REMEDIAL ACTION PLAN PROPOSAL

Redi-Quick Dry Cleaners
9508 West Greenfield Avenue
West Allis, Wisconsin

May 25, 2005

Submitted to:

Mr. Sam Gruichich
Dorothy G. Corporation
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West Allis, Wisconsin

Prepared by:

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1.0 INTRODUCTION

In accordance with your April 13, 2005 Request for Proposal (RFP), Shaw Environmental, Inc. (Shaw) is pleased to submit this proposal for implementation of a remedial action for the Redi-Quick Dry Cleaners (Redi-Quick) facility located in West Allis, Wisconsin (herein referred as the site). The focus of this proposal is to develop a cost-effective remedial strategy to receive regulatory closure from the Wisconsin Department of Natural Resources (WDNR). In preparation for this proposal, Shaw completed the following activities:

- Reviewed the Subsurface Investigation reports prepared by Envirogen, Inc.;
- Conducted a site visit with Mr. Sam Gruichich on May 2, 2005; and
- Evaluated different remedial strategies with technical experts of Shaw.

The scope of work offered by Shaw includes the completion of supplemental investigation, and remedial action planning\implementation. This scope of work offers the following advantages:

- Effectively incorporates the data collected to-date in the remedial strategy;
- Provides remedial system performance and cost certainty to the Dorothy G. Corporation;
- Confirms subsurface conditions influencing the fate and transport of contaminants; and
- Requests approval from the WDNR on remedy selection for site closure.

2.0 ABOUT SHAW

Shaw is a leading service provider, active in the fields of environmental consulting, engineering, infrastructure, and construction. Founded in 1987, Shaw serves industries, government, law firms, and other clients in the United States and abroad. With over 7,000 employees in over 100 offices nationwide, Shaw is nationally recognized for excellence in remedy selection, implementation, and closure from regulatory agencies.

The Wisconsin offices of Shaw, located in Milwaukee, La Crosse, Mosinee, and Green Bay, include over 50 design engineers, hydrogeologists, geologists, regulatory specialists, and technicians. This broad range of expertise provides Shaw's clients with a wide variety of services from site investigation through remedial design and construction, operation and maintenance, and regulatory closure. Shaw is recognized as an expert in investigation, remediation, and regulatory closure. A firm overview and the services provided by Shaw are provided in Appendix A.

The remedial evaluation process used by Shaw for the Redi-Quick site included careful consideration of the following factors:

- The operational and production history;
- The subsurface fate and behavior of the chemicals used and wastes generated;
- The geologic and hydrogeologic conditions which control and influence the fate and transport of chemicals in the subsurface;
- The results of treatability, pilot testing, and remediation activities completed by Shaw at other dry cleaning facilities of similar age and use;
- The WDNR closure requirements established under Chapter NR 726 of the Wisconsin Administrative Code (WAC);
- The requirements of Chapters NR140 (Groundwater Quality) and NR 169 (Drycleaner Environmental Response Program [DERP]) of the WAC; and
- Flexibility in the use of institutional controls, deed restrictions, and engineered barriers to eliminate exposure pathways and satisfy the WDNR closure requirements.

2.1 Site History

From the late 1950s until the present, the site has been operated as a dry cleaning facility. One 1,000-gallon dry cleaner solvent underground storage tank (UST) was formerly used on the site. Although no longer in use, the UST is still located below the footprint of the facility.

Prior to the late 1950s, a retail gasoline station operated on the site. Four USTs were formerly used by the gasoline station, and included one 1000-gallon fuel oil UST, one 260-gallon waste oil UST, and two 4,000-gallon gasoline USTs. All four petroleum USTs were removed in December 1989.

In 1990, Miller Engineers, Inc., (Miller Engineers) was contracted by the owner's agent to perform a site investigation to determine the extent of petroleum contamination due to the use of the former petroleum USTs. Based on the investigation, a remedial action was performed to remove the petroleum contaminated soil. The investigation also revealed evidence of chlorinated solvent contamination. Groundwater monitoring for petroleum contamination has been ongoing since 1990.

The following is a brief chronology of environmental activities performed at the site. This summary includes activities pertinent to the site investigation of chlorinated solvent contamination relating to the dry cleaning operations. Other environmental activities related to the petroleum contamination site investigation and remedial activities may have been performed.

December 1, 1989

Four petroleum USTs were removed. In addition, a recovery sump (RS-E) was installed in the excavation containing the two gasoline USTs. Another recovery sump (RS-W) was installed in the excavation containing the fuel oil and the waste oil USTs.

February 14-18, 1990

Petroleum contaminated soils were excavated and removed from the site by Buteyn Excavating and Grading under the direction of Miller Engineers.

April 17-18, 1990

Miller Engineers advanced eight borings at the site. Three of the borings were completed as groundwater monitoring wells (MW-2, MW-4, and MW-8). Eight soil samples were collected and analyzed for total petroleum hydrocarbons (TPH) and benzene, ethylbenzene, toluene, and total xylenes (BETX). Groundwater samples from the three monitoring wells were analyzed for volatile organic compounds (VOCs).

September 17, 1992

Miller Engineers collected groundwater samples from monitoring wells, MW-2, MW-4, and MW-8, and recovery sumps, RS-E and RS-W. Samples were analyzed for VOCs.

February 23, 1993

Miller Engineers collected groundwater samples from monitoring wells, MW-2, MW-4, and MW-8, and recovery sumps, RS-E and RS-W. Samples were analyzed for VOCs.

August 12, 1998

Environmental Professionals collected groundwater samples from monitoring wells, MW-2, MW-4, and MW-8, and recovery sumps, RS-E and RS-W. Samples were analyzed for VOCs.

May 10, 1999

JJS Environmental, Inc., (JJS Environmental) collected groundwater samples from monitoring wells, MW-2, MW-4, and MW-8, and recovery sumps, RS-E and RS-W. Samples were analyzed for VOCs.

October 28, 1999

JJS Environmental collected groundwater samples from monitoring wells, MW-2, MW-4, and MW-8, and recovery sumps, RS-E and RS-W. Samples were analyzed for VOCs.

May 19, 1999

JJS Environmental drilled four borings (SB-1 through SB-4) at the site. One soil sample was collected from each boring and submitted for laboratory analysis for VOCs.

August 30-31, 2000

Envirogen advanced five soil borings at and adjacent to the site. Four borings were completed as groundwater monitoring wells (MW-10 through MW-13). One boring was completed as a piezometer (PZ-10). Soil samples were collected and submitted to a WDNR-certified laboratory for analysis for VOCs.

September 14, 2000

Groundwater monitoring wells, MW-4, MW-8, MW-10 through MW-13 and piezometer PZ-10 were sampled and water level measurements recorded. Groundwater samples were submitted to a WDNR-certified laboratory for analysis for VOCs.

November 15, 2000

Monitoring wells were surveyed to a mean sea level datum, and water levels measurements were recorded for all wells at the site.

October 24, 2003

Six soil borings were installed on- and off-site. Four of the soil borings (GP-1 through GP-4) were installed with a GeoProbe® sampling device. The two remaining borings were installed using hollow-stem augers and were completed as a monitoring well (MW-21) and a piezometer (PZ-20).

The eight groundwater monitoring wells and two piezometers were sampled and static water level measurements recorded. Groundwater samples were submitted for VOC laboratory analysis.

2.2 Site Geology

Site geology consists primarily of brown silty clay, ranging from ground surface to approximately 20 to 25 feet below ground surface (bgs). This silty clay layer is underlain by a grey sandy clay layer, approximately 15 feet in thickness. The grey sandy clay layer dips to the north and is underlain by brown silty clay to the maximum depth of investigation, 45 feet bgs. Bedrock was not encountered during investigation activities.

