slab soil vapor impacts. Advanced over 10 indoor borings to various depths to profile the horizontal and vertical extent of PCE impacts. Installed three monitoring wells. Oversaw the installation of an active sub-slab depressurization system in order to mitigate the soil vapors for future tenant occupancy.

Phase I Environmental Site Assessments (ESA) / Various Clients / Minnesota, Wisconsin, Illinois, South Dakota, and North Dakota

> Conducted Phase I ESAs of agricultural, commercial, and telecommunication properties, including geologic, historical, and regulatory research along with site visits to identify recognized environmental concerns and potential environmental liabilities prior to transfer, sale, refinancing, or foreclosure.

Training

> 40-Hour OSHA Training for Workers at Hazardous Waste Sites

> 8-Hour Refresher OSHA Training

Alexander Braaten

Summary of Experience
Mr. Braaten is a Project Scientist in the ATC Group Services, Fridley, Minnesota office. He has over three years of environmental consulting experience in five main practice areas: petroleum investigation and remediation, environmental due diligence, environmental compliance, ecological services and restoration, and industrial hygiene. His capabilities include sub-surface investigations, field investigations, remediation projects, petroleum asset installation and decommissioning oversight, and review and preparation of documents ranging from Phase I environmental site assessments to comprehensive site investigation and monitoring reports, among others. His fieldwork experience includes aboveground and underground storage tank (AST/UST) assessments, environmental due diligence site assessments (Phase I/II), subsurface soil and groundwater investigations for petroleum, hydrocarbon, and chlorinated solvent releases, vapor intrusion assessments, and monitoring well installations and abandonments. Additionally, he has fieldwork experience for ecological projects including wetland delineations, water body and biological surveying, habitat restoration, and invasive species control. He also has experience inspecting commercial and industrial sites for storm water pollution prevention, spill prevention control and countermeasure, and chemical inventory compliance reporting.

Education
University of Minnesota Twin Cities, Minneapolis, MN – B.A. Biology, Society, and the Environment, 2014

Significant Projects

Phase I Environmental Site Assessments (ESA) / Various Clients / Minnesota and North Dakota
> Environmental assessment, including: geologic, historical, and regulatory research, and site visits to identify recognized environmental conditions and potential environmental liabilities prior to transfer, sale, refinancing, or foreclosure for a variety of properties, including retail, industrial, manufacturing and agricultural properties.

Phase II Subsurface Investigations / Various Clients / Minnesota
> Investigate soil, groundwater, and soil vapor preceding a transfer, sale, refinancing, or foreclosure for a variety of properties, including retail, industrial, manufacturing and agricultural properties. Assess potential human health and environmental risks associated with any observed impacts. Develop investigation strategy, coordinate subcontractors and field staff, delineate contaminant plumes, and prepare documentation reports.

Petroleum Leak Site Assessment and Remediation / Various Clients / Minnesota
> Investigate impacted soil, groundwater, and soil vapor at petroleum leak sites throughout the state. Assess potential human health and environmental risks associated with observed impacts. Develop investigation strategy, coordinate subcontractors and field staff, delineate contaminant plumes, prepare Site Conceptual Models, and prepare documentation reports. Oversee the installation and collection of groundwater samples from permanent monitoring wells, and preparation of monitoring reports. Oversee the excavation and disposal of impacted soils.

UST/AST Assessment / Various Clients / Minnesota
> Oversee the removal or excavation of storage tanks at numerous site throughout the state. UST excavation oversight experience includes soil screening, sampling, and coordinating and documenting the disposal of excavated soils. AST assessment experience includes advancing soil boring and hand auger borings to delineate soil impacts, soil sampling, and soil excavation oversight.

Petroleum Spill Assessment and Excavation Oversight / Various Residences / Private Clients / Minnesota and Wisconsin

> Conduct exploratory soil borings and diagnostic soil sampling following a petroleum release at a private residence. Oversee removal of LNAPL remaining on site, if applicable. Identify contaminated soil with a photoionization detector, and oversee excavation of contaminated soil to be brought off site for disposal. Collect confirmation soil samples from the base and side walls of the excavation following removal of contaminated soil.

Fuel Oil Utility System Investigation / Manufactured Housing Community / Private Client / Minnesota

> Oversee the excavation, cutting, evacuation, and sealing of a damaged fuel oil line formerly used for supplying fuel oil to residences of a manufactured housing community prior to the installation of a natural gas system. Oversee the removal of contaminated soil and groundwater adjacent to, and within damaged portions of the fuel oil disbursement system.

Water Supply Well Installation, Enhancement and Replacement / Residence / MPCA / Minnesota

> Oversee the installation of a carbon treatment system at a residence following confirmation of benzene contamination in water from the water supply well. Collect samples from influent, between carbon vessels, and post treatment quarterly to confirm removal of benzene contamination from the water prior to use at residence. Oversee the installation of a new water supply well within the Quaternary Buried Artesian Aquifer, outside of the observed contamination plume and benzene contaminated aquifer at the residence. Oversee the enhancement of the new water supply well following minimal production of water for the residence. Oversee the abandonment of the new water supply well following low water production, and installation of a new 350-foot 6-inch replacement water supply well into Precambrian bedrock. Collect samples from residence water tap verifying absence of petroleum contamination.

Chlorinated Solvent and Hydraulic Oil Release / Manufacturing Facility / Private Client / North Dakota

> Oversee the advancement of soil borings and sub-slab soil vapor borings inside a large manufacturing complex. Elevated solvent concentrations detected in soil vapor borings beneath the building footprint necessitated the installation of a sub-slab depressurization system for sub-slab vapor remediation. Solvents detected in groundwater samples collected from soil borings necessitated the installation of deep monitoring wells to ensure the municipal water supply was not impacted by the release. Hydraulic oil observed in temporary wells in soil borings was delineated using LIF technology to delineate the extent of the hydraulic oil plume.

LNAPL Investigation and Site Monitoring / Commercial Properties / MPCA / Minnesota

> Oversee the installation and collection of groundwater samples from permanent monitoring wells on a quarterly basis, and preparation of monitoring reports. Oversee the advancement of laser induced fluorescence borings to delineate the extent of the LNAPL plume in the vicinity of the project work site and surrounding properties. Oversee the advancement of confirmation soil and groundwater soil borings to compare imaging results of LIF borings with actual laboratory concentrations.

SSDS Installation / Apartment Building / Private Client / Minnesota

> Oversee the installation of a SSDS adjacent to a drycleaner following observations of elevated PCE concentrations in sub-slab vapor sampling. Conduct post-mitigation diagnostic testing to ensure the risk of vapor intrusion to the apartment building has been removed. Conduct confirmation sampling to verify that concentrations of PCE and other VOCs in sub slab vapors have been reduced below MPCA action levels.

Training

> OSHA 40-Hour HAZWOPER Training
> OSHA 8-Hour Annual Refresher Training
> 1st Aid, CPR, BBP, and AED Training, EX Safety LLC

Samantha DeWitte

Summary of Experience
Mrs. DeWitte is a Project Scientist in the ATC Fridley, Minnesota office. She has a Bachelor's Degree in Reclamation, Environment, and Conservation with emphasis in Biology and an Environmental Science Minor. She has over three years of environmental consulting and field experience. Her professional experience includes; environmental compliance, subsurface investigations, and site reclamation and ecological restoration. Her capabilities include soil sampling, surface water and groundwater sampling, vegetation identification and surveying, data entry and analysis, report preparation, subcontractor coordination, and field safety.

Education
University of Wisconsin-Platteville, Platteville, WI - B.S. Reclamation, Environment, and Conservation, 2014

University of Wisconsin-Platteville, Platteville, WI – B.A. Spanish Language, 2014

Significant Projects

Environmental Compliance / Various Clients / New Mexico, Arizona, Colorado
> Conducted environmental compliance activities at six coal mines and one molybdenum mine Superfund site in New Mexico and Arizona. Compliance activities included; spoil and soil sampling to test for contamination and vegetation suitability, topsoil depth verification, surface water sampling, SWPPP inspections to maintain permit requirements, vegetation monitoring (data collection, compilation, analysis and reporting) in reclaimed mine areas for bond release, and invasive and noxious species management.

> Performed environmental compliance on oil and gas pipelines and well pads in New Mexico and Colorado. Compliance activities included; vegetation monitoring (data collection, compilation, analysis and reporting) and invasive and noxious species management along reclaimed pipeline and well pad areas.

> Tested oil field waste for Technologically Enhanced Naturally Occurring Radioactive Material (TENORM) levels to determine method of disposal in North Dakota.

Subsurface Soil Investigation / Various Clients / North Dakota
> Investigated impacted soil and contaminant extent at abandoned oil and gas well pad legacy sites in North Dakota. Coordinated with push probe operator and characterized soil borings. Drilling locations were determined after delineating the contaminant plumes with electromagnetic survey. Operated soil probe to extract and collect soil for laboratory analysis. Assisted in developing a remediation plan.

> Performed soil field screening for chloride to determine contamination extent on and offsite oil and gas well pads in North Dakota following brine spills.

Site Reclamation / Various Clients / Idaho, Montana, Wyoming, New Mexico
> Performed soil field screening for chloride to determine contamination extent on and offsite oil and gas well pads in North Dakota following brine spills.

> Executed reclamation work at anomaly dig sites along pipelines through Idaho, Montana, and Wyoming. Reclamation activities included; amending soil, seeding, and mulching.

> Completed well pad reclamation on oil and gas well pads in New Mexico. Reclamation activities included; de-compacting and amending soil, seeding, and mulching.

Ecological Restoration / Various Clients / Colorado, New Mexico, Minnesota

> Performed wetland restoration on mine site. Restoration activities included; invasive species removal and treatment, planting wetland species plugs, willow whips, and cottonwood trees.

> Created wetland habitat for mitigation purposes in Colorado. Mitigation activities included; re-contouring site, invasive/noxious species management, planting wetland species plugs, willow whips and cottonwood poles, seeding, and mulching.

Training

> 40-hour HAZWOPER Training (29 CFR 1910.120), Fridley, MN 2018
> SWPPP Administrator Certification, Billings, MT 2017
> MSHA Part 46 & 48, ND 2017
> PEC Safeland Certification, Williston, ND 2017
> H2S Awareness Training Certification, Williston, ND 2017
> TENORM Technician Training Certification, Williston, ND 2017

Tai Yeow

Summary of Experience
Mr. Yeow is an environmental professional with more than 21 years of experience in the environmental industry. Mr. Yeow has provided environmental consulting services for numerous different industries located in the U.S. and Singapore, which include petroleum storage, retail and distribution facilities, metal processing and finishing facilities, grain elevators and animal feed mills, automobile part manufacturers, medical equipment manufacturers, vehicle maintenance facilities, food processing plants, scrap metal facilities, municipal and hazardous waste management facilities, chemical processing and distribution facilities, commercial and government office buildings, retail operations, and construction sites. Expertise includes environmental due diligence, tank inspections and leaking tank investigations, vapor intrusion assessments, multi-media regulatory compliance audits, regulatory permitting, Brownfield redevelopments, and remediation system design and operations. Other experience includes emergency response planning and development, solid and hazardous waste inspections, and projects with government and quasi-government agencies.

Education
University of Minnesota, Twin Cities Campus, MN - B.S. Natural Resource and Environmental Studies in Waste Management, 1996

Significant Projects
Site Investigations / Petroleum Retail Stations and Bulk Plants / Minnesota, North Dakota, and Wisconsin.
> Obtained file closures for more than 120 projects involving petroleum releases. Coordinated field operations, from contractor supervision, to site-specific corrective action design implementation. Prepared and reviewed final reports and proposals for submittal to the client and the MPCA.

Remediation / Speedway SuperAmerica Station / Petroleum and Chlorinated Compound Release / Mendota Heights, Minnesota.
> Managed and maintained a dual phase extraction (DPE) system to remediate soil, soil gas, and groundwater impacts. The DPE system consisted of a network of 16 recovery wells and 21 monitoring wells screened across different geologic strata. The DPE system effectiveness was monitored based on contaminant mass recovery in the LNAPL, dissolved, and vapor phases. The extent of remaining subsurface NAPL was assessed using Laser Induced Fluorescence (LIF) technology to determine NAPL distribution and evaluate system capture. Annual monitoring and corrective action design reports were submitted to the Minnesota Pollution Control Agency (MPCA) for reviews and approvals. Annual NPDES discharge reports were submitted to the Metropolitan Council

Brownfield Redevelopment / Phase II ESA, Soil Petroleum and Lead Impacts, Pre-Demolition Asbestos and Lead Based Paint Surveys, Asbestos Abatement, and Soil Corrective Action / Calhoun Square Redevelopment / Minneapolis, Minnesota.
> Oversaw the environmental assessment of a 6-acre mall site that was undergoing a major redevelopment. Recognized environmental conditions identified included USTs, ASTs, dry cleaners, auto repair facilities, and gas stations. Soil probes were advanced inside and outside of the site buildings, some in limited access areas. Buildings and tenant spaces were surveyed and asbestos containing materials (ACMs) and lead based paint (LBP) identified were abated. During demolition excavation activities, former structures, suspect ACMs, and other waste materials were uncovered that required expedited assessment and profiling for landfill disposal. The site was enrolled into the MPCA VIC Program to obtain liability assurance letters.

Site Investigation, Vapor Intrusion Assessment, Remediation System Design and Implementation / Former Dry Cleaning Facility / Richfield, Minnesota.
> Conducted investigation of soil, soil gas, and groundwater impacts at a former dry cleaning facility at Minneapolis suburban strip mall location. Solvents that had released from the dry cleaning operations

impacted soils, resulting in very high PCE sub-slab soil gas impacts. Advanced over 10 indoor borings to various depths to profile the horizontal and vertical extent of PCE impacts. An active sub-slab depressurization system was designed in order to mitigate the soil gas for future tenant occupancy while further groundwater investigation and monitoring activities continue.

