



July 25, 2001

Mr. George E. Rogers
Ansul Incorporated
One Stanton Street
Marinette, Wisconsin 54143-2542

Subject: Proposal for Additional Site Investigation Services, Ansul Fire Technology Center,
Pierce Avenue, Marinette, Wisconsin -- STS Proposal No. 4-13317PP

Dear George:

Thank you for the opportunity to meet with you at the Ansul Fire Technology Center (AFTC) to review the site investigation project. Based on our discussions, STS Consultants, Ltd. (STS), is pleased to submit this proposal to gather additional subsurface information and develop a closure approach for this site. We understand that the purpose of additional subsurface testing is to collect sufficient soil and groundwater data to support case closure from the Wisconsin Department of Commerce (Commerce).

Although work by previous investigators suggested the need for active product recovery and additional piezometers and groundwater monitoring wells, based on our review of available data, active product recovery and additional piezometer installations may not be necessary to achieve case closure. Accordingly, we propose to collect groundwater samples from the existing wells and one piezometer and to install two groundwater monitoring wells to define the extent of petroleum impacts.

When we compare the results of the 2001 groundwater monitoring to data from 1993 and 1995, we may be able to document decreases in petroleum hydrocarbon concentrations in the groundwater resulting from natural attenuation. Recent changes in Wisconsin Administrative Code Chapter NR 700 allow for case closure at petroleum-impacted sites, where the petroleum release is naturally degrading and remains on the subject property. Because the AFTC property extends several hundred feet beyond the impacted area on site, we anticipate that petroleum hydrocarbons are present as a steady-state (or possibly shrinking) dissolved plume within the AFTC property boundaries.

Because Commerce may consider services performed under this proposal eligible for reimbursement through the Wisconsin Petroleum Environmental Cleanup Fund Act (PECFA), we have prepared this proposal in accordance with Wisconsin Administrative Code Comm 47.33(1)(a)2 including STS's project approach, schedule of fees, statement of qualifications, and references.

Background

We reviewed two environmental reports prepared by Dames & Moore for the subject property:

- Site Investigation Report dated January 1994.
- Phase II Subsurface Investigation Report dated August 1995.

We understand that one 560-gallon gasoline underground storage tank (UST) was removed in November 1992. As a result of impacts detected in the UST excavation, a site investigation was conducted in 1993 including the completion of four soil borings, which were converted into groundwater monitoring wells (AFTC-1, AFTC-2A, and AFTC-3) and one piezometer (AFTC-2B). To further define subsurface impacts, the site investigation was expanded to the east in 1995 with the installation of 23 soil borings, five of which were converted into groundwater monitoring wells (AFTC-27 through AFTC-31).

Findings of the site investigation include the following:

- The site is underlain by approximately 40 feet of predominantly sandy soils above bedrock.
- Groundwater was encountered at depths between approximately 4 and 5 feet below the ground surface.
- Groundwater typically flows east-northeast across the property at a rate of approximately 50 feet per year.
- Petroleum impacts were interpreted to extend approximately 400 feet east-northeast to 400 feet east-southeast of the UST location.
- Although a slight downward hydraulic gradient was observed at the Well/Piezometer Nest AFTC-2A/2B in 1993, horizontal flow was observed in 1995. In addition, dissolved petroleum volatile organic compound (PVOC) concentrations in the piezometer decreased substantially between 1993 and 1995, so that only a Wisconsin Administrative Code Chapter NR 140 preventive action limit (PAL) exceedance for benzene was detected in 1995.
- Free product was detected in Monitoring Well AFTC-28 (0.86 to 0.91 foot) in the spring of 1995.

Based on our review of these findings, we have prepared a scope of services to confirm the extent of dissolved-phase impacts on the AFTC property.

Scope of Services

We developed a scope of services based on our understanding of site conditions and the goals of Ansul Incorporated (Ansul) for maintaining the current property use while achieving cost-effective regulatory closure of the site. We propose to install two groundwater monitoring wells on site: one approximately 200 feet northeast of Monitoring Well AFTC-28 and one approximately 200 feet southeast of Monitoring Well AFTC-30. The purpose of these wells is to define the extent of dissolve-phase petroleum hydrocarbons on the subject property.

We do not propose the installation of piezometers or active product recovery at this time. Based on the 1995 groundwater monitoring results, petroleum hydrocarbon concentrations in the deeper groundwater in the former UST area appear to have naturally attenuated to below Wisconsin Administrative Code Chapter NR 140 enforcement standards. Although free product was detected in Monitoring Well AFTC-28 in 1995 and some manual product recovery was performed at this location, we understand that this well has not been sampled since 1995 to confirm the presence of free product. We will base recommendations for future product recovery activities on the results of proposed groundwater monitoring. As we discussed, free product will likely dissipate over time in the coarse-grained soil following removal of the petroleum source.

STS will hire a qualified subcontract driller (or mobilize a drill rig if the project will not be PECFA-eligible) to perform two soil borings using hollow-stem augers to a depth of 15 feet or less below grade. Soil samples will be collected at 2.5-foot intervals using a split-spoon sampler. Soil samples will be screened in the field using a photoionization detector (PID) or flame ionization detector (FID). The PID/FID is sensitive to petroleum vapors and provides a qualitative indication of the relative degree of impact between samples. One soil sample from each boring will be collected above the depth of the apparent water table for PVOC and lead analyses.