2.3 Soil Contaminant Distribution

The highest soil contaminant concentrations are located near the former chlorinated solvent UST, in the driveway of the 1361 95th Street residence. Soil contamination was also detected on the eastern edge of the facility and the adjacent property to the north.

The maximum Tetrachloroethene (PCE) concentration of all soil samples collected at the site to date is 230,000 parts per billion (ppb) detected at 4 to 16 feet bgs in the soil boring SB-3 near the former chlorinated solvent UST. The Trichloroethene (TCE) concentration in this soil sample was below the elevated detection limit of 1,000 ppb.

To the north of the Redi-Quick building, analytical results indicate a PCE concentration of 129,000 ppb and a TCE concentration of 180 ppb between 10 to 12 feet bgs at MW-12, located on the adjacent property at 1361 South 95th Street. A sample collected between 24-26 feet bgs at MW-12 indicated less than detectable contaminant concentrations. Further north, PCE and TCE were not detected at MW-13 in a sample collected between 20-22 feet bgs.

To the west of the building, PCE concentrations were below detection limits and TCE was detected at 30 ppb in soil sample collected in SB-4 from 16 to 18 feet bgs. To the east of the building, PCE was detected at 230 ppb and no TCE was detected in a sample collected from 18-20 feet bgs in SB-1. No PCE or TCE were detected in the sample collected from MW-11, at 14 to 16 feet bgs.

PCE was also detected in shallow soils between 2 to 4 feet bgs at a concentration of 3,090 ppb, at PZ-10, located at the eastern end of the Redi-Quick building. It is possible that past solvent cleaning practices used by previous operators involved handling and/or disposing of spent solvent in this area. Soil analytical results are summarized on Tables 1 and 2.

2.4 Site Hydrogeology

The depth to groundwater varies between 3 and 14 feet bgs. The groundwater table appears to be influenced by water and sanitary sewer lines and the coarse grained soils backfilled into the UST excavations. As expected, mounded groundwater is observed in the vicinity of the former petroleum UST cavity areas. The elevation measured in MW-4 is also higher relative to the other monitoring wells which may be due to influences from adjacent utility trenches. Based on topography and contaminant distribution, groundwater flow direction is generally to the southeast.

2.5 Groundwater Contaminant Distribution

During the most recent sampling event in March 2004, the highest chlorinated contaminant concentrations were reported in groundwater monitoring well MW-10, located on the east side of the building. PCE (45,000 ppb) and TCE (810 ppb) were reported in groundwater collected from MW-10. PCE was reported at a concentration of 7.4 ppb in groundwater from PZ-10. There were no other VOCS reported at concentrations above NR 140 Enforcement Standards, with the exception of Vinyl Chloride (5.2 ppb) and 1,2-Dichloroethane (9.2 ppb) in groundwater collected from MW-2. Historical groundwater quality results are summarized in Table 3.

3.0 SCOPE OF WORK

The Shaw approach for the Redi-Quick site will include the completion of supplemental investigation activities, and implementation of this remedial action plan (RAP) following approval of the RAP by the WDNR. A description of each task is presented below.

3.1 Task 1 – Supplemental Subsurface Investigation

Groundwater Sampling

To confirm groundwater quality and evaluate geochemical conditions prior to remediation, groundwater samples will be collected from the following monitoring wells and piezometers: MW2, MW8, MW10/PZ10, MW11, MW12 and PZ20. Groundwater samples will be submitted for VOCs, nitrogen/nitrate, soluble iron, and sulfate laboratory analysis. The groundwater samples will be collected using low-flow sampling techniques. Dissolved oxygen, oxidation-reduction potential, conductivity, and temperature will be recorded from each monitoring well sampled using a down-hole probe.

GeoProbe® Soil Sampling

In order to properly characterize soils for off-site disposal, ten GeoProbes® will be installed to 16-feet bgs in a grid across the driveway of the 1362 N. 95th Street residence. Soils will be collected continuously and field screened with a photoionization detector during GeoProbe® advancement. Soil samples will be submitted for VOC laboratory analysis. To evaluate hazardous characteristics of the soil samples, up to eight soil samples will be submitted for toxicity characteristic leaching procedure (TCLP) laboratory analysis. The laboratory analysis will enable Shaw to develop a soil management plan for hazardous and non-hazardous soils based on the contained –out policy described in the WDNR draft guidance document titled, "Guidance for Hazardous Waste Remediation", dated November 21, 2002.

3.2 Task 2 - Remedial Action Plan

The remedial action consists of the excavation of contaminated soils, off-site disposal as non-hazardous and hazardous waste, placement of an amendment to enhance reductive dechlorination and implementation of a two (2) year monitored natural attenuation groundwater program. A general overview of the remedial action follows.

Underground Storage Tank

The top of the former solvent UST that is located in the Redi-Quick building has been removed, and the UST has been cleaned. The UST has not been filled with inert material. A six inch

concrete slab, with curb beneath the northern bearing wall surrounds the UST. Based on the site inspection with an excavation\UST removal and installation contractor, UST removal is not considered practical until building demolition occurs.

Driveway

The driveway between the Redi-Quick building and the 1361 95th Street residence is 12 feet wide, and the mass of chlorinated soil contamination appears to exist at the 12-16 bgs interval. Contaminated soil excavation will be performed, and a safety standard for excavation side-wall slope (facility and residence foundation stability) will be utilized. For estimation purposes, a trench will be excavated down the center of the driveway and hotspots excavated (based on the supplementary geoprobe work). A substantial volume of clean overburden (0-10 feet bgs) would need to be excavated and transported to a staging area on a small truck until contaminated soils were excavated. The contractor will start near the residential garage, excavate an area, and place the amendment in the excavation, backfill and compact, then progress easterly down the driveway. Contaminated soils exhibiting hazardous waste characteristics will be staged on the Redi-Quick property, pending loading on to dump trailers for out of state disposal. A containment dike will be constructed, all equipment will be decontaminated, and liquid wastes characterized and properly disposed of. The excavation will be compacted in 1-2 foot lifts to achieve proper compaction and avoid differential settlement. Non-hazardous contaminated soils will be transported to the Onyx Emerald Park Landfill in Muskego, Wisconsin, as a direct special waste.

Right of Way (69th Street)

An area between the Redi-Quick building and 69th Street, which measures approximately 8 foot by 10 foot has the mass of contamination located at a depth of 3-7 feet bgs. A telephone pole, guide line and underground natural gas line are present in this area. Approximately 3 feet of clean overburden will be excavated and stockpiled, the contaminated interval from 3-7 feet bgs will be excavated and transported off-site for disposal, the amendment placed in the excavation and the excavation backfilled and compacted.

Specific tasks and assumptions used to formulate the cost proposal are detailed below.

4.0 REMEDIAL ACTION IMPLEMENTATION

- The remediation of the driveway will consist of the 1) removal and disposal of a portion of the existing concrete driveway (assume 80 feet long by 12 feet wide), 2) excavation, stockpile and re-use clean overburden from ground surface to 10 feet bgs (assume 355 yd^3), 3) excavation of chlorinated contaminated soils in an area 80 feet by 12 feet by 6 feet thick (approximately 320 tons), 4) soil confirmation samples will be collected from the bottom and sidewalls of the excavation and submitted for VOC laboratory analyses, 5) placement of 1,000 pounds of amendment, and 6) backfill and compaction of the excavation.