Emergency Response and Site Assessment / Plane Crash / Cresco, Iowa.

> Completed an emergency site assessment of a plane crash site. Performed soil characterization and coordinated contaminated soil excavations, stockpile, and removal as part of the post-crash remedial activities. Researched local sinkholes and other potential receptors to assess migration risk potential.

Environmental Service (MCES) for permit renewals. Brownfield Redevelopment / Petroleum Impacted Soil Corrective Action / City of Chaska Downtown Redevelopment / Chaska, Minnesota.

> Assisted the City in an expedited environmental investigation and cleanup of leaking underground storage tank site for re-development. A response action plan involving soil excavation for contaminant source removal was prepared and approximately 500 cubic yards of soil were removed and disposed. Concern at the site was potential groundwater to surface water pathway that may impact the nearby Minnesota River. Following excavation and disposal of impacted soils, closure documents were submitted to MPCA and the City obtained a No Further Action letter.

Training

> 40-Hour OSHA Training for Workers at Hazardous Waste Sites
> 8-Hour Refresher OSHA Training

Morgan Maldonado

Summary of Experience
Mrs. Maldonado is a Project Geologist for ATC's Fridley, Minnesota, office. She has over 5 years of experience in conducting environmental due diligence. Her capabilities include project management, client management and interaction, technical review, preparation of documentation ranging from Phase I site assessments to comprehensive investigations, and management of field staff.

Education
University of Texas at Dallas - B.S. Geosciences, 2012

Significant Projects

Environmental Site Assessments / Various Clients / Texas and Minnesota.
> Conducted Phase I Environmental Site Assessments (ESAs), per ASTM guidelines, for various properties as part of the due diligence process for real estate transactions. The Phase I ESAs included site visits and historical research using aerial photographs, city directories, fire insurance maps, government records, review of relevant regulatory files pertaining to the area, interviews, reviews of hazardous materials and waste handling practices, identification of potential sources of contamination, asbestos-containing materials, and water intrusion / mold concerns.

Annual Environmental Audits / Commercial Facilities / Minnesota.
> Conducted Annual Environmental Audits for Property Management firms. These audits typically include historical, and regulatory research along with site visits to identify recognized environmental concerns and potential environmental liabilities. These audits also include limited building code and zoning compliance reviews. The audits have included a variety of commercial and industrial facilities throughout Minnesota.

Environmental Subsurface Investigations / Various Clients / Texas.
> Oversight and field work in association with borings via GeoProbe methods in connection with environmental subsurface investigations at various facilities in Texas.

Vapor Sampling / Various Clients / Texas.
> Completed active soil gas vapor survey beneath existing buildings on the site and passive soil gas survey near down gradient edge of groundwater plume to evaluate potential impacts to indoor air.

Radon Sampling / Various Clients / Texas.
> Conducted short-term radon gas sampling at multi-family residential apartment complexes throughout Texas. Once sampling was completed, analyzed the results and provided recommendations to assist Clients with real estate transactions.

Annual Tier II EPCRA reporting / Digital Realty Trust / Throughout the U.S.
> Conducted annual Tier II EPCRA reporting, data collection, and processing for facilities in 15+ states.

Training
> OSHA 40-Hour HAZWOPER Training
> OSHA 8-Hour Annual Refresher Training

Lucas Bicknell

Summary of Experience
Lucas Bicknell is a Project Scientist at ATC's Fridley, MN office. He has over four years of project management and environmental consulting experience in the areas of environmental compliance, regulatory analysis, and environmental permitting. Mr. Bicknell has provided compliance services at facilities located in 39 States, the District of Columbia, and Puerto Rico. Industries supported include the U.S. Postal Service (USPS), agricultural facilities, oil and natural gas, warehouse and distribution facilities, vehicle maintenance facilities, commercial and government office buildings, and construction sites. Mr. Bicknell's regulatory analysis and permitting experience includes review and analysis of applicable regulations and permits for pipeline construction, facility construction, maintenance activities, and existing industrial facilities.

Education
North Dakota State University, Fargo, ND - B.S. Zoology, 2009

North Dakota State University, Fargo, ND - M.S. Environmental and Conservation Science, 2009

Significant Projects

Environmental Compliance Activities / Various Clients / Throughout the U.S.

> Provided Spill Prevention, Control, and Countermeasure (SPCC) Plans and Industrial Storm Water Pollution Prevention Plans (SWPPPs) for transportation sector and food and kindred product sector facilities in 39 States, DC, and Puerto Rico. Mr. Bicknell has conducted site inspections, interviewed facility personnel, and reviewed site documents to evaluate materials storage and handling, potential sources of storm water pollution, spill response procedures, and best management practices. He evaluated current compliance with requirements of SPCC regulations and general permits for storm water discharges associated with industrial activities during the site visits and provided each facility with a list of non-compliant items and recommendations to bring the facility into compliance. Mr. Bicknell prepared and issued plans for the facility that accurately reflected site conditions and enabled facility personnel to implement the plans in accordance with regulations and applicable permits. USPS and nationwide confidential clients.

> Developed Construction SWPPPs and obtained Construction Storm Water and Hydrostatic Testing permits for numerous Natural Gas Liquid (NGL) plants, compressor stations, and pipeline projects for multiple confidential clients throughout North Dakota, as well as in IA, MN, MO, MT, TX, OK, and WI.

> Conducted regulatory review, routing feasibility, US Fish and Wildlife (USFWS) easement avoidance, construction storm water permitting, and compliance monitoring of the construction of over 350 miles of natural gas liquid gathering systems and 200 associated well connects in North Dakota. Mr. Bicknell facilitated conference calls and communications with the Project Team, which consisted of Right-of-Way agents, survey agents, construction contractor, and the client.

> Mr. Bicknell has worked collaboratively with many government agencies on routing, permitting, and avoidance of environmentally sensitive areas. Agencies include the US Forest Service (USFS), US Army Corps of Engineers (USACE), USFWS, Bureau of Land Management (BLM), North Dakota Department of Health (NDDOH), Minnesota Pollution Control Agency (MPCA), in addition to many local agencies.

> Mr. Bicknell has permitting experience at the local, state, and federal levels to include: Construction Storm Water; Industrial Storm Water; Dewatering/Hydrostatic Discharge; USACE Nationwide and Regional, Clean Water Act (CWA) 401/404, and Section 10 permitting; Conditional and Special Use permitting; and Endangered Species and Habitat Conservation Plans.

- USPS Environmental Compliance Program / Louisiana Mobile Fueling Technical Support / FY 2016. Provided technical support services to help USPS develop and maintain regulatory compliance under the Clean Water Act and associated state programs for 39 facilities in Louisiana that have mobile fueling operations. Conducted site visits site involved in mobile fueling and vehicle washing activities that required coverage under one of the Louisiana General Permits and developed the SWPPPs for each facility.

- USPS Environmental Compliance Program, nationwide. Conducted site inspections, interviewed facility personnel, and reviewed site documents to evaluate materials storage and handling, potential sources of storm water pollution, and best management practices to ensure and maintain facility compliance with No Exposure Certification requirements.

- USPS Environmental Compliance Program, nationwide. Conducted SPCC Plan inspections of facilities with oil storage exceeding 1,320 gallons to confirm that proper containment, overfill protection, inspection, spill response, security, site drainage, and personnel training is in place in accordance with federal and state regulations.

- Construction storm water compliance inspections for confidential clients throughout North Dakota. Erosion and sediment controls monitoring, recommendations for maintenance, and compliance inspection reporting. Mr. Bicknell has reviewed inspection reports for hundreds of miles of pipeline projects in varying stages of construction. He facilitated weekly conference calls with project Environmental Inspectors, provided regulatory and compliance guidance to clients and construction personnel, prepared report deliverables, and managed project databases.

- Development of Mitigation Plans, Permit Books, and project guidance documents in accordance with environmental regulations and permit requirements. Mr. Bicknell has also developed a variety of guidance manuals for contractor and inspector use in the field.

Regulatory Analysis / Various Clients / Throughout the U.S.

- Site-specific regulatory review and permitting of pipeline integrity and maintenance projects for multiple clients throughout the Midwest to include IA, IL, MN, MO, MT, ND, SD, TX, OK, and WI. This included in-depth review and analysis of local, state, and federal regulations, as well as remote sensing for T&E species, critical habitat, wetlands/waterways, and special and impaired waters. Provided comprehensive site specific environmental reports and environmental compliance documentation in support of pipeline maintenance.

- Environmental review and special use permitting of well connects and intra- and interstate trunkline routes which cross federal lands in ND and MT.

- Provided environmental regulatory review and permitting for a pipeline removal involving a Section 10 Water in Montana.

Training

- OSHA 40-Hour HAZWOPER Training
- OSHA 8-Hour Annual Refresher Training
- MN Construction Installer
- MN SWPPP Design

Jennifer L. Michaelson, P.E.

Summary of Experience
Ms. Michaelson is a Project Engineer with ATC's Fridley, Minnesota office. She has 23 years of varied experience, ranging from field services to management of environmental professionals. Her extensive capabilities include project management, client management and interaction, technical review, preparation of documentation ranging from Phase I Environmental Site Assessments to comprehensive investigations, and management of field and technical staff. Her experience has included managing environmental site assessments (Phase I/II), underground storage tank assessments, subsurface soil and groundwater investigations for petroleum hydrocarbon releases, site remediation, and vapor intrusion assessments at sites located throughout the United States. Ms. Michaelson serves as Client Manager for a major retailer and provides senior technical review for reports in the Fridley office. Specific project experience has included soil and groundwater investigation and environmental assessment activities at retail gasoline stations in Wisconsin and Superfund investigation in Michigan.

Education
Michigan Technological University, Houghton, Michigan - B.S., Environmental Engineering, 1995

Professional Registrations
Professional Engineer, Wisconsin, April 2003

Significant Projects
Remediation Activities Bioremediation / Major Oil Company / Michigan
> Coordinated a bioremediation project for crude oil impacted soil to satisfy the Michigan Department of Natural Resources requirements. Project included the thin spreading of petroleum impacted soil, determination of optimum nutrients (nitrogen, phosphorus and potassium) required for the bioremediation to occur, monitoring of the bioremediation progress through collection of soil samples, and coordination with subcontractors for installation a groundwater monitoring well, application of the fertilizer (nutrients), and tilling of the soil.

Regional Petroleum Retailer, Remedial Investigation / Sartell, Minnesota.
> Evaluating soil and groundwater contamination at a retail petroleum filling station in Sartell, Minnesota. Benzene and GRO concentrations were significantly elevated, indicating the possible presence of an on-going release at the site. Reviewed remedial investigation report, including off-site soil and groundwater data, deep aquifer data, and three quarters of groundwater monitoring data. The report will be submitted shortly, within one year of the opening of the leak number.

Phase II Subsurface Site Investigations – NR 700 Site Investigations / Retail Gasoline Stations / Wisconsin
> Served as Project Manager for a major retail gasoline chain at multiple sites. The projects involved UST system closures, site assessments, and remediation. The projects involved coordination with the Wisconsin Department of Natural Resources (WDNR) and Wisconsin Department of Commerce (Commerce) including Wisconsin Department of Natural Resources (WDNR) Site Update reports in accordance with NR 700 requirements. Superfund Groundwater Monitoring / Superfund Site / Forest Township, Michigan Field Team Leader for installation of monitoring wells (hollow stem auger and mud rotary method), abandonment of monitoring wells (over drilling), installation of dedicated sampling pumps and installation of fencing at a Superfund site in Michigan.

The Superfund site was formerly licensed by the State to operate as an industrial landfill and receive liquid industrial wastes. The site did not screen incoming wastes properly and accepted toxic materials such as polybrominated biphenyls and C-66. Oils, polychlorinated biphenyls (PCBs), and plating wastes were buried in drums or dumped into surface impoundments. Cyanide, metals, VOCs, 4-methylphenol and 2-methylphenol were detected in ground water. Field Team Leader for collection of

groundwater samples at the site using dedicated sampling pumps at 46 shallow and deep groundwater monitoring wells. Assisted in the design of a landfill cap for the site.

Phase I Environmental Site Assessments (ESAs) / Confidential National Retailer / Wisconsin and Throughout United States

> Serves as Client Manager for a national retailer at multiple sites throughout the United States. The projects involve Phase I Environmental Site Assessments (ESA), Phase II Assessments including Ground Penetrating Radar (GPR), Asbestos Surveys, Soil Contingency Plans, and Vapor Intrusion Assessments.

Environmental Management / Confidential National Retailer / Washington, Georgia, and Virginia

> Project Manager for a major retailer's projects at three Distribution Centers. The project involved noise exposure monitoring of the employees at three Distribution Centers to determine if mandatory hearing protection or noise control was needed or a hearing conservation program enrollment was required following the installation of new equipment at the Distribution Centers.

Asbestos and Lead-Based Paint Abatement

> Asbestos Abatement Projects / Confidential National Retailer / Wisconsin and throughout United States Managed over 15 asbestos abatements throughout the United States, including Wisconsin, for a major national retailer. The asbestos abatements were conducted prior to renovations at occupied buildings and prior to demolition of buildings. Serves as Client Manager for a national retailer at multiple sites throughout the United States. Client Management included coordination, budget management, review of reports, and submittal of deliverable in a timely manner to Client.