Groundwater monitoring wells will be installed in each borehole and will consist of 2-inch diameter polyvinyl chloride with manufactured/slotted screens installed to intercept the depth of the water table at the time of drilling. The wells will be completed with flush-mounted protector pipes. Because we do not anticipate encountering subsurface impacts at the boring locations, we do not propose to containerize soil cuttings or well development water.

Following well installations, we will collect groundwater samples from the eight existing groundwater monitoring wells and one piezometer and the two new groundwater monitoring wells. Groundwater samples will be collected for PVOC and dissolved lead analyses. If free product is detected in Monitoring Well AFTC-28, we will not sample this well for dissolved petroleum hydrocarbons.

Soil and groundwater samples for laboratory analysis will be stored on ice in the field and delivered to a Wisconsin-certified laboratory under chain-of-custody control for analyses.

Based on the field and laboratory results, we will prepare a site assessment addendum or closure report, as appropriate, including a groundwater flow map, tabulated data, soil boring logs, and well construction/development forms. If the updated results do not support a closure request, we will provide recommendations for corrective action or monitoring. Additional information on STS's remediation experience is provided in the attached Statement of Qualifications.

Opinion of Costs

We propose to complete the scope of services outlined above on a time-and-material basis in accordance with the attached Fee Schedule and the General Conditions of Service. We will not exceed the scope of services without Ansul's prior approval.

ESTIMATED COST

<u>Consulting Services</u>	<u>Estimated Cost</u>
Drilling Coordination Documentation, and Groundwater Monitoring	\$
Data Reduction, Base Map, Flow Map, Boring Logs, Well Construction/Development Forms, Report Preparation, and Project Management	\$
TOTAL ESTIMATED CONSULTING SERVICES	\$
<u>Commodity Services</u>	<u>Estimated Cost</u>
Groundwater Monitoring Well Installations (two wells at 15 feet)	\$
Soil Testing (2 PVOC and lead tests)	\$
Groundwater Testing (11 PVOC and dissolved lead tests)	\$
ESTIMATED COMMODITY SERVICE COSTS	\$
ESTIMATED PROJECT COSTS	\$

Commodity Service Providers

Under Comm 47, Commerce recognizes two different categories of service providers: consultants and commodity services providers. Commerce allows site owners to select a consultant based on comfort level and not on a low-cost basis. Conversely, Commerce requires

commodity service providers, such as drilling services, analytical laboratories, and remediation system contractors, to be selected on a low-cost basis. A minimum of three bids must be received for each commodity service. PECFA will only reimburse for the amount of the lowest bid from each commodity service provider.

Samples recovered from the site will be analyzed at a state-certified analytical laboratory to determine the extent and degree of impacts due to petroleum compounds. STS currently has a contract for laboratory services with Robert E. Lee & Associates, Inc., of Green Bay, Wisconsin. This contract was obtained through a competitive bidding process and satisfies the PECFA bidding requirements for laboratory services.

Utilities

STS will contact Wisconsin Digger's Hotline prior to drilling to locate public utilities. Based on our on-site meeting and the proposed boring locations, we understand that drilling will be performed away from private utilities on the subject property. We also understand that a representative from Ansul will clear proposed boring locations for private utilities prior to drilling.

General Conditions

Costs for assessing and remediating conditions at this site may be reimbursable under PECFA, because the subsurface environment has been impacted by an underground petroleum product storage system. In April 1998, Commerce Chapter Comm 47, Wisconsin Administrative Code, was enacted. This code outlines specific requirements for obtaining consulting services to investigate and remediate petroleum impacts at sites that are eligible for PECFA reimbursement. Comm 47 requires that at least three consultants submit proposals for conducting site investigations and developing remedial action plans at PECFA-reimbursable sites.

Please be aware that the PECFA program does not require a site owner to select a consultant on a low-cost basis. Rather, the owner is allowed to select a consultant based on the owner's evaluation of the consultant's qualifications and their proposal.

In accordance with Comm 47, this proposal includes a proposed scope of services, an STS Fee Schedule for environmental services, an STS Statement of Qualifications, professional profiles of the key project staff, and a reference list. Comm 47 allows the owner to choose a consultant based on the owner's comfort with the consultant's qualifications, specific project experience, and overall approach toward investigating and remediating the site. We have included information in this proposal concerning STS's qualifications, project experience, and specific project approach to assist you in making an informed decision when selecting your consultant for this project. We believe that it is in your best interest to have as much information as possible about the consultant you hire, because that consultant will likely be associated with the project from investigation through remediation and ultimately to site closure.

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In accordance with Comm 47, the following paragraph is included with this proposal.

“Although the PECFA fund may reimburse a substantial share of the cost of conducting a remediation of a petroleum contamination, the owner will have a program deductible which they must pay. In addition, there may be costs that are not covered by the PECFA fund or are above the maximums that will be reimbursed for by the fund. A remediation may cost you more than the deductible.”