    - Assume 220 tons of contaminated soil as Special waste to Onyx-Muskego, Wisconsin

    - Assume 100 tons of contaminated soils as Hazardous waste for chemical oxidation to Onyx- Belleville, Michigan

- The remediation of the right of way will consist of the 1) excavation, stockpile and re-use clean overburden from ground surface to 3 feet bgs (assume 14 tons), 3) excavation of chlorinated contaminated soils in an area 8 feet by 10 feet by 4 feet thick (approximately 18 tons), 4) soil confirmation samples will be collected from the bottom and sidewalls of the excavation and submitted for VOC laboratory analyses, 5) placement of 242 pounds of amendment, and 6) backfill and compaction of the excavation;

    - Assume 18 tons of contaminated soil as Special waste to Onyx-Muskego, Wisconsin

- Approximately 1,242 pounds of Newman Zone ® amendment formula will be placed in the excavation bases and hydrated prior to backfill;

- Following amendment addition, the eight monitoring wells and two piezometers will be sampled quarterly for three quarters to assess groundwater quality. Groundwater will be submitted for VOC and methane, ethane, and ethene laboratory analyses. In-situ chemical and physical field measurements will be collected with a hydrolab instrument, in addition to static water levels. A groundwater sample will also be collected from the sump in the 1361 95th Street residence to monitor potential vapor intrusion;

- A contingency for the completion of a natural attenuation groundwater monitoring plan is included (if necessary) for the second year for the eight monitoring wells and two piezometers. Groundwater will be submitted for VOC and methane, ethane, and ethene laboratory analyses. In-situ chemical and physical field measurements will be collected with a hydrolab instrument, in addition to static water levels. A groundwater sample will also be collected from the sump in the 1361 95th Street residence to monitor potential vapor intrusion;

- A report will be generated following the first two quarters of groundwater monitoring that will document the supplementary investigation, amendment placement and two quarters of monitoring;

- A report will be generated following completion of the first year of groundwater monitoring to evaluate remediation progress, and petition the WDNR for closure if applicable;

- If closure can not be achieved after completion of the first year activities, the natural attenuation monitoring program will be continued, and quarterly reports will be submitted to the WDNR;

- Upon receipt of case closure from the WDNR, the groundwater monitoring well network will be abandoned;

- A Dry Cleaner Reimbursement package will be completed and submitted to the WDNR.

5.0 PROJECT TEAM

The personnel assigned to implement the scope of work were selected because of their experience in the following areas:

- Knowledge of the DERP, WDNR guidance, and administrative rules;
- Experience in conducting site investigation and remediation activities at dry cleaning facilities;
- Technical expertise and experience with chlorinated solvent compounds in soil and groundwater; and
- Experience with in-situ and ex-situ remediation.

Mr. James Drought, P.H., Principal Hydrogeologist, will serve as the Project Advisor. Mr. Drought is thoroughly familiar with the WDNR remedial and closure requirements. Mr. Tim Welch, P.G., Project Manager, will coordinate the supplemental investigation and evaluation of subsurface conditions and be responsible for managing the technical and administrative tasks, and communications with Redi-Quick. Mr. Andy Ehlert, P.E., Project Engineer, will provide project QA\QC. Additional professionals will conduct field activities and other support services. Resumes for all key personnel are presented in Appendix C.

6.0 PROJECT COSTS

Costs associated with the investigation and remediation of the Redi-Quick property is eligible for reimbursement under DERP. Shaw will prepare a reimbursement application in conjunction with the RAP for submittal to WDNR.

The estimated cost to execute the proposed scope of work as described herein is approximately $128,308. This cost includes reporting, completion of the supplemental investigation, and remedial action. Accordance with NR 169.21(3)(a), the cost breakdown is presented on Table 4.

7.0 CERTIFICATE OF INSURANCE

This proposal has been prepared in accordance with the requirements of NR 169.23. In accordance with NR 169.23(6), Shaw certifies the following:

- If selected to complete the scope of work described herein, Shaw will comply with the applicable requirements of Chapters NR 169 and Chapters NR 700 to NR 728 of the WAC.
- Shaw will make available to the WDNR upon request, for inspection and copying, all of the documents and records related to the contract services.

Also in accordance with NR 169.23(6), a copy of Shaw's *Certificate of Insurance* is presented in Appendix D.

8.0 CLOSING

A *Fee Schedule and Services Agreement* is included in Appendix E. Shaw will initiate the proposed scope of work immediately upon receipt of written authorization to proceed.

Figures

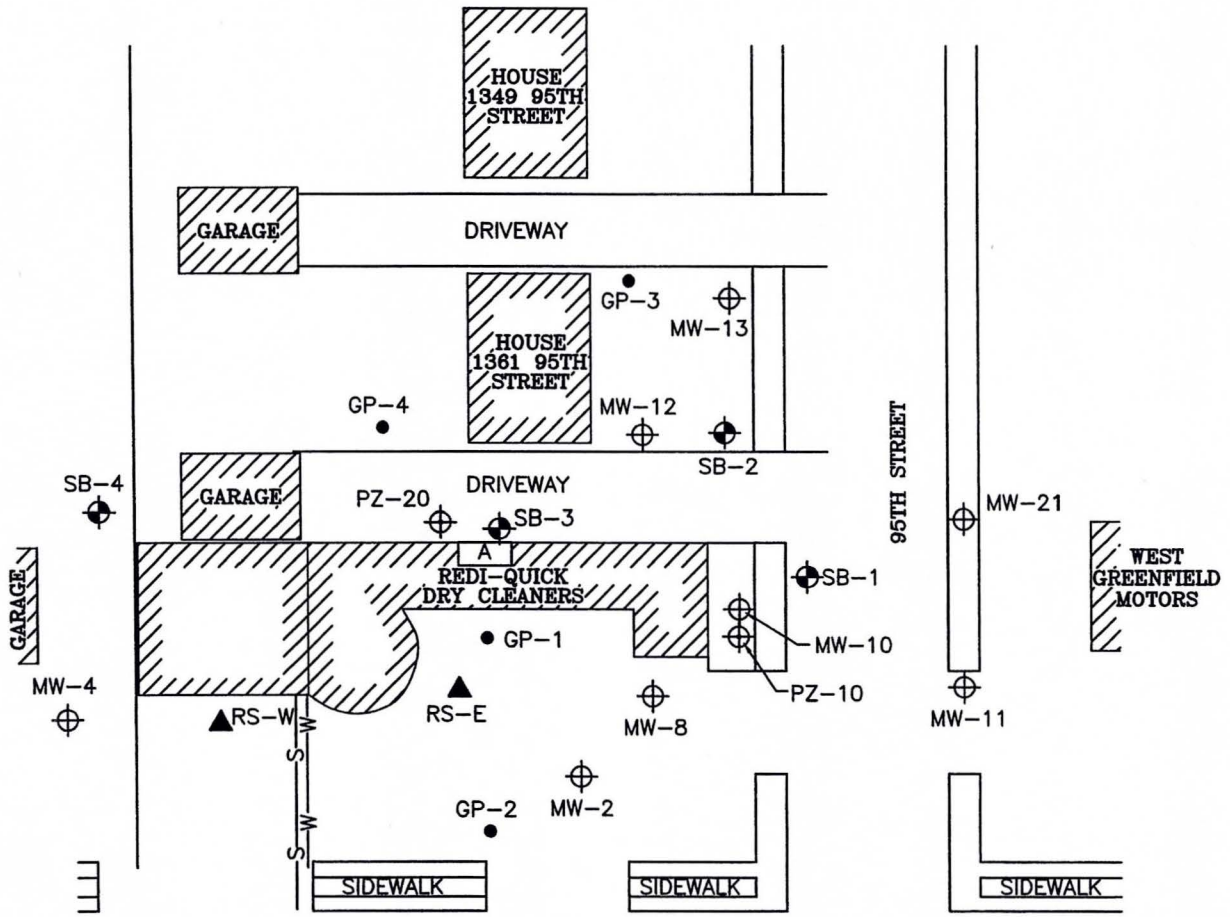
LEGEND

- APPROXIMATE PROPERTY BOUNDARY
- UNDERGROUND STORAGE TANK (UST)
- MONITORING WELL
- TEST BORING, DRILLED 5/19/99 BY JJS & ASSOCIATES
- PIEZOMETER
- RECOVERY SUMP
- GEOPROBE BORING
- —W— WATER LINE
- —S— SEWER LINE