Training

> 40-Hour OSHA Training for Workers at Hazardous Waste Sites
> 8-Hour Refresher OSHA Training

Scott Rademaker

Summary of Experience
Mr. Rademaker is a Project Hydrogeologist in ATC's office in Milwaukee, Wisconsin. He has more than 20 years of experience in the environmental consulting field. His experience includes Phase I and Phase II environmental site assessments, NR 716 site investigations, pre-demolition facility assessments, remedial action plan preparation and oversight, and project management. He is proficient in communications with private and public authorities to move contaminated properties to closure. His work has included working with contaminated properties in Wisconsin, Illinois, Indiana, Michigan, Minnesota, and Iowa.

Education
University of Wisconsin – Madison, Madison, Wisconsin - B.S. Hydrogeology

Professional Registrations
State of Wisconsin – Professional Geologist License, Number PG-1911

State of Wisconsin – Certified Site Assessor

American Petroleum Institute (API) – WorkSafe Certified

Significant Projects
Phase II ESAs / Various Clients / Various Locations in Wisconsin, Illinois, Minnesota, and Iowa
> Site investigations including development and implementation of sampling protocols for Phase II Site Investigations and ground water monitoring programs for petroleum contamination. Assessed potential petroleum impacts to water supply wells at several municipalities. Investigations include soil boring oversight, monitoring well installation, impacted soil delineation, soil and groundwater sampling, and report preparation and review of Wisconsin Department of Natural Resources (WDNR) Work Plans, Site Update Reports, and Closure Reports

Liquid Phase Hydrocarbon Investigations / Various Clients / Wisconsin and Michigan
> Coordinated investigation and remediation of properties with Liquid Phase Hydrocarbons through closure with the WDNR. Worked closely with the WDNR Project Managers and WDNR Regional Supervisors to achieve site closure through risk based analysis on complex sites.

Remedial Action Coordinator/ Various Private Sector Clients/ Locations in Wisconsin and Iowa
> Prepared Remedial Action Option Reports (RAOR) for the WDNR and Department of Safety and Professional Services (DSPS) and reviewed third party ROARs for cost effectiveness at petroleum and agricultural chemical contaminated properties.

UST/AST removals / Various Clients / Locations in Wisconsin
> Successfully planned and implemented removal and disposal of USTs, bulk plant ASTs and hydraulic lifts containing petroleum products, waste oil and hydraulic oil.

Pipeline and Bulk Terminal Demolition / Superior, Wisconsin
> Coordinated Bidding and oversight of 4 miles of petroleum pipelines at a former bulk terminal and barge dock in Superior, Wisconsin. Actives included preconstruction assessment of petroleum impacted soil, presence of LPH, potential hazardous atmospheres and determination of potential hazardous materials including asbestos wrapped piping. The project also involved RAOR preparation including the determination of onsite soil treatment through incineration and passive venting to save costs.

Emergency Response Coordinator / Various Public Sector Clients / Various Locations in Wisconsin and Indiana Served as environmental field coordinator at emergency response sites in Wisconsin and Indiana.

> Responsibilities included communication with Pipeline Contractors, Wisconsin Department of Natural Resources (WDNR), EPA and City agencies. Project involved achieving safe remediation of contaminants while retaining protection of human health and the environment

Soil and Groundwater Investigations and Monitoring / Various Clients / Various Locations in Wisconsin, Illinois, Minnesota, and Iowa

> Managed environmental investigations involving pesticides and fertilizers in soil, bedrock and groundwater through remediation and closure. Coordinated construction and installation of discrete interval groundwater sampling in bedrock using FLUTe™ well technology in Minnesota. Developed and supervised limited risk assessments, and groundwater monitoring programs through closure.

Environmental Due Diligence / Various Clients / Wisconsin

> Environmental Site Assessments, including geologic, historical, and regulatory research, and site visits to identify recognized environmental conditions and potential liabilities to the environment and human health prior to transfer, sale, refinancing, or foreclosure for a variety of properties, including retail, agriculture, commercial, manufacturing, and transportation corridors.

PCB Sampling / Private client / Oconomowoc, Wisconsin

> Investigated PCB contaminated concrete in former industrial facility utilizing EPA protocol for concrete sampling at approximately 400 locations. The results were used to determine most cost effective disposal technique.

Engineering Design for Soil and Groundwater Remediation Systems / Various Clients / Wisconsin and Michigan

> Conducted engineering design for dual phase extraction systems Green Bay, Wisconsin and Roseville, Michigan. Member of design team in charge of pilot study work plan development and implementation. Coordinated bidding and contracting, supervision and scheduling of work among subcontractors and field technicians. Calculated soluble and free-phase hydrocarbon recovery analyses, using software including LDRM, API spreadsheets, RETC, ModFlow, and RockWorks. Coordinated Chemical Oxidation injection for petroleum remediation and coordinated and assessed air sampling for petroleum compounds.

Training

> 40-Hour OSHA Training for Workers at Hazardous Waste Sites
> 8-Hour Refresher OSHA Training

Charles Cashman

Summary of Experience
Mr. Cashman is a Senior Hydrologist for ATC in Sun Prairie, Wisconsin. He has over 28 plus years of experience in Phase I and Phase II environmental site assessments, WDNR NR 700 site investigations, pre-demolition facility assessments, remediation activities, geotechnical services, and project management on projects in Wisconsin and throughout the Midwest. He is responsible for the management and review of FCC-NEPA screenings; Environmental Assessments; and coordinating geotechnical investigations in Wisconsin, Illinois, Minnesota, and Iowa. He has evaluated and made recommendations regarding compliance and potential environmental liability and has coordinated numerous Phase II environmental investigations in Wisconsin, Minnesota, and Indiana.

Education
University of Wisconsin-Stevens Point, Stevens Point, WI–BS Water Resources Minor: Soil Science, 1989

Graduate Course Work, Indiana University, Indianapolis, Indiana and University of Wisconsin, Madison,

Professional Registrations
Professional Hydrologist, (WI, #37-111, 1999)

Accredited Asbestos Inspector (AHERA), Wisconsin

Wisconsin Certified UST Site Assessor

Significant Projects
Hydrogeological Investigations / Retail Petroleum Facilities / Wisconsin, Minnesota, Indiana
> Management of all aspects of hydrogeological investigations, from initial investigation through corrective action and closure report writing including Wisconsin Department of Natural Resources (WDNR) Site Update reports. Responsible for the oversight of UST removals, initial remedial measures, site investigations, corrective action plan preparation, and remediation. Work was conducted for major oil companies, private, and municipal clients.

Subsurface Investigations / Various Commercial Clients / Various Industrial Facilities
> Managed site investigations at industrial facilities to determine the extent of chlorinated hydrocarbon impacted soil and groundwater. Investigations included rock coring and the installation of bedrock wells. Managed quarterly monitoring programs per state regulations. Involved in the selection, design, and implementation of remedial action, including soil excavation, soil vapor extraction, and groundwater pump and treat systems.

Underground Storage Tank (UST) Removals / Various Clients / Wisconsin and Minnesota
> Responsible for the oversight of UST removals, initial remedial measures, site investigations, corrective action plan preparation, and remediation. Work was conducted for major oil companies, private, and municipal clients.

Geotechnical Investigations / Various Clients / Wisconsin
> Responsible for the coordination, oversight and management of geotechnical investigations in Wisconsin under the supervision of a Professional Engineer. Geotechnical investigation conducted concurrently with Phase II subsurface investigation to collect soil samples for development/redevelopment planning and environmental analysis.

Phase I ESAs / National Wireless Properties / Midwest States
> Managed over 500 Phase I ESAs and FCC-NEPA Screening Checklists for national wireless clients at raw land and co-location sites in Wisconsin and surrounding states. Responsibilities included

administrative and technical overview of projects, client contact, technical review, and regulatory communications. Has managed over 20 FCC Environmental Assessments for sites located in floodplains, near wetlands, archaeological/Indian religious sites, and national historic sites. All Environmental Assessments submitted to the FCC have been approved for construction.

Phase I ESAs / Various Clients / Wisconsin, Iowa, Minnesota, Indiana, Illinois, and Michigan

> Performed and managed over 400 Phase I ESAs on commercial developments, industrial, manufacturing, residential, and vacant properties. Responsibilities included liability assessment and risk evaluation. Many continued to Phase II investigations, resulting in the successful design and execution of remedial investigations and action plans.

Extent of 1,1,1-trichloroethane impacts and a CERCLIS site in Indiana

> The investigation included in the installation of wells on and off-site and the eventual installation of a groundwater pump and treat system.

Environmental Compliance Audits / Various Industrial Clients / Various Industrial Facilities

> Performed and managed several environmental compliance audits of large industrial facilities. Audits included review of compliance of both federal and state regulations and review of permitting and disposal facilities.

Asbestos Management / Various Clients / Wisconsin

> Conducted numerous asbestos investigative surveys of residential, commercial office, retail, and industrial facilities, including high-rise buildings prior to demolition or significant renovation.

Mold Management / Insurance Company / Wisconsin

> Conducted comprehensive mold investigations of residential properties on behalf of a major insurance company. The mold investigations were conducted to either support or discredit claims presented by the insured following a water damage episode. Sampling methodology included a combination of viable, non- viable, wall-check, and swab sampling.

Training/Certifications

> Professional Hydrologist, (WI#37-111, 1999)
> 40-Hour OSHA Training for Workers at Hazardous Waste Sites
> 8-Hour Refresher OSHA Training
> Accredited Asbestos Inspector, Wisconsin
> Wisconsin Certified Tank Site Assessor

Brett Godsey, J.D.

Summary of Experience
Mr. Godsey has 20 years of experience working in the environmental consulting arena, where he has specialized in the areas of environmental compliance and regulatory analysis and development. Mr. Godsey has provided compliance services at facilities located in 31 States, the District of Columbia, Puerto Rico, and Mexico. Industries supported include the U.S. Postal Service, chemical manufacturers, chemical warehouse and distribution facilities, metal product manufacturers, wood product manufacturers, motor manufacturers, medical supply manufacturers, tool and die facilities, rendering plants, vehicle maintenance facilities, fuel storage and dispensing operations, railroad and shipping facilities, printing facilities, refineries, food processing plants, scrap metal facilities, permitted hazardous waste management facilities, commercial and government office buildings, retail operations, and construction sites. He is familiar with all aspects of environmental regulation including programs addressing waste management, air quality, and water quality. Mr. Godsey's regulatory analysis and development experience has included identification of applicable or relevant and appropriate requirements for CERCLA NPL sites, evaluating institutional control development and implementation for EPA and State cleanup programs, and assisting States and Tribes in the development of environmental regulatory and cleanup programs. Mr. Godsey's legal education combined with his environmental compliance work experience gives him the ability to quickly identify environmental compliance issues and to develop innovative and sustainable solutions.

Education
University of Kansas, Lawrence, KS - B.A. Environmental Studies, 1993

University of Kansas School of Law, Lawrence, KS - J.D. Law, 1996

Professional Registrations
ISO 14001 Lead Auditor Training, 2006

Significant Projects
Training
> Conducted two one-day sessions of environmental auditing skills training for U.S. Postal Service environmental professionals from across the United States. Mr. Godsey prepared and presented all training materials. The training included a review of general auditing principles, identification of audit criteria, evidence collection and documentation procedures, assessment of evidence against audit criteria, development of audit findings, and step-by-step guidance for pre-visit activities, site visit activities, and post-visit activities including communication, audit team selection and management, and quality control measures.
> Conducted personnel training on underground storage tank design, maintenance and operation at facilities in North and South Carolina. Duties included the development of training materials, presentation of training materials in a classroom setting, and hands-on identification of tank components with demonstration of tank inspection and monitoring practices.
> Conducted SPCC Plan and Storm Water Pollution Prevention Plan training at U.S. Postal Service facilities in Maryland and the District of Columbia. Training encompassed the regulatory requirements, plan components, and implementation of plan measures. Each training session included a classroom segment and a hands-on demonstration of the site inspection process as required by the plans.
> Conducted SPCC, storm water pollution prevention, and waste management training for personnel at CN Railroad facilities in Minnesota, Michigan, Ohio, and Pennsylvania. Facility operations included track maintenance, car maintenance, locomotive repair and fueling, marine fueling, storm water treatment, materials loading and unloading, materials transfer between railroad cars and ships, and marine fueling. Training encompassed the regulatory requirements, plan components, implementation of plan measures, and appropriate waste characterization and management practices.

Environmental Compliance Auditing

> Conducted compliance inspections of underground storage tank systems throughout the District of Columbia, Maryland, Virginia, North Carolina, and South Carolina. Mr. Godsey visited each facility to evaluate compliance with state and federal UST design and operational requirements. Duties included facility inspection, document review, identification of applicable environmental laws and regulations, assessment of compliance with applicable environmental requirements, documentation of potential findings of noncompliance, identification of best management practices, completion of state tank inspection forms, and report writing.

Environmental Compliance Support Services

> For the Department of Energy, Mr. Godsey played a key role in a TSCA compliance project to recommend proper PCB-disposal options for various PCB items.
> Participated in the completion of air emissions inventories for U.S. Postal Service facilities in Texas, Oklahoma, Arkansas, and Louisiana. Mr. Godsey conducted site visits to collect emissions data, identified potential emissions units, calculated actual facility-wide emissions, and calculated the annual potential to emit. Mr. Godsey reviewed state air permitting requirements and evaluated the need for air permits. Findings were summarized in reports for each facility.

Environmental Management

> Developed and implemented environmental management systems (EMSs) at U.S. Postal Service facilities located in Louisiana, Arkansas, and Texas. Worked with a team from each facility to develop site-specific EMS procedures. Reviewed existing facility-specific and organizational programs to identify which could be incorporated into the EMS. Identified gaps in facility programs and worked with the team to develop new EMS compliant programs and procedures. Each EMS was designed to meet the requirements of the EPA Performance Track Program.