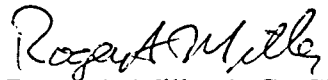
The services described in this proposal will be performed on a time-and-expense/unit-cost basis. The attached Fee Schedule indicates the unit prices for the various elements of service that we expect will be utilized providing the services outlined in this proposal. The Fee Schedule will apply to STS's services described in this proposal if the proposal is accepted by Ansul within 60 days after the date of the proposal. After acceptance of this proposal, adjustments, if any, to the Fee Schedule will be subject to Section 2:a. of the General Conditions of Service.

We have attached to this proposal our Fee Schedule and General Conditions of Service, which are expressly incorporated into, and are an integral part of, our contract for professional services. Please indicate your acceptance of this proposal by having an authorized representative of your firm execute a complete copy and return it to our Green Bay office. If we are given verbal or written notification to proceed without first receiving a signed copy of our proposal, it will be mutually understood that both of us will, nonetheless, be contractually bound by the proposal, even in the absence of a written acceptance by you. In any event, a signed copy of this proposal will need to be returned to STS before a written report can be submitted.

We would be pleased to further discuss the proposed scope of services and look forward to the opportunity to assist Ansul in case closure for their property.

Sincerely,

STS CONSULTANTS, LTD.



Roger A. Miller, P.G., CHMM
Associate Hydrogeologist



James W. Kauer, P.G., P.H.
Associate Geologist

RAM/cdm.wd

Accepted by:

Firm: TSS - Ansul

Signature: George E. Rogan CHMM

Title: Envir. Control Manager

Date: 9-26-02

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P.O. #4793116

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Enclosures:

Statement of Qualifications

List of References

Professional Profiles of Key Project Staff

Fee Schedule (ENV-11/00)

General Conditions of Service

STATEMENT OF QUALIFICATIONS

Corporate Overview

STS is an engineering consulting firm with five regional offices. Our corporate headquarters are located in Vernon Hills, Illinois, with regional offices located in Lansing, Michigan; Minneapolis, Minnesota; Green Bay, Wisconsin; and Milwaukee, Wisconsin. The Green Bay office operates four area offices located in Schofield, Oshkosh, and Rhinelander, Wisconsin; and Marquette, Michigan. STS performs work in four major technical divisions including geotechnical, environmental, construction services, and water resources. The company currently employs approximately 450 people, with over 100 full-time staff between the Green Bay and Oshkosh offices.

Environmental Services

Each STS regional office is equipped to provide environmental services. Environmental services include petroleum storage tank management, site investigations, remediation system design, air quality services, and regulatory compliance assistance. Each regional office is comprised of an experienced multi-disciplinary staff, which includes geologists, hydrogeologists, engineers, chemists, and environmental technicians. All environmental staff have received comprehensive health and safety training, as required by OSHA. This includes participation in a medical surveillance program. Our staff also meets the personnel qualifications and experience requirements outlined in Chapter NR 712, Wisconsin Administrative Code.

Petroleum Product Storage Tanks

STS has extensive experience in all aspects of engineering and environmental services for petroleum product storage tanks. STS provides full-service capabilities, including site investigations, development of comparison of alternatives, preparation of detailed remediation design plans and specifications, construction management, and performance monitoring. STS has conducted many site investigations, comparisons of alternatives, remedial options, design plans,

and specifications and has implemented remedial action plans for environmental restoration. STS's staff includes certified site assessors under Comm 10.

Design and Implementation of Remedial Action Programs

STS has developed remediation services by combining the resources of four major technical divisions. Our project managers have access to design engineers, hydrogeologists, and construction managers to assist them in maintaining project momentum from initial site assessment, through construction, and into performance monitoring. Our remediation projects have included:

- ◆ Active and passive free-product collection.
- ◆ Groundwater remediation through natural attenuation, extraction and treatment, air sparging, soil vapor extraction, dual-phase (water and vapor) extraction, and enhanced bioremediation.
- ◆ Soil remediation through natural attenuation, soil vapor extraction, landspreading, in-situ and ex-situ bioremediation, dual-phase extraction, thermal incineration, landfilling, and asphalt incorporation.

The following table highlights over 100 remediation projects implemented by STS.

**Table
STS Remediation Projects**

Client Type	Contaminant	Media	Technology	Status
Municipality	Petroleum	Soil	Soil Excavation	Closed
Paper Industry	Chromium	GW	Collection trench, pump to treatment system	Operating
Communications	Gasoline	Soil	Soil Removal/Biotreatment	Closed
Communications	Gasoline	Soil	Natural Attenuation	Closure Requested
Communications	Diesel	Soil	SVE/Natural Attenuation	Closed
Communications	Unleaded Gas	GW	Natural Attenuation	Monitoring
Retail Petroleum	Gasoline	Soil	Soil Removal/Biotreatment, Performance Standard (Pavement)	Closure Requested
Retail Petroleum	Gasoline	GW	Natural Attenuation	Closed
Retail Petroleum	Gasoline	Soil, GW	AS, SVE	Operating
Petroleum	Diesel Fuel, Gasoline	Soil, GW	FPR, GW Extraction (air stripper, carbon)	Operating
Railroad	Diesel	Soil	Natural Attenuation	Monitoring
Railroad	Hydraulic Fluid	Soil	Soil Excavation - immediate action	Closed
Retail	Gasoline	Soil, GW	GW Extraction (aeration), AS	Closed
Commerical	Gasoline	Soil	Soil Excavation/ Biotreatment	Monitoring
Railroad	Petroleum	Soil	Soil Excavation	Closed
Railroad	Gasoline	Soil, GW	AS, SVE	Operating
Retail	Gasoline	Soil	Soil Excavation	Closed
Farm & Home Supply	Gasoline	GW	Pumping	Operating
Municipality	Petroleum	Soil	Soil Excavation/Landfill	Closed
Paper Manufacturer	Lead, DRO	Soil	Excavation/Stabilization Landfill	Closed
Transportation	Gasoline, Diesel	Soil, GW	SVE, GW Extraction (carbon)	Operating
Banking	Gasoline	GW	GW Extraction (aeration treatment)	Sampling for Closure
Farm Co-op	Gasoline	Soil, GW	Combined Soil, GW extraction, aeration GW treatment	Operating
Nursery	Gasoline	Soil, GW	FPR, SVE	Operating
Railroad	Diesel	Soil	Soil Excavation/Natural Attenuation	Monitoring
Banking	Gasoline	Soil, GW	AS	Closed