TANK LEGEND

A 1,000–GALLON DRY CLEANER SOLVENT UST (NO LONGER IN USE)

N



Shaw E & I, Inc.	REDI–QUICK CLEANERS SITE 2835 NORTH GRANDVIEW BOULEVARD WEST ALLIS, WISCONSIN				
	FIGURE SOIL BORING AND MONITORING WELL LOCATIONS				
DESIGNED BY			CHECKED BY		
DRAWN BY	AJM	04/05/05	APPROVED BY		
SIZE: A	SCALE: 1" = 40'	DRAWING NO. 000076R2	SHEET NO.	REVISION NO. 1	

Tables

TABLE 1

Site Assessment Soil Sample Laboratory Analytical Results
(5/19/99)
Redi-Quick Cleaners
West Allis, Wisconsin

Sample Location	Sampling Date	Tetra Chloro-ethene	Trichloro-ethene	Cis-1,2-Dichloro-ethene	Trans-1,2-Dichloro-ethene	Vinyl Chloride	Benzene	Ethyl - Benzene	Naphthalene	Toluene	1,2,4, - TMB	1,3,5 - TMB
SB - 1 (18 - 20')	5/19/1999	**230**	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
SB - 2 (14 - 16')	5/19/1999	**33**	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
SB - 3 (14 - 16')	5/19/1999	**230,000**	<1,000	<1000	<1000	<1000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000
SB - 4 (16 - 18')	5/19/1999	<25	**30**	<25	<25	<25	<25	<25	<25	<25	<25	<25
MW-11 (14 - 16')	8/30/2000	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
MW-12 (10 - 12')	8/30/2000	**129,000**	**180**	<25	<25	<25	<25	<25	<25	<25	<25	**53.5**
MW-12 (24 - 26')	8/30/2000	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
MW-13 (20 - 22')	8/30/2000	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
PZ-10 (2 -4')	8/31/2000	**3,090**	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
PZ-10 (16 - 18')	8/31/2000	<25	<25	<25	<25	<25	<25	**32.7**	**37.1**	<25	<25	**34.6**
PZ-10 (22 - 24')	8/31/2000	<25	<25	<25	<25	<25	<25	<25	<25	**36.8**	<25	<25
PZ-10 (45')	8/31/2000	<25	<25	<25	<25	<25	<25	<25	<25	**33.6**	<25	<25
NR 720 Soil Standard		NS	NS	NS	NS	NS	6	2,900	400*	3,100	NS	NS

Shading indicates exceedence of NR 720 Soil Standards

All concentrations in ppb, unless otherwise specified.

MTBE = Methyl tert butyl ether

TMB = Trimethylbenzene

NS = No Standard

* = Groundwater pathway residual contaminant level for naphthalene from WDNR Interim Guidance on PAHs in soils.

Checked by: _____

Approved by: _____

TABLE 2

Monitoring Well Soil Sample Laboratory Analytical Results
Redi-Quick Cleaners
West Allis, Wisconsin

Sample ID	Sampling Date	Tetra - Chloro-ethene	Tri - Chloro-ethene	Cis-1,2-Dichloro-ethene	Trans-1,2-Dichloro-ethene	Vinyl Chloride	Benzene	Ethyl - Benzene	Naphthalene	Toluene	1,2,4, - TMB	1,3,5 - TMB
MW-11 (14 - 16')	8/30/2000	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
MW-12 (10 - 12')	8/30/2000	**129,000**	**180**	<25	<25	<25	<25	<25	<25	<25	<25	**53.5**
MW-12 (24 - 26')	8/30/2000	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
MW-13 (20 - 22')	8/30/2000	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
PZ-10 (2 -4')	8/31/2000	**3,090**	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
PZ-10 (16 - 18')	8/31/2000	<25	<25	<25	<25	<25	<25	**32.7**	**37.1**	<25	<25	**34.6**
PZ-10 (22 - 24')	8/31/2000	<25	<25	<25	<25	<25	<25	<25	<25	**36.8**	<25	<25
PZ-10 (45')	8/31/2000	<25	<25	<25	<25	<25	<25	<25	<25	**33.6**	<25	<25
NR 720 Soil Standard		NS	NS	NS	NS	NS	6	2,900	400*	3,100	NS	NS

Shading indicates an exceedence of NR 720 Soil Standards
All concentrations in ppb, unless otherwise specified.
MTBE = Methyl tert butyl ether
TMB = Trimethylbenzene
NS = No Standard
* = Groundwater pathway residual contaminant level for naphthalene from WDNR Interim Guidance on PAHs in soils.

Checked by: _____
Approved by: _____

Historical Groundwater Laboratory VOC Analytical Results
Redi-Quick Cleaners
West Allis, Wisconsin

Monitoring Well	Date	Benzene	Ethyl-benzene	Toluene	Xylene	Tetrachloro-ethene	Trichloro-ethene	Cis-1,2-Dichloro-ethene	Trans-1,2-Dichloro-ethene	Vinyl Chloride	1,1-Dichloro-ethene	1,2-Dichloro-ethane
MW-10	9/14/00	<0.50	<5.0	<5.0	<5.0	**24,700**	**4,670**	**2,630**	*28.5*	**9.13**	*2.11*	<0.500
	3/10/04	<200	<270	<340	<1,320	**45,000**	**810**	<420	<440	<90	<280	<180
MW-11	9/14/00	<0.50	<5.0	<5.0	<5.0	**5.90**	<0.500	<5.00	<5.00	<0.170	<0.500	<0.500
	3/10/04	<0.41	<0.54	<0.67	<2.63	<0.45	<0.48	*<0.83*	<0.89	<0.18	<0.57	<0.56
MW-12	9/14/00	<0.50	<5.0	<5.0	<5.0	**708**	**17**	*12*	<5.00	<0.170	<0.500	<0.500
	3/10/04	<0.41	<0.54	<0.67	<2.63	4.1	<0.48	<0.83	<0.89	<0.18	<0.57	<0.56
MW-13	9/14/00	<0.50	<5.0	<5.0	<5.0	<0.500	<0.500	<5.00	<5.00	<0.170	<0.500	<0.500
	3/10/04	<0.41	<0.54	<0.67	<2.63	<0.45	<0.48	<0.83	<0.89	<0.18	<0.57	<0.36
PZ-10	9/14/00	<5.0	<50	<50	<50	<0.500	<0.500	<5.00	<5.00	<0.170	<0.500	<0.500
	3/10/04	<0.41	<0.54	<0.67	<2.63	**7.4**	<0.48	<0.83	<0.89	<0.18	<0.57	<0.56
MW-21	11/24/03	<0.41	<0.54	<0.67	<2.63.	<0.45	<0.48	<0.83	<0.89	<0.18	<0.57	<0.36
	3/10/04	<0.41	<0.54	<0.67	<2.63	*<0.45*	<0.48	<0.83	<0.89	<0.18	<0.57	<0.36
PZ-20	11/24/03	<0.41	<0.54	<0.67	<2.63	*3.0*	<0.48	<0.83	<0.89	<0.18	<0.57	<0.36
	3/10/04	<0.41	<0.54	<0.67	<2.63	*2.0*	<0.48	<0.83	<0.89	<0.18	<0.57	<0.36
NR 140 PAL		0.5	140	200	1,000	0.5	0.5	7	20	0.02	0.7	0.5
NR 140 ES		5.0	700	1,000	10,000	5	5	70	100	0.2	7	5

(Continued)