Permits and Plans

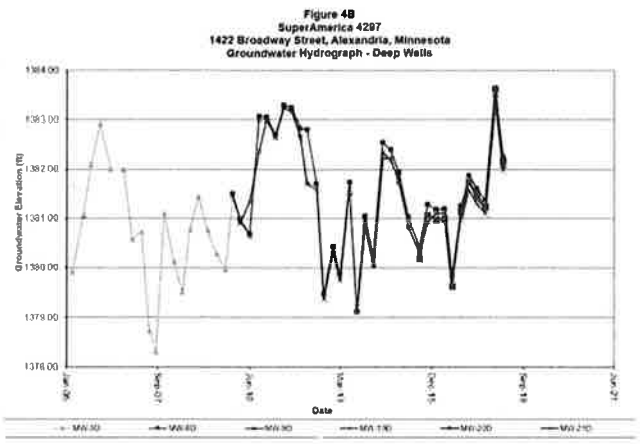
> Prepared SPCC Plans and Storm Water Pollution Prevention Plans for facilities located in Maryland and the District of Columbia. As part of this work, Mr. Godsey conducted site inspections, interviewed facility personnel, and reviewed site documents to evaluate materials storage and handling, potential sources of storm water pollution, spill response procedures, and best management practices. Current compliance with requirements of SPCC and general permits for storm water discharges associated with industrial activities was evaluated during the site visit and Mr. Godsey provided each facility with a list of non-compliant items and recommended actions to bring the facility into compliance. Once issues of non-compliance were corrected, Mr. Godsey prepared and issued plans for each facility that accurately reflected the site conditions and enabled the facility personnel to implement the plans within their existing management structures.

3. Project Descriptions

3.1 Remedial Investigation Project Example 1

Project Name: SuperAmerica Station #4297
Client: Northern Tier Retail
Contact: Dean Stockwell
Phone: 651-458-6479
Site Location: Alexandria, Minnesota
MPCA Leak Number: LS0013449

Site Description:
SuperAmerica Store Number 4297 is located at 1422 Broadway Street, Alexandria, Douglas County, Minnesota. The site is bounded on the east by Broadway Street and to the south by 15th Street. A multi-tenant retail center is located north of the site. To the west of the site is an Elks Lodge, followed by residential development.



Hydrograph of six deep monitoring wells at SuperAmerica #4297

Project Description:
A retail gasoline filling station has been located at the site since the 1950s. SuperAmerica purchased the site in 1987 and constructed the existing gasoline station and convenience store. There are two potential source areas at the site, the former UST basin and the current dispensers. The release was reported to the MPCA in 2000. LNAPL has been identified at the site in the vicinity of the former USTs. The City of Alexandria is currently the subject of an investigation into 1,2-dichloroethane (1,2-DCA) in the municipal wells. Groundwater samples collected from the water table aquifer at the site have identified the presence of 1,2-DCA.

ATC coordinated the off-site access of multiple properties, including properties owned by private, municipal, and state entities. A total of nine off-site monitoring wells were installed for the investigation of the release at the site. Data collected from the monitoring well network, to date, have defined the horizontal and vertical extents of the free phase, dissolved phase, adsorbed phase, and vapor phase plumes.

Groundwater contaminant concentrations in excess of the Minnesota Department of Health (MDH) Health Risk Limits (HRLs) were observed in the water table aquifer for various petroleum constituents; however, ATC confirmed that petroleum impacts are generally limited within the site boundaries. Elevated concentrations of 1,2-DCA were limited to within the general vicinity of the source area(s) at the site.

ATC prepared and submitted Guidance Document 7-03, *Focused Investigation Work Plan,* documenting the plan for installation of additional monitoring wells to delineate LNAPL at the site. Following approval of the Work Plan and in accordance with Guidance Document 2-02, ATC installed monitoring wells for LNAPL delineation. Per guidance, the monitoring wells were placed no more than 50 feet apart in the area of identified LNAPL. With the installation of the LNAPL delineation wells, ATC demonstrated that a groundwater depression within the area of the former UST basin was acting as a hydraulic barrier, preventing LNAPL from migrating outside of the UST basin source area.

ATC oversaw the installation of six deep monitoring wells, into the resource aquifer, at depths of up to 120 feet bgs. Due to the presence of a dense glacial till layer, approximately 50 feet thick, all deep monitoring wells were installed using a rotosonic drilling rig. Analysis of groundwater samples collected from the deep monitoring wells has confirmed that the impacts within the water table aquifer do not impact the resource aquifer.

The full delineation of all contaminant phases, the stability of dissolved-phase concentrations, the lack of migrating LNAPL, and the lack of detectable impacts in the resource aquifer led ATC to the submittal of Guidance Document 4-08, Monitoring Report Form. The report was submitted in March 2018 and recommends site closure. The closure request is pending review by the MPCA.

The following activities were completed at the site in the past five years:

- Project Management – Dane Ralston and Colin Snowberg
- Deep Monitoring Well Access and Installation Oversight – Dane Ralston, Colin Snowberg, Sean Dobie, and Alex Braaten
- Installation of LNAPL delineation monitoring wells – Dane Ralston, Colin Snowberg, Sean Dobie, and Alex Braaten
- Collection of groundwater samples from on- and off-site monitoring wells – Sean Dobie, Colin Snowberg, and Alex Braaten
- LNAPL gauging and recovery – Sean Dobie, Colin Snowberg, and Alex Braaten
- Data evaluation and report preparation – Colin Snowberg, Alex Braaten, and Dane Ralston
- Submit EQuIS data to the MPCA – Dane Ralston and Pace Analytical as laboratory subcontractor

Subcontracted Tasks:
Subcontracted tasks included the installation of monitoring wells, soil and groundwater analyses, professional surveying, and waste removal.

Outcome Achieved:
ATC has completed all soil borings necessary to delineate the vertical and horizontal extent of contamination at the site. Concentrations of PVOCs in groundwater are stable. ATC has demonstrated that, while mobile under a certain groundwater elevation, LNAPL is not migrating. A Monitoring Report has been recently submitted to the MPCA, recommending site closure. The closure request is pending review.

3.2 Remedial Investigation Project Example 2

Project Name: West Main SuperAmerica #801
Client: Local Oil Distributing
Contact: Harry Blair and Brian Bockwitz
Phone: 763-229-7152
Site Location: Anoka, Minnesota
MPCA Leak Number: LS0018899

Site Description:
West Main SuperAmerica #801 is located at 750 West Main Street, Anoka, Anoka County, Minnesota. The site is bounded on the northeast by West Main Street, followed by a vacant property and to the southwest by a multi-family residential apartment building. Commercial businesses are located northwest and southeast of the site.

Project Description:
The release originated from two apparent source area(s), one located in the vicinity of the current dispensers and another in the location of the former USTs at the site.

A previous consultant advanced soil borings at the site using a truck-mounted push probe drilling rig. Groundwater samples collected from the push probe borings indicated dissolved-phase DRO impacts at a maximum concentration of 580,000 micrograms per liter (µg/L), which potentially indicated the presence of LNAPL at the site. The site is located in the Anoka Sand Plain, which means that site stratigraphy is primarily sand; however, no water supply wells are located in the vicinity; therefore, sensitive groundwater conditions are not present at the site.

Flow Map for West Main SuperAmerica #801

ATC took over management of the site and began arrangements to start an RI at the site. ATC initially oversaw the installation of four monitoring wells, two near the source areas, and two to delineate the extent of the plume. Dissolved-phase ethylbenzene and xylenes concentrations exceeded their respective MDH HRLs in the source area monitoring wells. Benzene and toluene were detected intermittently at concentrations greater than HRLs; however, in general, benzene and toluene were not detected in groundwater samples collected from the monitoring wells. The general lack of detectable benzene and toluene with concentrations of ethylbenzene and xylenes exceeding HRLs and GRO and DRO at concentrations greater than 10,000 µg/L indicate that the release(s) at the site have undergone many years of natural attenuation.

Despite contaminant concentrations that indicate ongoing biodegradation, ATC returned to the site on two additional mobilizations to delineate the southwestern and western extents of the dissolved-phase contaminant plume. The second mobilization consisted of two off-site monitoring wells, which were installed in the parking area of the adjacent restaurant property. Analytical results from the western and southwestern wells indicate that the downgradient extent of the contaminant plume has been delineated. ATC submitted

a Monitoring Report to the MPCA in November 2017, recommending site closure. The MPCA closed the site in March 2018.

The following activities were completed at the site:

- Project Management – Dane Ralston
- Off-site access – Dane Ralston and Colin Snowberg
- Installation of on- and off-site soil borings and monitoring wells – Colin Snowberg, Alex Braaten, and Sean Dobie
- Collection of groundwater samples from on- and off-site monitoring wells – Colin Snowberg and Alex Braaten
- Data evaluation and report preparation – Dane Ralston, Colin Snowberg, Alex Braaten, and Jennifer Michaelson

Subcontracted Tasks:
Subcontracted tasks included the advancement of soil borings and installation of monitoring wells, soil and groundwater analyses, and waste removal.

Outcome Achieved:
ATC completed all soil borings necessary to delineate the horizontal extent of the dissolved phase contaminant plume. Thorough groundwater data collection and documentation enabled the submittal of Guidance Document 4-08, Monitoring Report Form, recommending site closure. MPCA review of the report confirmed ATC's closure recommendation and efforts to abandon monitoring wells will commence in the Spring of 2018.

4. Scope of Services

ATC has extensive experience managing petroleum release investigations in Minnesota. Two of our primary clients are large, regional retail petroleum fueling chains, with locations throughout Minnesota. In the past five years, ATC has completed 77 leak investigations by obtaining site closure from the MPCA. We are currently in the process of investigating 15 additional petroleum releases in the state. Due to the large number of petroleum release investigations managed from the Fridley office, it is one of our core business practice areas. Since 1996, we have completed hundreds of petroleum release investigations in Minnesota. Our petroleum release clients consist of large petroleum companies, mid-sized corporations, and various smaller tank owners, such as school districts, cities, and small petroleum retailers.

> Since 1996, we have completed hundreds of petroleum release investigations. Release investigations are always completed with strict adherence to MPCA guidance documents.

As requested in the RFP document, the following provides a point-by-point description of ATC's experience performing activities required in the scope of services section for Category B – Petroleum-Only Environmental Services in the RFP document. Activities for all Category B services are performed utilizing ATC's extensive knowledge and understanding of applicable guidance documents.

- **Oversee site investigation services for soil boring advancement and monitoring well installation using both standard drilling methods and push probe methods.**

ATC knows that effective and efficient completion of petroleum leak site investigations requires knowledge of the most appropriate drilling methods in certain situations and geological conditions. We have been completing petroleum leak site investigations for over 22 years. Over that time, we have developed significant knowledge of the geologic setting of the distinct regions of Minnesota. Before we prepare a work plan, we review a Geologic Atlas and contact drillers to also capitalize upon their extensive local geological knowledge. The information collected during our background review of geological conditions allows us to determine the approximate depth to groundwater near the site and the appropriate drilling technology to reach the requisite depth. This knowledge allows us to prepare more accurate scopes of work and associated work plan costs for MPCA project managers.

In addition to reviewing geologic information, ATC reviews as much site-specific information as possible to identify potential petroleum release sources, such as the locations of historical and current USTs, ASTs, dispensers, and product transfer areas. The knowledge gained from background review allows for the selection of appropriate drilling locations, placed in accordance with Guidance Document 4-01. Advancing soil borings in the optimal locations is absolutely essential to providing data that effectively characterize the extent and magnitude of contamination at a site. Once potential boring locations are selected, ATC provides permitting, utility clearance, contracting documents, and scheduling information to the drilling contractor.

Rotosonic soil boring oversight

ATC does not own drilling equipment in Minnesota; therefore, our relationships with local drilling contractors have been essential in completing projects within time and budget constraints. We request competitive bids from subcontractors during the work plan process at all sites. These competitive bids are requested from subcontractors via a bid specification document

prepared by ATC during the work plan cost estimation process. The effort of obtaining bids prior to work plan submittal to the client provides the most accurate budget planning information and helps to avoid potential cost overruns.

Drilling at ATC managed release sites has been completed using standard drilling methods and push probes. The primary drilling methods utilized on ATC leak site investigations have been push probes, hollow-stem auger, air rotary, mud rotary, rotosonic, and LIF.

ATC's oversight of subsurface boring advancement always begins with the clearance of subsurface utilities utilizing both public and private utility locate contractors. Once the utility locate activities are complete, ATC prepares a map of all designated subsurface utilities. This utility map assists with the placement of additional borings, if additional work becomes necessary at the site.

ATC typically labels the assumed source area boring at a site as GP-1, and unless shallow bedrock exists at the site, GP-1 is advanced first to define the vertical extent of impacted soil and groundwater. Unless there is significant contamination in the source area or a confining layer that cannot be perforated to prevent contamination of a deeper aquifer, ATC completes this stratigraphy boring approximately 20 feet past the deepest contamination in the source area. Completion of the source area boring first allows all borings that follow to be advanced at least 10 feet past the deepest site contamination, if the depth of greatest contamination is greater than the depth of the water table, in accordance with Guidance Document 4-01. Hand auger borings are also advanced into utility backfill, where possible or appropriate. Specific numbers of soil probes or borings depends upon the number of potential sources and receptors and the extent of contamination.

During the advancement of each soil probe or boring, ATC field technicians collect soil samples, classify them in accordance with the 1952 Unified Soil Classification System (USCS), and prepare drilling logs summarizing the results. Representative soils are returned to ATC's office, in the event that there is need for further examination or verification of field soil classification. The USCS soil classification, soil boring depths, soil headspace screening values, water level measurements, and pertinent information relating to the drilling method are recorded on the boring logs.