**Table
STS Remediation Projects**

Client Type	Contaminant	Media	Technology	Status
Banking	Petroleum	Soil	Soil Excavation	Closed
Transportation	Gasoline	Soil, GW	AS, SVE	Operating
Paper Industry	Naphtha	Soil	Natural Attenuation	Monitoring
Paper Industry	TCE, DCE, Petroleum	GW	GW Extraction (aeration)	Operating
Paper Industry	#2 Fuel Oil	Soil	Natural Attenuation	Monitoring
Railroad	Diesel	Soil	Soil Removal-immediate action	Closed
Commercial	Gasoline	Soil, GW	Soil Excavation/Biotreatment	Monitoring
Industrial	Acrylonitrile	Soil	Soil Excavation/Landfill	Closed
Paper Industry	Gasoline, Diesel	Soil, GW	AS, SVE, Bio	Sampling for Closure
Railroad	Diesel	Soil, GW	AS, SVE	Operating
Municipality	Gasoline, Diesel	Soil	Bio (composting)	Closed
State Prison Facility	Gasoline	Soil, GW	Soil Removal	Closed
State Prison Facility	Diesel	Soil	Soil Removal	Closed
County Park	Solvent	Soil	Soil Excavation	Closed
Municipality	Gasoline, Diesel	Soil	Soil Excavation/City Biopile	Closed
Municipality	Gasoline, Diesel	Soil, GW	Bio (land treatment)	Construction/Partial Closure
Railroad	Petroleum	Soil	Soil Excavation	Closed
Farm Co-op	Gasoline	GW	GW Extraction (aeration)	Operating
Car Wash	Gasoline	Soil, GW	AS, SVE	Operating
Retail Petroleum	Gasoline	Soil, GW	SVE (oxidation vapor treatment), GW Extraction (carbon)	Operating
Retail Petroleum	Gas, Diesel	Soil, GW	SVE (Carbon Treatment)	Operating
Auto Service	Gasoline	Soil	SVE	Operating
Manufacturing	TCE, PCE	GW	Natural Attenuation	Closure Requested
Transportation	Gasoline	Soil, GW	Soil Excavation/Landspreading	Monitoring
Transportation	Gasoline	Soil, GW	Soil Excavation/Landspreading & Thermal Treatment	Monitoring
Retail Gasoline	Gasoline, Lead	GW	AS, SVE, GW Extraction (aeration)	Closed

**Table
STS Remediation Projects**

Client Type	Contaminant	Media	Technology	Status
Retail	Gasoline	Soil, GW	Soil, GW containment/collection trenches, air injection	Shut Down
Former Service Station	Gasoline	Soil, GW	Soil Excavation	Closed
Foundry	Petroleum	Soil	Soil Excavation/Landspreading	Monitoring
Former Service Station	Gasoline	Soil, GW	SVE, AS	Shut Down
Former Service Station	Gasoline	Soil, GW	Soil, GW containment/collection trenches, air injection	Operating
Former Service Station	Gasoline	Soil, GW	SVE, AS	Operating
Former Service Station	Gasoline	Soil, GW	SVE, AS	Operating
Former Service Station	Gasoline	Soil, GW	Soil Removal	Closed
Paper Industry	Ethylene Glycol	Soil, GW	Soil Excavation/Landfill	Monitoring
Manufacturing	Carbon Tet., BTEX, Arsenic	Soil, GW	Source Removal, Natural Attenuation	Closed
University	Gasoline	Soil	Soil Excavation/Biotreatment	Pending Closure
Former Bulk Storage Facility	Gasoline, Diesel	Soil, GW	Soil Excavation, Natural Attenuation	Monitoring GW
Railroad	Diesel	Soil	Soil Excavation/Landfill	Closed
Railroad	Diesel	Soil	Soil Excavation-immediate action	Closed
Railroad	Diesel	Soil	Soil Excavation-Biotreatment	Closed
Municipality	Gasoline	Soil, GW	AS, SVE, FPR	Shut Down
Private Residence	Gasoline	Soil, GW	Soil Excavation/Landfill	Monitoring
Railroad	Diesel	Soil	Soil Removal	Closed
Commercial	Diesel, Gasoline	Soil, GW	Soil Excavation/Landspreading	Monitoring
WDNR	PCE	Soil, GW	SVE, GW Extraction (Cascade Aeration)	Some Portions Operating
Manufacturing	Naphtha	Soil, GW	Natural Attenuation	Monitoring
Manufacturing	Chlorinateds	GW	Natural Attenuation	GW Monitoring
Auto Dealer	Gasoline	GW	Natural Attenuation	Monitoring
Machine Shop	Gasoline	Soil	Soil Excavation	Closed
Paper Manufacturer	Diesel	Soil, GW	Soil Excavation/Biotreatment	Monitoring GW
Railroad	Diesel	Soil	Soil Excavation/Biotreatment	Closed