Notes: Results in parts per billion (ppb)
All monitoring wells were sampled on 9/14/00 by Shaw. Analytical data for sampling events prior to 9/24/00 are compiled from previous consultant reports.
Bold indicates value equals or exceeds the NR 140 enforcement standard
Italics indicates value equals or exceeds the NR 140 preventive action limit
ES: Enforcement standard
PAL: Preventive action limit
NS: Not sampled

Historical Groundwater Laboratory VOC Analytical Results
Redi-Quick Cleaners
West Allis, Wisconsin

Monitoring Well	Date	Benzene	Ethyl-benzene	Toluene	Xylene	Tetrachloro-ethene	Trichloro-ethene	Cis-1,2-Dichloro-ethene	Trans-1,2-Dichloro-ethene	Vinyl Chloride	1,1-Dichloro-ethene	1,2-Dichloro-ethane
MW-2	4/27/90	<1.0	<1.0	<1.0	<3.0	*2.2*	*2.0*	*10*	10	<0.5	<0.5	<0.5
	8/17/92	<0.6	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0
	2/23/93	<1.0	<1.0	<1.0	<2.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**7.4**
	8/12/98	<0.49	<0.39	<0.40	<1.04	<0.40	0.29	*10*	<0.36	**2**	<0.61	**11**
	5/10/99	<0.27	<0.32	<0.27	<0.67	<0.43	<0.37	*13*	<0.79	**0.43**	<0.43	**13**
	10/28/99	0.27	<0.32	<0.27	<0.67	<0.43	*1.4*	*19*	<0.79	**2.5**	<0.43	**11**
	9/14/00	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/10/04	<0.41	<0.54	<0.67	<2.63	<0.45	*1.8*	*40*	1.2	**5.2**	<0.57	**9.2**
MW-4	4/27/90	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	<1.0	<0.5	<0.5	<0.5
	8/17/92	<0.6	<1.0	<1.0	<2.5	**6.59**	*2.79*	*12.2*	<1.0	<5.0	<1.0	<1.0
	2/23/93	<1.0	<1.0	<1.0	<2.0	*2.8*	*1.4*	3.2	<1.0	<1.0	<1.0	<1.0
	8/12/98	<0.49	<0.39	<0.40	<1.04	**6.0**	*0.88*	0.40	<0.36	<0.61	<0.61	<0.50
	5/10/99	<0.27	<0.32	<0.27	<0.67	*3.7*	*0.77*	0.50	<0.79	<0.20	<0.43	<0.37
	10/28/99	<0.27	<0.32	<0.27	<0.67	**5.6**	*0.71*	0.37	<0.79	<0.20	<0.43	<0.37
	9/14/00	<0.50	<5.0	<5.0	<5.0	**10.6**	*0.969*	<5.00	<5.00	**0.586**	<0.500	<0.500
	3/11/04	<0.41	<0.54	<0.67	<2.63	*3.8*	*0.58*	<0.83	<0.89	<0.18	<0.57	<0.36
MW-8	4/27/01	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	<1.0	<0.5	<0.5	<0.5
	8/17/92	<0.6	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0
	2/23/93	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	8/12/98	<0.49	<0.39	<0.40	<1.04	<0.40	<0.51	<0.41	<0.36	<0.61	<0.61	<0.50
	5/10/99	<0.27	<0.32	<0.27	<0.67	<0.43	<0.37	<0.28	<0.79	<0.20	<0.35	<0.37
	10/10/99	<0.27	<0.32	<0.27	<0.67	<0.43	<0.37	<0.28	<0.79	<0.20	<0.43	<0.37
	9/14/00	<0.50	<5.0	<5.0	<5.0	<0.500	<0.500	<5.00	<5.00	<0.170	<0.500	<0.500
	3/11/04	<0.41	<0.54	<0.67	<2.63	<0.45	<0.48	<0.83	<0.89	<0.18	<0.57	<0.36
NR 140 PAL		0.5	140	200	1,000	0.5	0.5	7	20	0.02	0.7	0.5
NR 140 ES		5.0	700	1,000	10,000	5	5	70	100	0.2	7	5

(Continued)

Notes: Results in parts per billion (ppb)
All monitoring wells were sampled on 9/14/00 by Shaw. Analytical data for sampling events prior to 9/24/00 are compiled from previous consultant reports.
Bold indicates value equals or exceeds the NR 140 enforcement standard
Italics indicates value equals or exceeds the NR 140 preventive action limit
ES: Enforcement standard
PAL: Preventive action limit
NS: Not sampled

Table 4
Cost Breakdown: Excavation and Disposal
Redi-Quick Dry Cleaners, West Allis, WI
Page 1

Task 1: Supplemental Subsurface Investigation							
Shaw Environmental, Inc. Services							
Subcontractor Procurement and Utility Clearance							
Administrative Assitant		3	hrs	@	$47	hr	$141
Staff Scientist I		3	hrs	@	$76	/hr	$228
Project Manager		1	hrs	@	$112	/hr	$112
					Subtotal		$481
Geoprobe Soil Boring Installation							
Staff Scientist I		12	hrs	@	$76	/hr	$912
Project Manager		4	hrs	@	$100	/hr	$400
Mileage		30	miles	@	$0.45	mile	$14
PID		1	days	@	$75	day	$75
					Subtotal		$1,401
Groundwater Sample Collection							
Staff Scientist I		10	hrs	@	$76	/hr	$760
Project Manager		2	hrs	@	$112	/hr	$224
Equipment and Field Expenses		1		@	$250		$250
					Subtotal		$1,234
Data Reduction and QA/QC Review							
Staff Scientist I		8	hrs	@	$76	/hr	$608
Project Manager		2	hrs	@	$112	/hr	$224
Administrative Assistant		2	hrs	@	$47	/hr	$94
CADD		4	hrs	@	$57	hr	$228
					Subtotal		$1,154
					Subtotal Task 1: Shaw Services		**$4,270**
Subcontractor Services							
Subcontracted Analytical Services							
Soil Samples:							
	VOCs	10	each	@	$75		$750
	TCLP-VOC	8	each	@	$125		$1,000
Groundwater Samples:							
	VOCs	8	each	@	$75		$600
	Sulfate	7	each	@	$10		$70
	Nitrate-nitrite	7	each	@	$10		$70
	Soluble Iron	7	each	@	$10		$70
					Laboratory Total		$2,560
Subcontracted Drilling Services - Geoprobe Installation							
Mobilization		1	days	@	$200	day	$200
Drilling		160	feet	@	$8.00	ft	$1,280
Decontamination		1	days	@	$175.00	day	$175
Expendables		1	days	@	$75	day	$75
					Geoprobe Total		$1,730
					Subtotal Task 1: Subcontractor's		$4,290
					Total Cost: Task 1		**$8,560**

Task 2: Remedial Action						
Shaw Environmental, Inc. Services						
Professional Services- Soil Management Plan						
Staff Scientist	8	hrs	@	$76	/hr	$608
Project Manager	6	hrs	@	$112	/hr	$672
Program Manager	2	hrs	@	$129	/hr	$258
Administrative Assistant	5	hrs	@	$47	/hr	$235
				Subtotal		$1,773
Field Services- 1st Year Groundwater Monitoring						
Staff Scientist	40	hrs	@	$76	hr	$3,040
Project Manager	12	hrs	@	$112	hr	$1,344
Program Manager	4	hrs	@	$129	hr	$516
Mileage	120	miles	@	$0.45	mile	$54
Equipment	4	quarters	@	$250	qtr	$1,000
				Subtotal		$5,954
Field Services- 2nd Year Groundwater Monitoring						
Staff Scientist	40	hrs	@	$76	hr	$3,040
Project Manager	12	hrs	@	$112	hr	$1,344
Program Manager	4	hrs	@	$129	hr	$516
Mileage	120	miles	@	$0.45	mile	$54
Equipment	4	quarters	@	$250	qtr	$1,000
				Subtotal		$5,954
Professional Services- Management & Reporting						
Project Scientist I	55	hrs	@	$76	/hr	$4,180
Project Manager	30	hrs	@	$112	/hr	$3,360
Program Manager	10	hrs	@	$129	/hr	$1,290
CADD	12	hrs	@	$57	/hr	$684
Administrative Assistant	12	hrs	@	$47	/hr	$564
				Subtotal		$10,078
				Subtotal Task 2: Shaw Services		**$23,759**