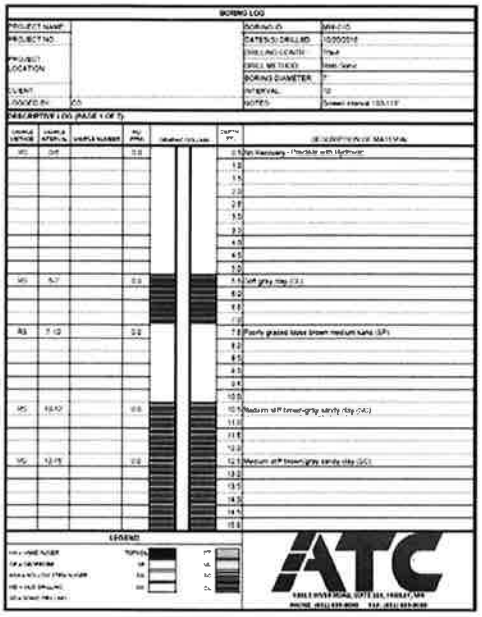
Per Guidance Document 4-01, a Remedial Investigation (RI) is necessary if the LSI determines that:

- An aquifer has been (or is likely to be) contaminated by petroleum compounds at concentrations above drinking water standards or above 1 mg/L gasoline range organics (GRO) or diesel range organics (DRO);
- Surface water has been (or is likely to be) contaminated by petroleum compounds at concentrations above acceptable surface water standards or above 1 mg/L GRO or DRO; or
- Mobile LNAPL is encountered.

Prior to advancing RI borings, subsurface utility clearance is again necessary. ATC utilizes the utility map prepared during the initial drilling event to place borings in optimal locations to assess contamination and avoid subsurface utilities. Monitoring wells must be located such that the magnitude of contamination in the source area(s) can be assessed and the extent of contamination can be delineated. RI soil borings are typically advanced with a hollow-stem auger (HSA). Soil samples are collected continuously at 2.5-foot intervals, and permanent monitoring wells are installed into the borings, in accordance with Minnesota Department of Health (MDH) well code requirements.

ATC's oversight during drilling consists of collecting soil samples, classifying the samples in accordance with USCS, and preparing a drilling log and well construction diagram. Boring logs and well construction diagrams contain information requested by the MPCA in Guidance Document 4-01, including:

1. Depth to start and finish of each soil sample interval attempted.
2. Recovery for each sample interval attempted.
3. Soil classification in accordance with USCS.
4. Further description of soil (grain size, sorting, color, geologic origin, etc.)
5. Depth of significant changes in material.
6. Approximate depth to water below grade, including date and time of measurement.
7. Soil headspace screening results in parts per million by volume (ppmv).
8. Comments regarding significant geologic or hydrogeologic features, visual and olfactory evidence of contamination, and petroleum sheen test results.
9. Depth to top and bottom of open hole or exposed screen.
10. Date and time boring was started and completed.
11. Date and time the boring was sealed.
12. Name of driller and consultant, as well as others present during drilling.
13. Drilling method.
14. Boring identification number.
15. Penetration test records, if applicable.
16. Ground surface elevation.


BORING LOG

Example ATC Boring Log

❷ Conduct groundwater, soil, surface water, sediment, and air sampling and monitoring.

ATC knows that sampling of various media is a fundamental component of any contaminant assessment. We maintain excellent working relationships with State Contracted laboratories certified by the MDH to perform sample analysis in Minnesota. Our field technicians are extensively trained to adhere to MPCA guidance when collecting groundwater, soil, surface water, sediment, or air samples. ATC stresses the importance of correct sample collection procedures in order to ensure that the results are representative of in-situ conditions of the media being sampled. ATC's sampling qualifications are as follows:

Groundwater

Because the risk to groundwater has been one of the primary risks noted by the MPCA PRP since its inception, groundwater monitoring and sampling is a critical aspect of most investigations. ATC has successfully completed numerous groundwater sampling projects involving many types of contamination. We have collected groundwater samples from push probe temporary well screens, permanent monitoring wells, domestic water wells, industrial wells, and municipal supply wells.

Groundwater samples are often collected from temporary well screens in push probe borings or from permanent monitoring wells. ATC field representatives are experienced at conducting groundwater sampling in accordance with Guidance Document 4-05. A typical approach to groundwater monitoring in permanent wells would include allowing the monitoring wells to equilibrate for at least one week following installation. ATC then performs the following activities:

- Open all monitoring wells first, to allow the in-well pressure to equilibrate prior to gauging. Wells are opened in the order from least contaminated to most contaminated;
- Measure water and LNAPL depth, if present, to a surveyed reference point, typically the top of the north side of the polyvinyl chloride (PVC) casing. Wells should be gauged in the order from least contaminated to most contaminated to minimize the potential for cross-contamination and to ensure nearly equal amounts of time for pressure equilibration in all wells;

- Purge three well volumes from each monitoring well, with either conventional disposable bailers or with low-flow pumping methods, such as peristaltic or submersible pump, depending on whether the depth to water exceeds 25 feet;
- Collect groundwater samples in appropriate laboratory provided containers, include the correct sample preservatives, typically hydrochloric acid for groundwater samples collected for petroleum compound analysis;
- Complete groundwater sampling forms to document groundwater conditions;
- Prepare the samples in the field for shipment to the analytical laboratory, using appropriate procedures for preservation and chain-of-custody;
- Enter collected data into a project database for data storage and trend analysis; and
- Provide electronic data deliverables (EDDs) to the MPCA for entry into EQuIS, upon request.

Another important aspect of groundwater sampling involves appropriate quality assurance and quality control (QA/QC) activities. These typically involve collecting duplicate samples, trip and temperature blanks (supplied by the laboratory), and field blanks when re-usable equipment is used. ATC typically utilizes disposable groundwater sampling equipment, rendering the field blank unnecessary.

Soil

ATC has conducted soil sampling activities at various types of sites. Soil samples are typically collected using hand augers, push probe drilling technology, hollow-stem auger drilling rigs, coring machines, and other hand sampling equipment. We also conduct soil sampling from excavations, in accordance with Guidance Document 3-01. In addition, we have experience collecting soil samples for grain size analysis, permeability, porosity, total organic carbon, and bulk density to evaluate the physical aspects of the soil and its characteristics relating to contaminant transport.

Indoor push probe soil sampling

On petroleum leak site assessments our field technicians collect all soil samples in accordance with Guidance Documents 4-01 and 4-04. Upon collecting a soil sample, the field technician records the USCS classification of the soil. A portion of the soil from a specified depth interval is screened for organic vapors using a photoionization detector (PID) equipped with either a 10.2 or 11.7 eV lamp, depending on the suspected contaminant, using the polyethylene bag headspace method. Soil used for screening is never submitted for laboratory analysis. Soil samples submitted for laboratory analysis are collected directly from the split-spoon sampler or push probe acetate liner, placed immediately into laboratory provided containers, and shipped to the laboratory for analysis.

Surface Water

In situations where a petroleum tank release may discharge into a surface water body, ATC staff collects a surface water sample to evaluate potential impacts. ATC has collected surface water samples at a variety of sites. Typically, our approach is to begin with a downstream sample, and work upstream collecting samples, in order to minimize disturbance to the surface water sampling areas.

Air

Air sampling for petroleum investigation sites is typically performed to evaluate remediation system performance by collecting a sample from a vent stack discharge or to test potential human exposure levels by collecting a soil gas, sub-slab, or indoor air sample.

Remediation system vent stack samples are collected by ATC from Soil Vapor Extraction (SVE) system vent stacks, in accordance with Guidance Document 7-09a. Time-weighted air samples from a remediation system vent stack are typically collected using a flow controller and a one-liter or six-liter summa canister and analyzed for compounds in the Minnesota Soil Gas List by EPA Method TO-15 and for total hydrocarbons (THC). Samples are collected before and after treatment at locations where accurate airflow measurements can be taken. A spreadsheet (Guidance Document 7-09b *Air Emissions Screening Spreadsheet*) is used to assess acute and chronic risks associated with remediation system emissions.

ATC also collects air samples to assess potential human exposure levels in habitable buildings. Generally, these samples consist of a time-weighted indoor air sample or a sub-slab vapor sample. The samples are also collected using a one-liter or six-liter summa canister and analyzed by EPA Method TO-15 for compounds in the Minnesota Soil Gas List. Detected contaminants in air samples are compared with applicable 33x Intrusion Screening Values (33x ISVs) and or 33x Expedited Intrusion Screening Values (33x EISVs) to determine whether a risk to human health is evident. If a risk to human health becomes apparent, ATC begins arrangements for risk mitigation.

Typically, when the situation calls for air sampling for a potential human exposure issue in a building, Guidance Document 3-01a, *Vapor Intrusion Building Survey Form*, is also completed, documenting specific building details, such as floor plans, information about the building's air handling system, or other volatile organic contaminant sources located in the building.

Conduct vapor/air monitoring for health and safety and air quality criteria.

ATC knows that vapor/air monitoring at project sites is necessary to ensure the safety of staff and subcontractors, and that such monitoring is required by OSHA. Prior to mobilizing to any site, ATC prepares a Health and Safety Plan (HASP) in accordance with OSHA's HAZWOPER standard to address potential site-specific health and safety issues. Vapor/air monitoring is an important part of any HASP to protect employees from inhaling or ingesting airborne contaminants, especially PVOCs. ATC has Certified Industrial Hygienists (CIHs) on staff to identify potential airborne chemical hazards through review of provided site information and to develop protocols for monitoring and controlling the identified airborne chemical hazards.

Vapor/air monitoring is an important part of ATC's health and safety program. ATC's CIH staff are experienced with providing vapor and air monitoring services to protect health and safety for our employees, clients, and stakeholders throughout Minnesota.

Air monitoring is typically conducted with photoionization detectors (PIDs) and explosimeters. PIDs are used to assess total volatile organic compounds (VOCs) and the explosimeter is used to measure percent oxygen ($\%O_2$) and explosive gases, i.e. the lower explosive limit (LEL). Prior to mobilization, the project manager will review the HASP with the designated site personnel, including discussing the potential contaminants of concern, monitoring equipment to be used at the site, the potential risks of contaminants of concern, and required personal protective equipment (PPE).

Criteria are established for using PPE to reduce exposure to airborne contaminants and for implementing additional controls. Designated site personnel are informed of contaminant levels which require action, such as contacting the project manager, implementing controls, and/or evacuating the site. CIH staff will be available during the project for consultation when airborne contaminant levels reach critical levels.

Site controls and boundaries are established to reduce and/or eliminate off-site exposure to contaminated vapor. Air data obtained during field investigation are important in identifying exposures that may occur during remediation activities. When necessary, dust suppression and/or ventilation of the work area are instituted to further safeguard workers against contaminant exposure.

- **Conduct and/or oversee site assessment activities (Phase I and Phase II), limited site investigations, and remedial investigations.**

ATC knows how to conduct and oversee site assessment activities in accordance with applicable ASTM standards or MPCA guidance documents. We have completed hundreds of site assessments, such as Phase I ESAs and Phase II Investigations throughout Minnesota, nationally, and internationally. We have also completed hundreds of limited site investigations and remedial investigations throughout the state.

Our Phase I and Phase II clients are involved in buying, selling, or refinancing real estate. We have assessed all types of properties including multi-unit residential buildings, commercial buildings, cell phone tower sites, large industrial tracts, state highway corridors, and large shopping malls. ATC is sensitive to tight schedules and budgets required by due diligence clients and we pride ourselves on our responsiveness, flexibility, and attention to the unique characteristics of each property transaction.

ATC's Minnesota office typically performs more than 100 Phase I ESA projects throughout the course of a year. The purpose of the Phase I ESA is to review past and current land use for indications of the manufacture, generation, use, storage, and/or disposal of hazardous substances at the subject property; evaluate the potential for soil and/or groundwater contamination from on-site or adjacent property activities; and to render an opinion regarding the presence of *recognized environmental conditions* (RECs) as defined by ASTM E1527-13, developed in response to the US EPA's All Appropriate Inquiry (AAI) rule. The most common RECs identified during Phase I ESAs include petroleum and chemical storage areas, ASTs, USTs, septic systems, imported fill material, historic waste management and disposal areas, sumps and floor drains, landfills, potential asbestos-containing materials, dry-cleaning facilities, and railroad operations. The project approach for Phase I ESAs includes reviewing publicly available information pertaining to the storage, treatment, or disposal of wastes on-site, adjoining land use, soil and groundwater data, general surface drainage, previous site uses and activities; interviewing owners and occupants of the subject property; contacting regulatory agencies in regard to the environmental use of the site and adjoining land; performing a site visit; and writing a final report summarizing our findings, conclusions, and recommendations for additional assessment activities.

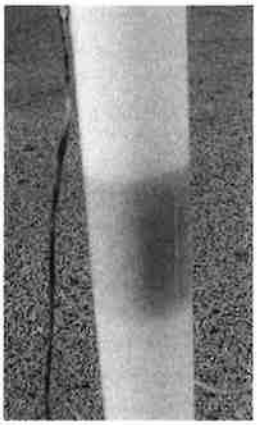
In the past 29 years, ATC's Fridley, Minnesota branch has completed hundreds of petroleum release investigations.

When a Phase I ESA identifies potential RECs at a subject property, ATC completes a Limited Phase II Investigation. During a Phase II, soil borings are advanced at a subject property, and soil and groundwater samples are collected for analysis in order to assess the presence or absence of environmental contamination associated with the RECs noted in the Phase I ESA report. Sampling results of a Phase II can establish baseline environmental conditions prior to ownership of the property for a potential buyer. ATC has performed Phase II Investigations at hundreds of sites, throughout the country. Our core staff can draw upon significant experience investigating and cleaning up contaminated properties to determine whether contamination is present, clearly explain the activities that may be necessary due to the contamination, and estimate the potential costs of those activities.