Table
STS Remediation Projects

Client Type	Contaminant	Media	Technology	Status
Railroad	Diesel	Soil	Constructed Biopile	Closed
County Hwy Dept	Diesel Fuel	Soil, GW	FPR, GW Extraction (carbon), soil excavation	Closed
County Hwy Dept	Gasoline	Soil, GW	SVE, GW Extraction (aeration), air lift pumping	Closed
County Hwy Dept	Gasoline	Soil, GW	Combined Soil, GW extraction, air lift pumping	Closure Pending
Residential	Heating Oil	Soil	Soil Excavation	Closed
State Prison Facility	Gasoline, Diesel	Soil, GW	Soil Removal, GW Extraction, SVE, AS	Operating
Railroad	PCBs	Soil	Soil Excavation	Closure Request Pending
Municipal	Fuel Oil	Soil	Soil Excavation/Landfill	Closed
Manufacturing	Trichloroethylene	Soil, GW	AS, SVE, GW Extraction (aeration)	Operating
Former Car Wash	Gasoline	Soil, GW	Soil Removal/Biotreatment	Monitoring
Manufacturing	Petroleum	Soil	Soil Removal/Landspreading	Closed
Retail	Petroleum	Soil	Soil Removal/Landspreading	Closed
Railroad	Diesel	GW	Collection Trenches, Product Skimmer	Operating
Auto Service	Gasoline	Soil, GW	AS, SVE	Closed
Cooperative	Gasoline, Diesel	Soil, GW	Soil Excavation/Biotreatment, Enhanced GW Attenuation	Monitoring GW
Commercial	Gasoline	GW	AS, SVE	Operating
Transportation	Diesel Fuel	Soil	Bio (Composting)	Closed
Transportation	Diesel Fuel	Soil, GW	Soil Excavation/Biotreatment	Closed
Retail Petroleum	Gasoline	Soil, GW	AS, SVE, GW Extraction (aeration)	Shut Down
Retail Petroleum	Diesel, Gasoline	Soil	Soil Removal	Closed
Retail Petroleum	Diesel, Gasoline	Soil, GW	Soil Removal	Natural Attenuation
Manufacturing	Pentachlorophenol	Soil, GW	Bio, GW Extraction, FPR	Operating
Medical	DRO	Soil	Natural Attenuation	Closed
Paper Industry	Leaded Gas, Diesel	Soil, GW	Source Removal, Natural Attenuation Proposed	Monitoring
Retail	Fuel Oil	Soil	Soil Excavation/Biotreatment	Closed
Auto Service	Gasoline	Soil, GW	GW Extraction (air stripper)	Shut Down

**Table
STS Remediation Projects**

Client Type	Contaminant	Media	Technology	Status
Former Manufacturing Facility	Diesel Fuel	Soil	Soil Excavation	Closed
Former Service Station	Gasoline	Soil, GW	AS, SVE	Operating
Manufacturing	Petroleum / Solvents	Soil	Soil Excavation	Closed
Retail Petroleum	Gasoline	Soil, GW	SVE, GW Extraction/Treatment, AS	Shut Down
Retail Petroleum	Gasoline	Soil, GW	Source Removal, Natural Attenuation	Monitoring
Retail Petroleum	Gasoline, Diesel	Soil, GW	SVE, GW Collection/Treatment, GW Infiltration	Shut Down
Retail Petroleum	Gasoline	GW	Groundwater collection trench, sanitary discharge	Operating
Communications	Gasoline	Soil	SVE	Closed
Communications	Gasoline	Soil, GW	Excavation	Closed
Communications	Gasoline	Soil	Excavation	Closed
Communications	Gasoline	Soil	Excavation	Closed
Communications	Gasoline	Soil, GW	Excavation	Closed
Communications	Fuel Oil	Soil, GW	Excavation, County Biotreatment Facility	Closed
Communications	Gasoline	Soil, GW	Excavation	Closed
Communications	Gasoline	Soil	Excavation	Closed
University	Gasoline	Soil, GW	Air lift pumping (aeration treatment), SVE	Monitoring
Farm	Gasoline	Soil	Soil Removal/Landspreading	Closed
Retail Petroleum	Gasoline	Soil, GW	Soil, GW containment/collection trenches, GW Extraction (aeration)	Operating
Golf Course	Gasoline	Soil	SVE	Closed
Foundry	Solvents	Soil, GW	GW Extraction(aeration), SVE	Operating
Foundry	Gas, Diesel	GW	AS	Closed
Marina	Gasoline	Soil, GW	Soil Excavation/Biotreatment	Monitoring GW
Utility	Petroleum	Soil, GW	Limited Soil Removal, Natural Attenuation	Closed
Utility	Petroleum	Soil	Limited Soil Removal	Closed
Dairy	Gasoline	Soil	Soil Excavation/Biotreatment	Closed
WDNR	PCE	GW	Groundwater Extraction, Treatment	Closed