Subcontractor Services

Subcontracted- Excavation Services						
Driveway						
Mobilization	1	lump sum				1,600
Concrete Removal & Disposal	960	sq. ft.	@	$1.00	sq.ft	960
Excavate & Stockpile Clean Overburden	355	yds	@	$15.00	yds	5,325
Excavate & Transport: Non-Hazardous	220	ton	@	$25.00	ton	5,500
Excavate & Load: Hazardous	100	ton	@	$25.00	ton	2,500
Backfill: Stockpiled Overburden	355	yds	@	$15.00	yd	5,325
Backfill: TB Gravel	320	ton	@	$15.00	ton	4,800
Concrete Replacement	960	sq.ft.	@	$9.00	sq.ft	8,640
				Subtotal		34,650
69th Street						
Excavate & Stockpile Clean Overburden	13	ton	@	$50.00	ton	650
Excavate & Transport: Non-Hazardous	18	ton	@	$25.00	ton	450
Backfill: Stockpiled Overburden	13	ton	@	$50.00	ton	650
				Subtotal		1,750
Subcontracted - Soil Disposal						
Non-Hazardous: Onyx-Muskego, Wi						
Disposal	238	ton	@	$17.00	ton	4,046
Hazardous: Belleville, Mi						
Disposal	100	tons	@	$225.00	ton	22,500
Transportation	5	trips	@	$1,450.00	trip	7,250
Taxes	100	tons	@	$10.00	ton	1,000
				Subtotal		34,796
Subcontracted- Amendment						
Electron Donor Amendment	1,242	lbs	@	$6.00	lbs	7,452
Subcontracted Analytical Services-1st Year						
Soil Samples:						
VOCs	12	each	@	$75		900
Groundwater Samples:						
VOCs	44	each	@	$75		3,300
Methane, Ethane & Ethene	40	each	@	$70		2,800
				Subtotal		7,000
Subcontracted Analytical Services-2nd Year						
Groundwater Samples:						
VOCs	44	each	@	$75		3,300
Methane, Ethane & Ethene	40	each	@	$70		2,800
				Subtotal		6,100
Subcontracted Groundwater Disposal						
Drums	8	each	@	$250		2,000
				Subtotal Task 2: Subcontractor Services		93,748
				Total Cost: Task 2		**117,507**

Table 4
Cost Breakdown: Excavation and Disposal
Redi-Quick Dry Cleaners, West Allis, WI
Page 4

Task 3: Monitoring Well Abandonment and DERP Claim Preparation						
Shaw Environmental, Inc. Services						
Monitoring Well Abandonment						
Staff Scientist I	12	hrs	@	$76	/hr	$912
Project Manager	2	hrs	@	$112	/hr	$224
Mileage	30	miles	@	$0.45	mile	$14
Equipment	1	lump sum				$300
				Subtotal		$1,450
DERP Claim Prep						
Project Manager Assitant	8	hrs	@	$57	/hr	$456
Project Manager	3	hrs	@	$112	/hr	$336
				Subtotal		$792
				Subtotal Task 3: Shaw Services		$2,242
				Total Cost: Task 3		**$2,242**

Total: Estimated Subcontractor Cost	$98,038
Total: Estimated SHAW Cost	$30,270
TOTAL: Estimated Project Cost	$128,308

Note: 1) Drilling and Analytical Services Costs presented are based on good faith estimates. Actual Costs will be based on competitive bidding.

2) Hazardous Waste disposal based on Chemical Oxidation, Incineration will be additional charge if needed

Appendix A
Firm Overview

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FIRM OVERVIEW

In considering the selection of a consultant for a remediation project, the following points should be considered carefully:

1. The consultant selected must have extensive experience in sub-surface site investigations and remediation and must have the resources necessary to successfully manage the project.

   Shaw has over 300 active remediation projects under management at this time and has achieved over 300 site closures with over 225 in Wisconsin alone. We have a staff of over 120 technical people located in four offices in Wisconsin. We have extensive experience in managing large multiple-site projects for clients including Wisconsin Central Railroad, Dodge County, Jefferson County, Door County, City of Sturgeon Bay, Garrow Oil Company, Dairyland Fuels and others.

2. The consultant selected should have extensive knowledge and experience utilizing Wisconsin's new site specific soil standards, flexible closure standards, and risk assessment methods. These issues are critical in achieving cost-effective site closures in a timely manner.

   Shaw negotiated the first site-specific soil closure standard for a petroleum contaminated site in the state of Wisconsin utilizing innovative risk-assessment methods. (e.g.; Hartley Controls, Neenah, Wisconsin...see attached Project Summaries). Since then, Shaw has utilized these methods and techniques extensively and they are an integral part of every site investigation and remedial action.

   We have included for your reference, some additional Project Summaries that demonstrate Shaw's capabilities in these areas.

3. The consultant selected must have substantial experience with the state reimbursement programs and a proven track record of obtaining maximum reimbursement.

   Shaw manages more state funded remediation projects than any other consultant in the state of Wisconsin. We have an entire staff of people that specialize in the preparation and submittal of registrations, claims, and appeals. To date, Shaw has received reimbursement on over 250 claims totaling more than $50 million.

4. The consultant selected should be located nearby to provide maximum service and efficiency.

   Shaw has four (4) full-service offices throughout Wisconsin to provide fast and efficient services to our clients. The office locations are:

Milwaukee ..... (414) 291-2360
Green Bay ..... (920) 497-8910
Mosinee ..... (715) 693-1750
La Crosse ..... (608) 781-5470

Appendix B
Shaw Treatability Resources and Experience

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Shaw's Chlorinated Solvent Treatment Technologies

Shaw has spent years developing specialized microorganisms and a variety of approaches for the remediation of aquifers contaminated with TCE and other chlorinated solvents.

Shaw offers a complete portfolio of chlorinated solvent remedial approaches. Alone or as a combination, these offer cost-effective solutions tailored for sites ranging from dry cleaner releases to industrial spills. The menu of remedial technologies includes: Anaerobic Biostimulation, Proton Reduction, In Situ Oxidation, Micro-Scale Zero Valent Destruction, Cometabolic Biostimulation, Bioaugmentative Biostimulation, Electroosmosis, Soil Vapor Extraction, and Natural Attenuation.

One of these technologies, Proton Reduction, is the focus of great excitement here at Shaw. The technology has been applied at several sites with great success. Proton Reduction is an effective, cost-conscious means of PCE remediation, the most common solvent found in soil and groundwater at dry cleaning sites. Proton Reduction is the movement of ion-containing liquid (e.g., water) relative to a stationary charged surface (e.g., soil pores) due to an applied electric field. Anaerobic processes, such as Proton Reduction, remove halogens from certain dry cleaning contaminants such as PCE and produce dehalogenated compounds that are generally less toxic, less likely to bioaccumulate, and are more susceptible to further microbial attack. PCE has been considered a very difficult compound to treat in the past but with the advancement of Proton Reduction, this compound becomes very treatable and without the need for the addition of chemical constituents to the soil. Shaw is strongly marketing this technology in Wisconsin as a viable, low cost option to the treatment of solvent contamination at sites, thereby reducing risk of further site contamination and potential contamination to nearby locations.