Petroleum release investigations, including limited site investigations and remedial investigations, represent a core business practice area in ATC's Fridley office. In the past 22 years, ATC has completed countless petroleum release investigations in accordance with MPCA guidance documents. Consistently performing petroleum release investigation activities has provided an opportunity to remain knowledgeable about MPCA guidance documents. ATC's key staff members have attended many Consultant Day activities presented by the MPCA in order to remain apprised of changes in guidance. Additionally, ATC staff was in attendance during the "Vapor Intrusion Boot Camp" event in April 2017, where MPCA staff members discussed new vapor intrusion guidance summarized in the *Best Management Practices for Vapor Investigation and Building Mitigation Decisions* document.

The primary objective of a Limited Site Investigation (LSI) at a petroleum site is to assess the extent and magnitude of contamination and to identify any exposure pathways between the contamination and nearby receptors. The primary receptor pathways targeted by the Petroleum Remediation Program are impacted groundwater that threatens human health, contaminated soil or groundwater in contact with water supply lines, contamination that has affected or may affect surface water quality, petroleum vapor contamination that may result in risks to nearby utilities or building inhabitants, and direct human contact with contaminated surface soil. In assessing these primary risks, ATC completes the following tasks:

- Determine if emergency conditions exist;
- Review background information to identify potential contaminant sources and other environmental site conditions;
- Perform water well, water line permeation, surface water, vapor, and contaminated surface soil receptor surveys; and
- Perform a subsurface investigation to determine the magnitude and extent of impacted soil, groundwater, and soil gas.



LNAPL in a bailer

Once these tasks are completed, ATC prepares a report for the site, which includes the development of a site conceptual model (SCM). The SCM provides a basis for evaluating the risk associated with the contamination. Development of an SCM involves an understanding of the three-dimensional distribution of contaminant phases, including:

- Non-aqueous phase liquid (NAPL);
- Dissolved phase, or groundwater contamination;
- Adsorbed, or soil contamination; and
- Vapor phase contamination.

Once the SCM is developed, subsequent phases of work are completed, in part, to test the validity of the SCM and to further determine the risk to potential receptors due to the contamination. Common potential pathways between receptors and contamination involve an aquifer impacted at dissolved hydrocarbon concentrations which exceed HRLs established by the MDH, individual petroleum constituent concentrations in soil gas near an occupied building exceeding applicable 10x ISVs, utilities in contact with impacted soil, and impacted groundwater flowing toward surface water.

When an RI is necessary at a site, data obtained during any previous work at the site are used to effectively locate wells to define the extent and magnitude of contamination. Recent guidance changes have provided for a minimum of six groundwater sampling events to establish plume stability during a RI.

Conduct surface water, groundwater, air and vapor receptor surveys.

ATC knows that the primary concern in a site investigation is not only the level of contamination, but the risks associated with the contamination. We have completed hundreds of receptor surveys for hundreds of sites over the past 22 years. We understand that data obtained during receptor surveys provide a framework for assessing the risk associated with contaminated media observed during a site investigation. The presence of sensitive receptors near a site that appears to be minimally impacted may make additional work a necessity; whereas a site with seemingly significant contamination, but no receptors may be appropriate for closure. It is in this way that the receptor survey results affect all decisions with regards to the strategy for a site investigation.

The primary information typically obtained through a receptor survey includes:

> The results of a receptor survey greatly affect the overall strategy of a site investigation.

- An assessment of the proximity of the site to water wells utilizing groundwater for human consumption;
- A determination of the vertical and horizontal location of contaminated soil and groundwater in relation to water supply lines;
- Assessment of potential surface water impacts due to the release;
- An assessment of nearby vapor receptors such as subsurface utility conduits or basements; and
- Identification of areas not covered by impervious surface that may result in surface contamination.

Receptor surveys are completed in accordance with Guidance Document 4-02. In an attempt to obtain well and vapor receptor information, ATC conducts a door-to-door survey of all properties within 500-feet of the site. This survey is conducted prior to subsurface investigation to in an attempt to provide a logical rationale for soil boring locations and to discuss potential risks with property owners face-to-face. ATC asks for the following information regarding the properties:

- The presence of water wells, sumps, basements, or other subsurface structures;
- Possible sources of petroleum contamination; or
- Reports of vapor issues.

If no one is available at a property, a self-addressed, stamped postcard is left at the property that summarizes the survey queries, the purpose of the requests, and a statement that we assume they do not have any of the items in question if a response is not received. ATC also requests confirmation from the city that all addresses within 500 feet of the site are supplied with municipal water.

Copies of municipal or industrial water well logs within one-half mile of the site and domestic wells within 500-feet of the site, along with maps of the well locations, are obtained from the online Minnesota Well Index (MWI) and from the Minnesota Geological Survey (MGS). Homeland Security issues prevent the locations of municipal water supply wells from being included in the online MWI. However, these data are included on topographical maps located at the MGS, or are generally available by contacting the municipality. During contact with the municipality for water supply confirmation or well location, ATC also requests information regarding plans for groundwater development within one-half mile of the site or within one mile in fractured aquifer situations.

Information from the MWI and from the PRP Maps Online website is also used in order to determine whether the site is located within a Wellhead Protection Area (WPA), Drinking Water Supply Management Area (DWSMA) or Source Water Assessment Area (SWA Area).

ATC also obtains information about the location and construction material of the water supply lines leading between any municipal supply and buildings located on-site. The vertical and horizontal disposition of these

water lines are compared with the locations of known contamination to determine the risk of permeation of the water lines. Water line permeation is the mass transfer of a chemical into and through the walls of a water line via diffusion. The highest risk scenarios for water line permeation include:

- Small diameter, permeable pipe, and/or gaskets used for private service lines that have low flow volume.
- Instances where high concentrations of petroleum compounds exist in the subsurface adjacent to water distribution lines.

As part of the water line permeation receptor survey, ATC obtains the following information:

- Piping and gasket materials used;
- Pipe diameters;
- Approximate daily water usage;
- Flow direction;
- Depth;
- Backfill material;
- Age;
- Distance to nearest point of use;
- Length of pipe located within the impacted area; and
- Name of person owning each section of potentially impacted pipe.

ATC identifies all surface waters within one-quarter mile of the site using topographical maps, online wetland surveys, and in-field surveys. During the 500-foot walking survey, ATC identifies surface waters and potential pathways to the noted surface waters, such as storm sewers, ditches, and drain tiles. Results of the surface water receptor survey are used to plan soil boring locations during sampling to evaluate the risk to the identified surface water features.

The locations and types of potential vapor receptors are noted during the walking survey of the site. ATC inspects the site for the presence of basements, manways, sanitary and storm sewers, and other subsurface structures and conduits. If these structures appear to be present, ATC contacts the city or Minnesota Department of Transportation (Mn/DOT) to obtain maps showing utility locations, depths, construction materials, and flow direction. We also contact the local fire department for any information regarding vapor complaints or reports in the vicinity of the site.

If the vapor receptor survey and risk evaluation indicate a potential risk to buildings or utility structures, then ATC completes a vapor survey of the at-risk buildings or structures. We coordinate with the city and/or Mn/DOT so that utility manholes can be accessed. Usually, ATC obtains assistance from the city public works department with appropriate traffic control measures. Manholes and catch basins closest to the site are screened for organic vapors using an explosimeter to check $\%O_2$ readings and to ensure that LEL levels do not exceed 10%. The utilities are also screened with a PID to determine whether product or vapors are entering. Water flow direction is noted. If water is observable, ATC attempts to determine whether the water has an apparent petroleum sheen.

During the initial receptor survey visit, ATC also identifies any area not covered by an impervious surface where a release or spill may have impacted the uppermost two or four feet, depending on land use type.

- **Oversee construction to mitigate vapors and conduct non-construction mitigation measures such as using fans, etc.**

ATC knows that vapors in basements or utility structures can present significant health and safety risks. ATC has considerable experience mitigating petroleum vapors beneath buildings and in storm sewers. Petroleum vapors in basements can cause acute health problems or potentially explosive conditions. ATC has completed various activities in order to mitigate the risk of vapors to nearby receptors. ATC's choice of vapor mitigation method typically depends upon the type and location of the threatened receptor, type of contamination, and magnitude of vapor contamination. Vapor mitigation methods that have been designed, proposed, and utilized on ATC projects include:

A proposed bank building in South St. Paul was planned for construction on a property with historic chlorinated solvent and petroleum contamination in soil, groundwater, and soil gas. ATC coordinated the installation of an SSDS during construction activities to reduce the risk of vapor intrusion and prevent the need for later system retrofitting.

- Installation of sub-slab depressurization systems (SSDS) to interrupt the pathway between contaminated soil gas and building interiors;
- Elimination of preferential pathways by sealing cracks in basement slabs or walls;
- Installation of venting fans in storm sewers to reduce the risk of explosion due to accumulation of petroleum vapors; and
- Installation of vapor barriers beneath buildings or around utilities.

- **Conduct or oversee operation and maintenance on remedial systems.**

ATC knows techniques for operation and maintenance to maximize system runtimes and optimize contaminant removal. We have performed operation and maintenance for SVE and DPE systems in Minnesota throughout the last 17 years. Specifically, ATC performs the following operation and maintenance activities at systems which we operate for private clients:

- Record system parameters – runtime meter, process flow totalizer meters, vacuum meters at intake manifold and blower, air and/or water pressure meters at conduit pipes and system components;
- Gauge fluid levels and vacuum at recovery wells;
- Record fluid levels in product drum holding tank;
- Observe complete system cycling and record fluid transfer rates and adjust valves to regulate flow as needed;
- Screen the air emissions from liquid-vapor separator (LVS) vent stack and air-stripper (AS) vent stack using PID, multi-gas meter, air flow, temperature;
- Collect LVS vent stack vapor samples, AS influent and effluent water samples, and carbon filter discharge water samples for laboratory analysis;
- Shutdown system, change filter socks, clean air filters, clean sight tubes, and lubricate motor bearings;
- General housekeeping in and around remediation shed;
- Test solenoid valve operation and automatic well sequencing programming;
- Download and review monthly telemetry data for review;
- Take down AS tower and remove calcium carbonate scaling from AS trays and basket;
- Check system alarms or troubleshoot potential problem areas; and
- Replace worn components and schedule system repairs as needed.

- **Arrange for transportation, storage, and proper management of wastes.**

Drums containing soil cuttings

ATC knows that the management of wastes can be a sensitive issue at a contaminated site. ATC has coordinated and scheduled the transportation, storage, and disposal of contaminated soil for hundreds of sites over the past 22 years. We have managed the disposal of impacted water and LNAPL that has been removed from site monitoring wells. However, our primary waste handling activities are related to contaminated soil. Typically, we oversee construction excavation activities at petroleum release sites which require the removal of contaminated soil in accordance with a Response Action Plan (RAP)/Construction Contingency Plan (CCP), or similar document, specifying the final disposition of soils based on headspace screening and analytical values. We also oversee contaminated surface soil excavation activities, removing all soils from the surface to two or four feet below ground surface (bgs), dependent upon land use, in order to remove the dermal exposure pathway. Additionally, ATC has coordinated the disposal of contaminated soil drums generated during monitoring well installation activities at numerous petroleum release sites.

Prior to subcontracting the transportation of waste, ATC prepares a bid specification that details the type of waste, necessary handling procedures, a disposal location, and clearly-defined units of payment. This allows projects to be completed quickly and within budget. ATC subcontracts a US DOT-certified waste hauler for the transportation of the waste.

- **Evaluate the need for and oversee the implementation of alternative drinking water, including point-of-use treatment (i.e. carbon filtration).**

ATC knows that ensuring the safety of drinking water sources is a primary charge of the MPCA. We have experience evaluating and providing alternative drinking water supplies where petroleum contamination has been encountered in private water supply wells. Based on the presence of contamination in a sand point residential water supply well, installed at a depth of 20 feet bgs, we quickly coordinated the installation of two granular activated carbon (GAC) filtration vessels as interim corrective action for the water supply at the home. Following installation of the GAC vessels, ATC contacted subcontractors and coordinated the installation of a deeper, replacement water supply well.

ATC's decisions in this regard are based on site-specific factors such as the availability of public water supply, hydrogeologic information for the impacted aquifer, the presence of deeper water bearing aquifers, existing well construction information, and the magnitude of groundwater contamination.

- **Coordinate and cooperate with other State-contracted services such as sampling and analytical, emergency response contractors, and hazardous waste services.**

ATC knows that coordination and cooperation with subcontractors is essential to project success, regardless of the project type. ATC has provided services on the Contract for the past eight years. During our time on the Contract, we have worked with State-contracted laboratories, drilling companies, and hazardous waste services. The most common State-contracted service that we coordinate under the Contract has been laboratory services. Due to our current experience on the Contract, and our experience with investigations for private clients, we have an existing relationship with many laboratories, including the primary State-contracted laboratories.

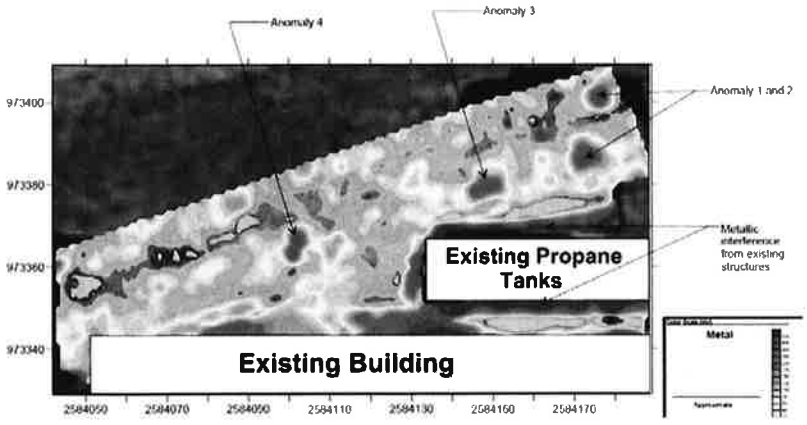
During the past 22 years, many of ATC's petroleum release investigations have originated as emergency response projects. We have served as an emergency response consultant for a regional retail petroleum chain since 2001. In addition, we currently coordinate all emergency response cleanup activities on Minnesota highways, on behalf of MnDOT. ATC's main responsibility on these emergency response projects is to act as a regulator and review emergency response activities for spilled materials and to ensure that activities were carried out in accordance with all applicable state regulations.