**Table
STS Remediation Projects**

Client Type	Contaminant	Media	Technology	Status
WDNR	Gasoline	GW	AS, GW Extraction (air stripper)	Closed
WDNR	Leaded Gasoline	Soil	Soil Excavation	Closed
WDNR	Gasoline	Soil, GW	Formerly AS, SVE, now Natural Attenuation	Monitoring
State Prison Facility	Diesel	Soil	Soil Removal/Landfill	Closed
Railroad	Lead, Caustic Soda, PNAs, VOCs	Soil, GW	AS, SVE (carbon), Excavation/Disposal (carbon)	Design
Railroad	Diesel, Hydraulic Oil	Soil	Bio (composting)	Active
Farm Co-op	Gasoline	Soil, GW	Combined Soil, GW extraction, aeration/carbon GW treatment	Operating
Municipality	Gasoline	SVE, Bio	SVE, Bio	Operating
ABBREVIATIONS:				
AS = Air Sparging				
Bio = Bioremediation				
FPR = Free Product Recovery				
GW = Groundwater				
SVE = Soil Vapor Extraction				

Construction Management and Construction Documentation

STS has been involved in the construction industry and has provided construction documentation services for over 50 years. One of the strengths of STS's remedial services is the incorporation of our construction technology capabilities to provide construction management, construction documentation, and performance monitoring of environmental corrective action. STS has specific individuals trained and experienced in construction documentation and soil and groundwater remediation. These individuals routinely perform construction management services including materials procurement, subcontract scheduling, and conformance testing. They are also responsible for performance monitoring and preparation of progress reports for submission to regulatory agencies.

Cost Estimates for Environmental Remediation

Our ability to provide accurate cost estimates for environmental remediation is based on experience. We maintain files on costs for actual construction and operation of soil and groundwater remediation systems. This information, along with our relationship with contractors and material suppliers, allows us to closely anticipate site exploration and cleanup costs at a particular location.

PECFA and Comm 47

STS is actively assisting clients in the preparation and submittal of PECFA reimbursement claims. STS carries the appropriate liability insurance in accordance with Comm 47.

List of References

A list of some of the clients for which STS has completed assessment and remediation at UST sites is provided below:

Mr. Geoffrey C. Nokes
Wisconsin Central Ltd.
One O'Hare Centre
6250 North River Road, Suite 9000
P.O. Box 5062
Rosemont, Illinois 60017-5062
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Mr. David Welles
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131 Scott Street
P.O. Box 2267
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Phone: (715) 849-1059

Ms. Pamela Gergens
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100 East Wisconsin Avenue
Milwaukee, Wisconsin 53202-4108
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Professional Profiles of Key Project Staff

AREAS OF SPECIALIZATION

- ◆ *Risk Assessment*
- ◆ *Subsurface Assessment and Remediation*
- ◆ *Regulatory Compliance*

EDUCATION

*M.S., Geology, University
of Wisconsin-Milwaukee*

*B.A., Geology, College of
Wooster*

REGISTRATION

*Professional Geologist:
Wisconsin*

*Certified Professional
Geologist: AIPG*

AFFILIATIONS

*Wisconsin Ground Water
Association*

*Association of Ground
Water Scientists and
Engineers*

*American Institute of
Professional Geologists*

HONORS

*President, Wisconsin
Ground Water
Association, 1996-1997*

*Member of Wisconsin
NR 720 Technical
Advisory Committee for
Development of Soil
Cleanup Standards,
1997-1998*

Representative Experience

Serves as a Senior Project Hydrogeologist in the Environmental Sciences Group and a member of the STS Risk Assessment Committee. A representative sampling of project experience includes:

- ◆ Developed site-specific soil cleanup standards using analytical methods, leach testing, and computer modeling (SESOIL).
- ◆ Prepared recommendations for materials handling options for impacted soil and groundwater.
- ◆ Compiled technical and cost feasibility reports to evaluate soil and groundwater remedial action alternatives.
- ◆ Developed remedial action plans for solvent, metals, and petroleum fuel releases.
- ◆ Designed pilot scale treatability studies for aboveground bioremediation of petroleum-impacted soil in treatment cells.
- ◆ Developed nutrient and oxygen requirements for bioremediation systems.
- ◆ Modeled analytical bioremediation to compare organic compound removal rates resulting from physical processes with biodegradation.
- ◆ Developed site characterization for natural attenuation.
- ◆ Provided permitting assistance to comply with air and water discharge regulations for soil and groundwater remediation systems.
- ◆ Assessed groundwater and soil contamination for underground and bulk aboveground petroleum fuel storage facilities.
- ◆ Conducted hydraulic testing of contaminated aquifers for the design of groundwater and free product extraction systems.
- ◆ Documented underground storage tank removal, environmental assessments and site closure reports.