Shaw has worked on numerous sites contaminated with chlorinated solvents. A few of the sites have been highlighted in this packet though it is not nearly all-inclusive. Other projects include:

Shaw was awarded a project with the U.S. Air Force to conduct a full-scale field demonstration of our biostimulation technology for chlorinated solvents. The project involves adding a proprietary co-substrate to groundwater to stimulate the growth and activity of indigenous bacteria that can degrade chlorinated solvents such as TCE, DCE and VC.

Remediation of a Low Permeability TCE Contaminated Siltstone Bedrock in Northern NJ. The project involved the injection of ENV435 (Shaw's proprietary microorganism strain) in the saturated zone of the test area. A manuscript based on the project is available: *Walsh, M., T. Boland, J. Liskowitz, M.F. DeFlaun, and R. Steffan, 1998. Remediation of a low permeability TCE contaminated siltstone bedrock, Part 2. Pneumatic injection of constitutive TCE degrading organisms, ASCE Special Volume "Remediation in Rock Masses." In press.*

Remediation of a Silty-Sand Chlorinated Solvent Contamination Aquifer in Southern NJ. The project involved the injection of ENV435 into a VOC-contaminated aquifer in a series of four distinct experiments that evaluated variations in injection mechanism and co-substrate additions. Contaminants included TCE, DCE, and vinyl chloride. This field demonstration helped to validate the bioaugmentation technology.

In Situ Bioremediation of a Chlorinated Solvent Contaminated Site. This full-scale project involved the use of bioaugmentation to remediate chlorinated solvents (primarily TCE). In three months, TCE concentrations were reduced form greater than 300 ppb to less than 30 ppb within the treatment area.

New Hampshire Superfund Site. The groundwater at this site contained benzene, vinyl chloride, acetone, methyl ethyl ketone (MEK), tetrahydrofuran (THF), perchloroethene (PCE), trichloroethene (TCE), and arsenic. Shaw used a combined in situ anaerobic/aerobic treatment zone system to treat the contaminants.

DOE site in Florida. Shaw performed a field demonstration of in situ anaerobic biostimulation at this site to treat chlorinated solvents in a sandy surficial aquifer. The demonstration was very successful and resulted in the rapid degradation of the site contaminates that included TCE, methylene chloride, dichloroethene, vinyl chloride, and toluene. A publication on this project is available: *Sewell, G.W., M.F. DeFlaun, N.H. Baek, E. Lutz, B. Weesner, W. Mahaffey, 1998. Performance evaluation of an in situ anaerobic biotreatment system for chlorinated solvents, In "Designing and Applying Treatment Technologies Remediation of Chlorinated and Recalcitrant Compounds, " G.B. Wickramanayake and R.E. Hinchee (eds), pp. 15-20, Battelle Press, Columbus, OH.*

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Chlorinated Solvent/Coolant Oil-Contaminated Site Closure

Client: Former metal working facility in Racine, WI

Contaminants: Chlorinated solvents & Coolant oils

Services: Phase II, Risk Assessment, Groundwater Monitoring, Fate and Transport Modeling, Closure

Project Description:

Shaw's Pewaukee office, working through our sister company MET, has successfully achieved case closure at a former metal working facility in Racine, Wisconsin. Phase II investigation activities conducted at this facility identified soil contamination in the form of coolant oils associated with the machining operations and soil and groundwater contamination in the form of chlorinated solvents associated with a vapor parts degreaser.

Preliminary risk evaluations were performed which demonstrated that the coolant oils contained in the upper five to seven feet of the soil column did not pose a risk to human health due to direct contact. A residual contaminant level (RCL) of over 1,500 mg/kg (measured as gasoline or diesel range organics) was established for these oils. It was also demonstrated through SPLP testing that these contaminants were not leaching to groundwater. Groundwater monitoring confirmed that the coolant oils were not present in the shallow aquifer system. Shaw was able to successfully argue for a no further action status for the coolant oil related impacts since existing levels were below the proposed RCL and all new sources had been eliminated.

The chlorinated solvents found on site include tetrachloroethene (PCE) and trichloroethene (TCE), in addition to a number of breakdown products associated with these compounds including vinyl chloride (VC). Groundwater enforcement standard exceedences were identified in the shallow aquifer zone near the degreaser unit. A plume extended down gradient from this area to within 20 feet of the property boundary. A second plume of chlorinated solvents was identified near the former outdoor scrap metal storage area. This plume was associated with surficial spills of spent chlorinated solvent. This plume extended off-site onto an adjacent property. Vertical migration of the plume was minimal based on the results from a source area piezometer.

Soil sampling established that the chlorinated solvent soil contamination near the former degreaser was localized to an area beneath a portion of the building on-site. No shallow chlorinated solvents were identified near the former outdoor scrap metal storage area indicating these contaminants may have been volatilized from the shallow soils. Based on the data collected, Shaw was able to argue that a direct contact health risk associated with chlorinated solvents was not present at this facility. The site qualified for closure related to the chlorinated solvent soil impacts using a deed notice identifying the presence of soil contamination beneath the building. This notice serves to notify future landowners that any site development activities that result in the exposure or disturbance of these soils requires permitting through the WDNR and may necessitate special soil handling and management.

Approximately two years of groundwater monitoring was completed from a well network that included nine monitoring wells and one source area piezometer. Sampling parameters included VOCs and natural

attenuation indicator parameters. This data was used to demonstrate that the plume was stable or receding and that natural attenuation was restoring the aquifer system. The results indicated that complete degradation of TCE/PCE was occurring. Measurable concentrations of ethene and ethane were detected in down gradient monitoring wells.

The monitoring well data was coupled with a fate and transport model that was used to establish a theoretical cleanup time frame for the site using natural attenuation as the sole remedial option. The modeling efforts included the use of SESOIL coupled with AT123D. The SESOIL model estimated the initial and final soil mass of chlorinated solvents based on model simulations of 10 and 40 years. This data was also used to establish a loading rate to the groundwater for use in the AT123D three-dimensional groundwater model. The AT123D model was used to establish the extent of the groundwater plume 10 years and 40 years into the future.

The results of SESOIL simulation indicated that approximately 14% of the soil mass of TCE would be reduced over the next 40 years. The AT123D model indicated that the overall groundwater plume would remain on-site near the former vapor degreaser over the next 40-year period and that the plume was stable.

Based on monitoring well and modeling results, Shaw was able to argue that the site qualified for a flexible case closure using a groundwater use restriction. This restriction will need to be applied to both the subject property and the adjacent property, which contained NR140 enforcement standard exceedances. The use of this strategy resulted in significant cost savings for the client by eliminating the need for active soil remediation beneath the building and active groundwater remediation costs.

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Investigation at Former Dry Cleaner Facility in Waukesha, WI

Client: Carroll College

Dates: June 1999 - present

Contaminants: Chlorinated solvents, mainly perchloroethylene (PCE) and trichloroethylene (TCE)

Services: Site investigation and remediation using electrokinetics

Project Description:

The site was used for dry cleaning and laundry services until 1995. Chlorinated solvents were identified in soil and groundwater as a result of dry cleaning operations. Shaw identified the source, nature, and extent of the chlorinated solvent impacts in the soil and groundwater at the site. Groundwater impacts were also observed on neighboring properties.

Shaw's investigative activities included additional monitoring wells and soil and groundwater sampling to evaluate intrinsic bioremediation. The additional wells were required to complete the work begun by a previous consultant who had identified the presence of chlorinated compounds.

Upon completion of site investigation activities, Shaw developed a remedial strategy involving electrokinetics. This approach is to be implemented in conjunction with intrinsic bioremediation to reduce contaminant concentrations in the source area and address the off-site contaminant plume. The selected remedial strategy meshes nicely with the client's plans to acquire the subject and surrounding properties.