Site investigation activities completed at petroleum release sites typically generate wastes, in the form of soil cuttings or petroleum-impacted purged groundwater. ATC works with hazardous waste subcontractors on each site investigation site to coordinate the disposal of these investigation-derived wastes. In addition, ATC recently completed the investigation of a petroleum release site with numerous used oil storage drums identified on the site. These drums were in poor condition, and visual observation of the drums indicated that many had released their contents onto the soil surface. ATC coordinated a State-contracted hazardous waste service for the overpack and disposal of these drums in order to prevent further surface soil impact at the site. Following removal of the drums, impacted soils were excavated and transported to a landfill.

Drums in poor condition, releasing oil to soil surface

❻ Arrange for geophysical activities.

ATC knows that Phase I ESAs sometimes indicate that USTs were formerly located on a property but the removal of the USTs has not been adequately documented. For example, during a Phase I ESA in Glencoe, Minnesota, ATC's historical research indicated the presence of USTs on a currently unused portion of the property. Due to the unknown status of the tanks, ATC recommended investigation to determine whether the USTs remained on the property. ATC hired a subcontractor to complete a time-domain electronic imaging (TDEMI) and ground penetrating radar (GPR) survey to determine whether USTs remained in that portion of the property. These surveys searched for electromagnetic anomalies that may represent buried metal objects. Multiple anomalies were noted on the TDEMI output map and the anomalies were further investigated during a Limited Phase II Site Investigation.



TDEMI Output Map

- **Oversee Subcontractors and State Contractors during investigation and cleanups and tank removals.**

ATC knows that the oversight of subcontractors is essential to ensure that projects are completed in accordance with MPCA guidance. ATC typically utilizes various subcontractors for drilling, laboratory services, private utility locate, waste disposal activities, and tank removals on investigation and cleanup sites. Oversight of contractors is performed by ATC to ensure that site work is completed in accordance with applicable MPCA guidance, to ensure that any issues outside the anticipated scope of work are handled correctly, and to ensure that all parties have knowledge of the work that was performed at the site to minimize potential invoicing issues after the work is completed.

ATC accomplishes these objectives by clearly defining the project scope while requesting estimates from subcontractors during the work plan process, and confirming understanding of the scope with subcontractors prior to commencing work at the site. In order to schedule work with a subcontractor, ATC provides a signed copy of the State Contractor Order Form (SCOF) to engage contractor services.

UST Removal oversight

In situations which require public bidding, ATC prepares very specific bid specifications on state required forms in order to receive comparable bids from at least two contractors. In the case that a public bid is necessary, ATC applies all TG/ED, Veteran-owned, or reciprocal preferences, chooses the lowest bidder, and completes a Subcontractor Construction Purchase Order Form to engage the selected contractor for the work. ATC pays all State Contractor invoices within 30 days, in accordance with Contract requirements.

Once all appropriate engagement documents and contracts are in place, ATC oversees all subcontractor and state contractor activities at investigation and cleanup or tank removal sites, in accordance with all applicable MPCA guidance documents. ATC oversight of these projects generally consists of documenting field observations, soil types, gauging groundwater, documenting tank condition, taking site photographs, collecting and screening soil samples during the excavation, collecting groundwater from soil borings, and submitting appropriate samples for laboratory analysis in accordance with Guidance Documents 3-01 (for tank removals), 4-04 (for soil samples), 4-05 (for groundwater samples), and 4-01a (for vapor samples).

If impacts are noted during subcontractor oversight on a previously unreported site, ATC provides a recommendation to the client to report the release to the Minnesota Duty Officer, as required in Guidance Document 2-01.

- **Prepare and evaluate reports (e.g. investigation reports, monitoring reports, free product recovery reports).**

ATC knows that a detailed, accurate, and thorough report is essential to establish a firm understanding of the contamination at a site and the receptors near the site and to support a Site Management Decision. We have prepared Investigation Reports, Monitoring Reports, LNAPL Recovery Reports, Excavation Reports, Conceptual Corrective Action Design (CCAD) Reports, Focused Investigation Work Plans, Focused Investigation Reports, Excavation Detailed Corrective Action Design (EDCAD) Reports, and Remediation System Operation Monitoring (RSOM) reports for private clients and through the Contract.

Throughout ATC's involvement with the PRP, the report forms and their names have seen some changes. The most significant change occurred in 2008, when the investigation report was re-formatted and the inclusion of a SCM was introduced. The SCM was introduced with the intent of providing an integrated, site-specific discussion of the interaction of contamination with identified exposure pathways and how contamination is affected by the geology and hydrogeology of the site. The analysis of exposure pathways and their potential risks to human health and the environment remains the primary goal of the completion of these reports. ATC is mindful of this fact at all times during preparation or review of a report.

Currently, ATC's most commonly submitted reports are Guidance Document 4-06, *Investigation Report Form* and Guidance Document 4-08, *Monitoring Report Form.* The Investigation Report form can be used for the completion of an LSI Report or an RI Report. The primary difference between the use of the Investigation Report Form for an LSI or an RI relates to the incorporation of additional sections for the completion of an RI Report. The LSI Report is submitted following completion of temporary borings at the site. The RI Report is submitted when a longer-term look at the site is required, including monitoring of contaminant trends and characterization of an aquifer. Recently, MPCA guidance changes have necessitated completion of six quarterly monitoring events to establish plume stability. This guidance revision has also necessitated the completion of additional Monitoring Reports to document plume stability data.

Both Investigation and Monitoring Report types require a Site Management Decision, where consultants analyze the entirety of the data accumulated and the risks to receptors and recommend site closure or additional leak assessment activities. ATC has prepared hundreds of these reports throughout the past 22 years. Our experience with the reports and knowledge of guidance allows for the provision of accurate recommendations, which are responsive to the identified risks at the site.

All Minnesota investigations managed by ATC utilize the required report formats.

- **Prepare Health and Safety Plans (HASPs).**

ATC knows that in order to complete a project or task safely, established procedures must be discussed and documented prior to arrival at the site. We are committed to an approach of "Work Safe. Live Safe." This approach is reinforced by our safety policies, processes, and systems. All ATC staff that performs work at contaminated sites receives 40-hour health and safety training and refreshers on an annual basis, as required by OSHA's HAZWOPER standard.

ATC SAFETY EXCELLENCE
WORK SAFE. LIVE SAFE.

ATC prepares site-specific HASPs for every site. The HASP contains general site information, emergency procedures, a map and directions to the nearest hospital, a tailgate safety meeting form, a utility clearance checklist, Job Safety Analysis (JSA) documents, and detailed information pertaining to contaminants that may be encountered, including Safety Data Sheets (SDSs). JSA documents provide a task-by-task breakdown of activities to be performed at the site, the hazards associated with those activities, and the processes to complete each activity safely. If an unexpected condition arises at a site, ATC personnel have been directed to stop work, prepare a new JSA, and incorporate that JSA into the site-specific HASP for every subsequent field event. A copy of the site-specific HASP is brought with ATC personnel to the site during every site visit.

❸ Arrange for site access.

ATC knows that legal access to a property can be difficult to obtain, but is always necessary. During many of ATC's site investigations, some form of access to a property is required to complete the investigation. Specifically, on State Contract jobs, access to the site property is required before work can begin. On investigations for private clients, off-site access to adjacent properties is often necessary to fully delineate the horizontal extent of the plume. ATC has extensive experience with obtaining site access, both on State Contract jobs and on jobs for private clients.

Typically, we attempt to make the first contact by phone. We obtain phone numbers by searching public records available on the internet. If public records are unavailable, we will send a letter to the property owner requesting a return phone call and briefly explaining the purpose of the investigation. Our policy is to attempt a phone conversation first because it is much easier to clearly explain what we would like to do and why we need to do it through a phone conversation than it is to send a letter. The property owner can have their questions answered and understand the process fully, before we enter their property to complete the work.

Once the property owner has been notified of the plans for their property, we send an access agreement template for the property owner to sign. On a State Contract job, ATC provides the required Access Agreement form. For private clients, ATC either generates the form or provides a form generated by the client's legal department. Once access to a property has been granted, we notify the property owner, in writing, at least one week in advance of any work completed on their property.

❹ Coordinate utility locates by contacting the appropriate entity and, if applicable, coordinate traffic control.

ATC knows that a utility locate is a necessity prior to breaking ground on any project site. Gopher State One Call requires that all utility locates be submitted by the actual driller or excavator. In order to meet this requirement, at all sites where ATC utilizes a drilling subcontractor, the subcontractor is legally obligated to submit the utility locate request. When we engage the subcontractor to complete the work at the site, we provide all applicable site details for the utility locate at the same time that we provide the subcontractor with the signed SCOF form or other contract document. Information typically provided to the subcontractor for the utility locate includes the site address, township/range/section information, three quarter sections, the county, nearest cross-street, purpose of the excavation, and any specific instructions for the locate. Also, pre-marking boring locations is a Gopher One Call requirement for sites within the seven county metro area. ATC typically travels to the site approximately two to three days prior to drilling to pre-mark boring locations, when required. For sites located at greater distances from the Twin Cities, pre-marking is not required or completed.

Red 3-phase electrical utility markings

If ATC is performing the actual subsurface work, rather than just overseeing the work, we are legally obligated to submit the locate request to Gopher One Call. Specific situations where this may arise are during the advancement of hand augers into a utility backfill or if we are completing soil gas sampling using a hand push probe unit.

In addition to notifying the public utility locator, ATC also utilizes a private utility locator for all sites. These private utilities consist of supply lines to the site from main utility lines, electrical lines to dispensers or signage, irrigation lines, septic systems, or private water lines leading from a well to the building.

Before breaking ground for any subsurface investigation activities, ATC has a "Utility Clearance Checklist" form that must be completed. The checklist requires that the ATC field technician note the locations of all utilities, and whether they are located aboveground or underground. The checklist also requires a technician to note each utility's approximate location on the site. Additionally, we prepare a map of all utilities during the utility clearance activities in order to ensure that, if additional borings are necessary, we can plan the borings in safe locations, free of potential utility conflicts.

- **Prepare and evaluate bid specifications.**

ATC knows that a detailed and thorough bid specification is a key to project completion under budget and within established timelines. The preparation of a good bid specification document ensures that the consultant and the subcontractor have a common understanding of the requirements and expectations of project completion. ATC has prepared quality bid specifications for multiple contaminated soil excavation, water supply well replacement, and waste disposal projects.

A detailed bid specification document is absolutely essential to successful project completion.

A detailed bid specification document is absolutely essential to successful project completion for all parties involved. As such, ATC takes time and care in preparing bid specifications in order to avoid potential misunderstandings regarding the scope of a project. ATC's bid specifications provide technical details and also define payment quantities and terms. With the goal of minimizing change orders, we use past experience to cover potential "unforeseen" issues that may arise in the course of work. ATC's attempts to minimize change orders serve to protect our clients from additional costs, delays, and confusion.

- **Evaluate invoices.**

ATC knows that accurate invoicing saves time and money. When reviewing invoices in relation to the work that was completed at the site, ATC compares the invoice side by side with the bid submitted by the subcontractor. Any discrepancies between the invoice and the bid are brought to the attention of the subcontractor. ATC reviews unit rates, units billed, and total cost. Only when everything matches between the bid (and any approved change orders) and the work completed is the subcontractor invoice submitted for payment.

- **Assist and provide training as requested by the MPCA. Training must be related to the scope of this Master Contract.**

ATC knows that new UST rules were adopted by the EPA in 2015 and that Minnesota is in the process of incorporating these revised rules into state law, along with making changes to clarify existing rules. In 2010, changes to Chapter 7150 of the Minnesota Administrative Rules were added to reflect the Operator Training requirement of the Energy Policy Act. ATC is one of a select few consultants that provide UST operator training for Class A and B operators, in accordance with the new MPCA regulations. ATC has developed training materials, prepared training courses, and conducted training for numerous UST operators throughout the State.

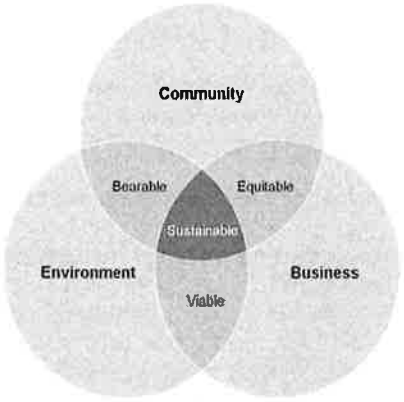
ATC's UST Operator Training includes the following topics:

- Roles and responsibilities of UST operators;
- Federal, state, and local UST and aboveground storage tank (AST) requirements, including spill or release reporting and inspection documentation;
- Design of tank systems, how the design meets tank regulations, tank system description, and recurring permit requirements;
- Standard operating procedures for petroleum product handling and delivery; and
- Review of applicable, site-specific Best Management Practice (BMP) guidelines.

The training program also includes a hands-on, outdoor demonstration of an existing UST system, its components, and inspection/maintenance procedures at each UST site.

Follow MPCA Green practices/procedures relative to remediation projects.