AREAS OF SPECIALIZATION

- ◆ *Petroleum Storage Tank Investigation/Remediation*
- ◆ *Investigation/Remediation of Railroad Facilities*
- ◆ *Surface Geophysics*
- ◆ *Investigation/Remediation of Agrichemical Facility*

EDUCATION

B.S., Geology, Michigan Technological University, 1983

REGISTRATION

Professional Geologist: Wisconsin

AFFILIATIONS

National Ground Water Association (NGWA)

American Institute of Professional Geologists

Northeast Area Coordinator for Wisconsin Ground Water Association

Attended 8th Annual NGWA Outdoor Action Conference, May 1994

CERTIFICATIONS

40-Hour OSHA Safety and Health Training

Certified Professional Geologist-(CPG-9283)

Representative Experience

Serves as a Project Geologist with the Environmental Sciences Group. Responsibilities include project planning and management; collecting, reviewing and interpreting analytical data; preparing and implementing remedial work plans for a wide range of environmental contamination projects.

Project experience includes subsurface contamination investigation; managing remediation system design, construction, and monitoring; property transfer assessments; underground storage tank decommissioning monitoring; field resistivity and electromagnetic surveys; field documentation of environmental immediate response activities; solid waste landfill monitoring. A representative sampling of project experience includes:

- ◆ Project Manager for gasoline contamination at a gas station site in Port Edwards, Wisconsin; responsibilities included decommissioning underground storage tank documentation, completing a subsurface environmental site assessment and report, interpreting field and analytical data, preparing a cost-estimate report with remediation alternatives, preparing bid documents for remediation, and implementing remediation.
- ◆ Field Construction Manager for a U.S. Post Office in Green Bay, Wisconsin, responsible for remediation documentation and as-built construction report for on-site treatment of soil vapors and contaminated groundwater.
- ◆ Project Manager for numerous Phase I and II Environmental Site Assessments for property transfers throughout Wisconsin.
- ◆ Project Manager for site assessment in Menominee, Michigan to determine if former automobile garage contributed to solvent contamination in soil and groundwater in the area. Work included bedrock drilling and core descriptions.
- ◆ Project Manager for environmental assessment of a bulk storage terminal site in Central Wisconsin. Assessment included directing the installation of a number of borings and wells across a 2-acre site. Oversaw remediation system design.
- ◆ Project Manager for multiple railroad facility investigation/remediation. Project included Phase I and Phase II or Subsurface Site Investigation at about thirty sites across Wisconsin.
- ◆ Project Manager for investigation and remediation of agrichemicals at a Co-op facility in Northeastern Wisconsin under the Wisconsin Department of Agriculture's reimbursement program.

AREAS OF SPECIALIZATION

- ◆ *Hydrogeology*
- ◆ *Glacial Geology*
- ◆ *Monitoring Well Network Design*
- ◆ *Subsurface Exploration Methods*
- ◆ *Environmental Data Management and Evaluation*
- ◆ *Geographic Information Systems (GIS)*

EDUCATION

*M.S., Geology, University of
New Hampshire, 1986*

*B.S., Geology, St. Lawrence
University, 1975*

REGISTRATION

*Certified Professional
Geologist*

*Professional Geologist:
Wisconsin*

AFFILIATIONS

American Geophysical Union

*American Water Resources
Association*

*Geological Society of
America*

*International Glaciological
Society*

*National Ground Water
Association*

*Wisconsin Groundwater
Association*

Representative Experience

Serves as an Associate specializing in hydrogeology. Involved in soil and groundwater contamination assessments, landfill and impoundment siting and design, and hydrogeologic studies. Also serves as Regional Health and Safety Officer. A representative sampling of project experience includes:

- ◆ Groundwater quality assessment and extraction well design at an industrial dairy waste treatment facility.
- ◆ Hydrogeologic study for a proposed landfill at a strip mine in southern Indiana.
- ◆ Hydrogeologic study of an alluvial aquifer in southern Illinois.
- ◆ Chromium contamination assessments of soils and water at two former electroplating facilities.
- ◆ Design of groundwater gradient control system at dredge disposal site.
- ◆ Contamination assessment at an electrical plant for US Environmental Protection Agency (EPA).
- ◆ Electromagnetic exploration for contamination assessments.
- ◆ Numerical modeling for design of zone of saturation landfill.
- ◆ Long-term Care Plan for RCRA hazardous waste impoundment.
- ◆ Exploration and remediation of former scrap yard.
- ◆ Contamination assessment and closure plan for industrial wastewater lagoon.
- ◆ Hydrogeologic study for open-pit mine reclamation plan.
- ◆ Hydrogeologic study for municipal well contaminant source identification.
- ◆ Soil vapor surveys for preliminary assessment of volatile organic compound contamination.
- ◆ Soil and groundwater assessments for volatile organic compound contamination.
- ◆ Quality assurance/quality control of well sampling procedures.
- ◆ Statistical evaluation of groundwater quality data.

Publications

"Chloride, Nitrate, and Sulfate Stratigraphy in the Seasonal Snowpack Near Shrine Pass, Colorado," Masters Thesis, University of New Hampshire, 1986.





FEE SCHEDULE

Environmental Services

Charges for technical personnel will be made for time spent in the field, in consultation, in preparation of reports and invoices, in administering contracts and project coordination, and in traveling.

*Overtime will be charged after 8 hours per day; before 7:00 a.m. and after 6:00 p.m. Monday through Friday; or all day Saturday--technical rate x 1.25. Double-time will be charged on Sundays or Holidays--technical rate x 2. Four-hour minimum per day.

Expert Witness Testimony will be billed at the rates shown here x 1.5.

The cost of equipment to complete the project will be identified in our proposal.

Technical Classifications

Principal	Per Hour	\$ 125.00
Associate	Per Hour	\$ 115.00
Senior Consultant	Per Hour	\$ 105.00
Consultant	Per Hour	\$ 92.00
Technical Project Staff	Per Hour	\$ 80.00
Technical Staff	Per Hour	\$ 75.00
CAD Specialist*	Per Hour	\$ 56.00
Technical Support Staff*	Per Hour	\$ 45.00
Senior Technician*	Per Hour	\$ 60.00
Technician II*	Per Hour	\$ 50.00
Technician I*	Per Hour	\$ 45.00

Technical Support Services

PID or FID Rental	Per Day	\$ 75.00
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Laboratory Services

Manager	Per Hour	\$ 75.00
Supervisor*	Per Hour	\$ 60.00
Technician*	Per Hour	\$ 48.00

Expenses and Expendables

All Expenses to Complete the Project		At Cost
Mileage Per Mile	Car	\$ 0.29
	Truck	\$ 0.45
All Expendables to Complete the Project		At Cost

Green Bay 11/00-W

STS Consultants, Ltd.
Consulting Engineers



ANSUL INCORPORATED
 ONE STANTON STREET MARINETTE, WI 54143-2542
 (715) 735-7411 FAX (715) 732-3462

PURCHASE ORDER

PAGE 1

SUBJECT TO ATTACHED ANSUL STANDARD TERMS
 AND CONDITIONS OF PURCHASE (6/96)

Atjco INTERNATIONAL LTD. COMPANY

ORDER DATE 02/22/02	PURCHASE ORDER NO. X4-723116	DIRECT CORRESPONDENCE, CALLS, ETC. RS BAXTER/GR	SPECIAL INSTRUCTIONS G. ROGERS
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VENDOR:
 6019210 STS CONSULTANTS LTD
 CONSULTING ENGINEERS
 1035 KEPLER DRIVE
 GREEN BAY WI 54311

**PLEASE SEND INVOICE
 ATTN: ACCOUNTS
 PAYABLE DEPT.
 AND REFERENCE ABOVE
 PURCHASE ORDER NO.**

SHIP TO ANSUL RECEIVING STATION SHOWN BELOW UNLESS OTHER DESTINATION SPECIFIED

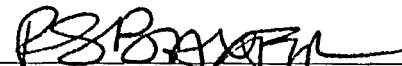
 * RECEIVING STATION 1 *
 * BLDG. #29, STANTON STREET *

DUE DATE AT ANSUL

TERMS	F.O.B.	SHIP VIA	FREIGHT	TAX STATUS			
NET 050	PS	BEST WAY		EXEMPT	↓		
LINE NO.	QTY. ORDERED	ANSUL PART NO.	DESCRIPTION	PRICE	MO.	DAY	YR.
	1	99995	PROVIDE SITE INVESTIGA- TIONAL SERVICES FOR POSSIBLE GROUNDWATER CONTAMINATION AT M. FIRE TECHNOLOGY CENTER AS PER STS PROPOSAL NO. 413317PP (JULY 25, 2001) ATTACHED.	.00	ASAP		
			TOTAL COST NOT TO EXCEED \$				
			*ACCT#				

IMPORTANT VENDOR INSTRUCTIONS

1. ACKNOWLEDGE THIS ORDER PROMPTLY IF ITEMS, SHIPPING DATES AND/OR PRICE, ETC. CANNOT BE MET.
2. SHOW OUR PURCHASE ORDER NUMBERS ON ALL INVOICES, BILLS OF LADING, PACKAGES, PACKING LISTS, AND CORRESPONDENCE.
3. WHEN PARTS ARE IDENTIFIED WITH ANSUL PART NUMBERS, PLEASE CHECK YOUR LATEST BLUEPRINT REVISION NUMBER AND ADVISE IMMEDIATELY IF YOUR BLUEPRINTS ARE NOT CORRECT.
4. ORIGINAL BILL OF LADING MUST ACCOMPANY INVOICE.
5. WISCONSIN SELECTIVE SALES AND USE TAX PERMIT 41708, IS THIS ORDER SUBJECT TO TAX?
6. **ARTWORK POLICY:** IF YOU ENCOUNTER DIFFICULTY WITH ANY OR ALL PORTIONS OF THE ARTWORK PROVIDED BY ANSUL FOR THIS JOB, YOU MUST CALL ANSUL TO GET AN UPDATED DISK BEFORE PROCEEDING WITH JOB. VENDOR MAY NOT RESET TYPE OR ALTER ARTWORK IN ANY WAY. IT IS ASSUMED THAT ANSUL'S ARTWORK WAS USED WHEN APPROVING PROOFS. ANY REPRINTING EXPENSES INCURRED DUE TO UNAUTHORIZED TYPESETTING OR REVISIONS BY VENDOR ARE VENDOR'S RESPONSIBILITY.

BY  PURCHASING AGENT

PRODUCTION CONTROL