ATC knows that green practices for remediation projects reduce the environmental, social, and economic impacts of contamination investigation. According to Guidance Document 1-10, Green and Sustainable (GSR) initiatives are not required; however, ATC believes it is good practice and attempts to incorporate green practices in all projects, where possible, whether as part of the Contract, or for a private client.



Green practices Venn diagram

Two examples of ATC's use of green practices include:

- ATC attempts to minimize mobilizations to a site by packaging multiple tasks within the same trip. The packaging of multiple tasks within the same mobilization is a sustainable practice due to reduced petroleum consumption and vehicle emissions, reduced cost, and reduced disruptions for the property owner.

- ATC attempts to reuse clean backfill at corrective action excavation sites. On sites where impacted soil is present beneath a "cap" of clean fill, ATC typically removes the clean soil "cap" and stockpiles the soil on the site. Then the contaminated soils can be excavated and removed from the site. The clean soils are then backfilled into the UST basin, along with additional fill. This practice is sustainable due to a decreased economic cost for soil disposal, decreased vehicle emissions for additional trips to the disposal location, and decreased property disruption.

Oversee hydrogeologic investigations including fate & transport modeling, capture zone analysis, and aquifer pump tests.

ATC knows that hydrogeologic investigations play an integral role in understanding and evaluating groundwater contamination. Because of the inherent difficulties in dealing with subsurface impacts, there will always be some degree of uncertainty about the spatial distribution of contamination, or which contaminants are present at what concentrations, in what location, where they are going, and how fast they are moving. A hydrogeologic investigation can help reduce the uncertainties inherent with the field investigation of a contaminated site.

In sites where sensitive groundwater conditions have been identified in accordance with Guidance Document 4-18, *Assessment of Sensitive Groundwater Conditions*, it is especially important to understand the flow of contaminants in the subsurface. These situations provide a good example of the necessity of hydrogeologic investigations. Guidance states that, if sensitive groundwater conditions are confirmed, then grain-size hydraulic conductivity estimates are not applicable to determine travel time. As such, it is imperative to understand how to complete aquifer pump tests to determine travel times to nearby receptors. ATC understands these aquifer pump tests and their ability to determine transmissivity, conductivity, and storativity of an aquifer. ATC has completed hydrogeologic investigations, including fate and transport modeling, capture zone analysis, and aquifer pump tests for various clients throughout the country.

- **Prepare Engineering Evaluation Cost Analysis.**

ATC knows that an evaluation of remedial options and their associated costs is essential to making an informed and logical remediation decision. ATC has prepared numerous Engineering Evaluation Cost Analysis (EE/CA) documents for various clients throughout Minnesota and the country. Generally, when preparing an EE/CA, ATC provides remedial options that vary in aggressiveness from no action through a spectrum that includes different types of remediation systems, which includes variable numbers or depths of treatment wells. The inclusion of contaminated soil excavation options is typically added to provide a range of options for contaminant remediation.

An estimated cost of each presented remedial option is provided in order to further inform decision-making for the most cost-effective remedy. Costs generally increase with the aggression of the remedial option and the requisite treatment aggression generally increases with the number of at-risk receptors.

- **Oversee or conduct bench-scale lab treatability studies and pilot-tests and field demos.**

ATC knows that bench-scale lab treatability studies and pilot tests can detect potential problems with a remediation strategy and address those problems, prior to full-scale system installation, and at a minimal cost. ATC has completed numerous pilot tests for remediation systems throughout Minnesota and the country. ATC has performed pilot testing on dual-phase extraction (DPE) and soil vapor extraction (SVE) systems prior to full-scale system installation. In addition, pilot tests are completed for all SSDS installations, with the purpose of ensuring proper blower sizing and an adequate number and spacing of vacuum extraction points. Pilot testing results are used to improve full-scale system design and efficiency.

- **Oversee equipment start-up and work out problems with the Contractor/Vendor.**

ATC knows that operational efficiency of a remediation system is essential to removing contamination as quickly, and cheaply, as possible. ATC has over 22 years of experience with performing start-up, operation and maintenance, and system decommissioning activities at active remediation sites. Remediation systems managed by ATC are typically equipped with telemetry systems that immediately notify ATC of any shutdown and the reason for the shutdown. These telemetry systems maximize runtime by allowing for quick repair of any equipment issue.

ATC has excellent working relationships with many local contractors and vendors that complete system installation and start-up. If a system issue becomes apparent at any point during system operation, including at start-up, and ATC is unable to diagnose and repair the issue, ATC contacts the vendor for assistance. In general, ATC and the vendor are able to diagnose and repair system issues within 24 hours of the first notification.

- **Prepare and determine if the Stormwater Pollution Prevention Plan (SWPPP) is being followed and make recommendations if revisions are needed during the life of the construction project.**

ATC knows that construction stormwater typically carries sediment and nutrients that can harm lakes, streams, and wetlands. As such, completion of and adherence to a construction SWPPP for a construction project is important to prevent impacts to surrounding surface waters. ATC's primary point of contact for

the Contract, Mr. Dane Ralston, is certified in the Design of Construction SWPPPs through the University of Minnesota's Erosion and Stormwater Management Certification Program.

The course taken to obtain the certification focuses on SWPPP design elements for most construction sites disturbing more than one acre of land. The course covers National Pollutant Discharge Elimination System (NPDES) construction permit requirements, design procedures, available resources for design, and other regulatory requirements. The course emphasizes selection and design of appropriate temporary and permanent best management practices (BMPs) and proper location of the assigned BMPs.

In addition to the Design of Construction SWPPP certification, ATC's main point of contact was also formerly certified in erosion control with the Construction Site Manager and Construction Installer certifications. While these certifications have been allowed to expire, ATC has attended both courses, which were designed for the inspection of construction sites for assurance of installation quality and for completion of the NPDES weekly log.

- **Install stainless steel soil gas sampling ports using an electric drill to bore through floor slabs.**

ATC knows that vapor intrusion has become an important consideration in the assessment of any contaminated site, regardless of the contaminants of concern. ATC has installed hundreds of temporary and permanent Vapor Pin® sub-slab sample ports at vapor intrusion sites throughout Minnesota. Recently, ATC completed a project assessing sub-slab soil vapor impacted with trichloroethylene (TCE) at a large manufacturing facility in southeastern North Dakota. As part of the investigation, ATC installed 20 temporary sub-slab vapor sampling points, using an electric drill to install Vapor Pin® kits and collect sub-slab vapor samples.

For each of these sub-slab vapor sampling projects, ATC installs a 5/8-inch diameter hole through the building floor slab with an electric hammer drill, cleans concrete dust from the hole, and installs the Vapor Pin®. If a permanent sub-slab port is necessary, ATC advances an additional 1¼-inch hole through the building floor slab to countersink the permanent Vapor Pin® installation and cap the hole for later use.

Flush mount, permanent Vapor Pin® installation

- **Collect and manage field and laboratory data for electronic submittal in a format specified by the MPCA.**

ATC knows that the MPCA uses a system called the Environmental Quality Information System (EQuIS) to store water-related monitoring data and associated laboratory results from sampling locations throughout the state. ATC has submitted electronic data deliverables (EDDs) for numerous sites to the MPCA for entry into the EQuIS database. In our experience with EQuIS, ATC has learned that EQuIS requires certain reference values and standardized location identifiers, in addition to standard filenames. If files are not submitted with the requisite standard values or identifiers, the data loading process may be delayed.

5. Liability and Insurance

A copy of ATC's Certificate of Insurance, dated March 28, 2018; is included as an attachment within this section.

CERTIFICATE OF LIABILITY INSURANCE

DATE(MM/DD/YYYY) 03/28/2018

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME:	
Aon Risk Services Southwest, Inc. Houston TX Office 5555 San Felipe Suite 1500 Houston TX 77056 USA	PHONE (A/C. No. Ext): (866) 283-7122	FAX (A/C. No.): (800) 363-0105
	E-MAIL ADDRESS:	

INSURER(S) AFFORDING COVERAGE		NAIC #
INSURER A:	Steadfast Insurance Company	26387
INSURER B:	Zurich American Ins Co	16535
INSURER C:		
INSURER D:		
INSURER E:		
INSURER F:		

INSURED
ATC Group Services LLC
221 Rue De Jean
Suite 300
Lafayette LA 70508-3283 USA

COVERAGES **CERTIFICATE NUMBER:** 570070607163 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS. **Limits shown are as requested**

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY			GPL021708502	11/13/2017	11/13/2018	EACH OCCURRENCE	$2,000,000
	CLAIMS-MADE X OCCUR						DAMAGE TO RENTED PREMISES (Ea occurrence)	$100,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						MED EXP (Any one person)	$5,000
	POLICY X PRO-JECT X LOC						PERSONAL & ADV INJURY	$2,000,000
	OTHER:						GENERAL AGGREGATE	$6,000,000
							PRODUCTS - COMP/OP AGG	$4,000,000
B	AUTOMOBILE LIABILITY			BAP 0217109-02	11/13/2017	11/13/2018	COMBINED SINGLE LIMIT (Ea accident)	$2,000,000
	X ANY AUTO						BODILY INJURY (Per person)	
	OWNED AUTOS ONLY / SCHEDULED AUTOS						BODILY INJURY (Per accident)	
	X HIRED AUTOS ONLY / X NON-OWNED AUTOS ONLY						PROPERTY DAMAGE (Per accident)	
A	UMBRELLA LIAB X OCCUR			SXS021707702	11/13/2017	11/13/2018	EACH OCCURRENCE	$1,000,000
	X EXCESS LIAB CLAIMS-MADE						AGGREGATE	$1,000,000
	DED RETENTION							
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y/N			WC021711102	11/13/2017	11/13/2018	X PER STATUTE OTH-ER	
	ANY PROPRIETOR / PARTNER / EXECUTIVE OFFICER/MEMBER EXCLUDED? N	N/A					E.L. EACH ACCIDENT	$1,000,000
	(Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE-EA EMPLOYEE	$1,000,000
							E.L. DISEASE-POLICY LIMIT	$1,000,000
A	Env Contr Poll			GPL021708502	11/13/2017	11/13/2018	Policy Aggregate Each Incident	$6,000,000 $2,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

CERTIFICATE HOLDER

Minnesota Pollution Control Agency
Attn: Mary Heininger
520 Lafayette Road N
St. Paul MN 55155-4194 USA

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Aon Risk Services Southwest, Inc.

Holder Identifier :

Certificate No : 570070607163

AGENCY CUSTOMER ID: 570000067092
LOC #:

ADDITIONAL REMARKS SCHEDULE

AGENCY	NAMED INSURED
Aon Risk Services Southwest, Inc.	ATC Group Services LLC
POLICY NUMBER: See Certificate Number: 570070607163	
CARRIER: See Certificate Number: 570070607163 / NAIC CODE	EFFECTIVE DATE:

ADDITIONAL REMARKS

THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,
FORM NUMBER: ACORD 25 **FORM TITLE:** Certificate of Liability Insurance

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER	
INSURER	
INSURER	
INSURER	

ADDITIONAL POLICIES If a policy below does not include limit information, refer to the corresponding policy on the ACORD certificate form for policy limits.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YYYY)	POLICY EXPIRATION DATE (MM/DD/YYYY)	LIMITS	
	OTHER							
A	E&O-PL-Primary			GPL021708502 CLAIMS MADE	11/13/2017	11/13/2018	Policy Aggregate	$6,000,000
							Each Incident	$2,000,000

6. Conflicts of Interest

ATC warrants that, to the best of our knowledge and belief, there are no relevant facts or circumstances which could give rise to organizational conflicts of interest. We agree that, if after award, an organizational conflict of interest is discovered, an immediate and full disclosure in writing will be made to the Assistant Director of the Department of Administration's Materials Management Division.

7. Certification Regarding Debarment, Suspension, Ineligibility, and Voluntary Exclusion – Lower Tier Covered Transactions

(1) By signing and submitting this proposal, the prospective lower tier participant is providing the certification set out below.
(2) The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.
(3) The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that a certification was erroneous when submitted or had become erroneous by reason of changed circumstances.
(4) The terms *covered transaction, debarred, suspended, ineligible, lower tier covered transaction, participant, person, primary covered transaction, principal, proposal, and voluntarily excluded,* as used in this clause, have the meaning set out in the Definitions and Coverages sections of rule implementing Executive Order 12549. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations.
(5) The prospective lower tier participant agrees by submitting this response that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is proposed for debarment under 48 CFR par 9, subpart 9.4, debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.
(6) The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility, and Voluntary Exclusion – Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.
(7) A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that it is not proposed for debarment under 48 CFR part 9, subpart 9.4, debarred, suspended, ineligible, or voluntarily excluded from covered transactions, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the List of Parties Excluded from Federal Procurement and Nonprocurement Programs.
(8) Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
(9) Except for transactions authorized under paragraph 5 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is proposed for debarment under 48 CFR 9, subpart 9.4, suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the federal government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.
(10) The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.
(11) Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

ATC Group Services LLC

Name of Company

Dane Ralston – Manager Environmental Assessment and Remediation

Name and Title of Authorized Representative

Signature

3/28/18

Date

8. E-Verify Certification

ATC is a registered participant in the federal work authorization program commonly known as E-Verify. ATC implements the E-Verify program for all newly hired employees in the United States that will perform work on behalf of the State. Each newly hired employee completes a Form I-9, and the information from that form is entered into E-Verify to confirm whether or not they are authorized to work in the United States. Upon request, ATC can supply a copy of the Memorandum of Understanding setting forth the agreement between ATC and the Department of Homeland Security.

Federally-Issued User ID #46692
Date of Authorization: 7/5/2007

E-Verify® is a registered trademark of the U.S. Department of Homeland Security.