The electrokinetics technology supplies hydrogen to the groundwater, stimulating reductive dechlorination by indigeneous organisms. Shaw's knowledge of the dehalogenation processes initially led to the development of remediation strategies that stimulate dehalogenation in situ by applying carbon sources that can be fermented to hydrogen. The hydrogen produced during fermentation then acts as an energy source for the dehalogenating organisms while supplying the required electrons to drive the dehalogenation process. In Shaw's most recent dehalogenation technology, the hydrogen required to drive the dehalogenation process is derived from in situ proton reduction.

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Groundwater Collection System/Slurry Wall Design and Installation

Client: Wisconsin Solvent Reclamation Facility

Contaminants: Solvents

Services: Remedial design and installation

Project Description:

A comprehensive remedial design and installation program for a solvent reclamation and manufacturing facility in southeast Wisconsin was conducted. Various solvents and related chemical agents had entered the subsurface environment requiring an extensive groundwater contamination containment and recovery program.

Involvement in this project consisted of the following:

- Project management and cost accounting
- On-site project coordination
- On-site health and safety supervision and coordination
- Design and installation of a bentonite slurry wall around the downgradient portion of the facility
- Design and installation of a collection system for contaminated groundwater
- Construction supervision

Under level B conditions, 1,500 feet of a groundwater collection trench and two manholes equipped with air-driven piston pumps and stainless steel piping were installed in conjunction with 2,000 feet of a 14-foot bentonite slurry wall.

Final closure activities included land farming contaminated soils, pumping/treatment of contaminated groundwater, and continued compliance monitoring.

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Former Industrial Site, Genoa, IL

Client: Fortune 500 Telecommunications Company

Contaminants: Chlorinated Solvents

Services: Assessment of Historical Data, Development of Sampling Strategy, Evaluation of Intrinsic Remediation, Presentation to Illinois EPA

Project Description:

The Genoa, Illinois site a was a former waste disposal pit, approximately 15 feet by 15 feet, that was used for the disposal of chlorinated and aromatic solvents from 1942 to 1963, including trichloroethene (TCE), toluene, ethylbenzene, and xylenes. Recent site investigation activities delineated a plume of groundwater contamination that extended 1500 feet down-gradient at an average width of 300 feet. The aquifer underlying the site is encountered at approximately 5 feet below ground surface and is confined by a clay till unit at approximately 50 feet. The soils in the saturated zone are primarily sands and gravel, with some silt lenses. Conventional remedial technologies proposed for the site included the excavation of the pit and surrounding soils, the installation of a slurry wall and sheet piling in the source area, and groundwater pumping and treatment. The estimated cost for the remedial program was $20 million.

Shaw was asked to review the data from the site to assess the potential for the application of innovative remedial strategies. The review showed that as the plume progressed down-gradient, the contaminants measured in the plume changed from primarily TCE to vinyl chloride and cis-dichloroethene (products of reductive dehalogenation of TCE) with corresponding lesser amounts of trichloroethene. In addition, high concentrations of dissolved iron and manganese indicated that redox conditions favorable for anaerobic dechlorination of TCE existed at the site. Shaw developed a sampling strategy to further define conditions at the site, and to see if intrinsic remediation was occurring at the site. Additional data collected at the site included phospholipid fatty acid analysis (PLFA) to define the bacterial population, and the analysis of dissolved, gaseous degradation products in groundwater (methane, ethane, ethene). In addition, microcosm studies were initiated at Shaw's laboratories.

The work conducted by Shaw confirmed that the native microbial population was dechlorinating TCE under current site conditions. The rate of degradation was estimated and used in the preparation of mathematical models to demonstrate the attenuation of the plume. In addition, Shaw determined that the use of an in situ source reduction technology, such as biosparging, would improve the overall remediation of the aquifer. This information, combined with the fact that contaminated groundwater was confined by impermeable clay tills, was used to present a remedial strategy based on intrinsic remediation to the Illinois EPA. A monitoring plan and strategy for reduction of the source area was accepted. Shaw estimates that the cost of the alternative plan will be approximately $2 million, a savings of $18 million over the conventional approach.

Shaw® Shaw E & I

Intrinsic Remediation of Chlorinated and Aromatic Volatile Organic Hydrocarbons; Industrial Site, NJ.

Client: Confidential

Contaminants: Chlorinated Solvents, benzene, toluene

Services: Intrinsic Remediation Study using groundwater microcosms. Extensive testing of all phases of possible amendments. Development of zero-order degradation rates to support mathematical modeling.

Project Description:

Shaw has designed and executed a program for this industrial site in New Jersey to (1) determine if and under what conditions biodegradation of compounds of concern can be achieved, and (2) develop rates of biological degradation for each compound to be used in mathematical modeling designed to predict the extent of migration of the compounds of concern. The program is part of the evaluation of groundwater and soil remedies for a Corrective Measures Study. The site is an active facility that has been in operation for decades as a manufacturing and research center. Compounds of concern, particularly chlorinated solvents, have been identified in groundwater contained in fractured bedrock at depths to 400 feet below ground surface, as well as in saturated overburden soils.

The initial step of the study was the review of historical groundwater quality data. The presence of compounds that were presumed to be the result of biological degradation of TCE and other factors led to hypothesis that natural biological activity was degrading compounds of interest. A biochemical characterization program was performed using samples of groundwater from the site. These analyses included the determination of nutrients, viable microbial populations, electron acceptors, and dissolved gases (oxygen and carbon dioxide). From these analyses, several wells were selected for treatability testing.

Several complications specific to this site necessitated a special treatability study design. While the typical study of this type relies on the use of microcosms created with site soil and groundwater, the depths of the contamination, and the nature of the fractured bedrock did not allow the collection of soil. Instead, the study relied on the collection of groundwater samples, and the set-up of replicates and controls under a variety of conditions for sacrifice at appropriate time points. The conditions tested included aerobic (oxygen added), aerobic amended (oxygen and nutrients added), anaerobic amended (addition of electron donors and acceptors), and anaerobic intrinsic (no amendments, no oxygen). At each time point, a live sample and killed control were sacrificed for analysis.

The results of the study were compiled over a 100 day period. Both aerobic and anaerobic degradation were measured for most compounds of concern at the site. Rates of degradation varied in samples from different geologic strata. In general, higher rates of degradation were observed in the samples with highest contamination. The data will be used in mathematical modeling to evaluate anaerobic intrinsic degradation rates in association with other fate and transport phenomena at the site. Treatability data and rates will also be used to compare possible in situ and ex situ (bioreactor) approaches to groundwater treatment.

Shaw® Shaw E & I

Intrinsic Remediation Assessment and Strategy
Byron Barrel & Drum Site, Byron, NY

Client: Byron Barrel & Drum Technical Committee

Contaminants: Chlorinated Solvents

Services: Assessment of Historical Data, Development of Sampling Strategy, Interpretation of Intrinsic Remediation, Presentation to EPA Region II

Project Description:

The Byron Barrel and Drum Site in New York State is a former waste disposal site where chlorinated solvents have been identified in soil and groundwater. In 1984, EPA removed drums and 40 cubic yards of contaminated soil and debris from the site. Historical groundwater monitoring data showed a decline in concentrations of target compounds with time. Shaw reviewed available site data, and interpreted the historical data from the perspective of reductions due to the action of native bacteria. A presentation was prepared and delivered to the EPA Region II project management team using site data, a detailed scientific discussion of the degradation of chlorinated solvents by bacteria, and Shaw's experience at similar sites. A plan for demonstrating intrinsic remediation at the site was accepted by EPA, and a sampling and analysis plan to develop site-specific data to achieve closure for groundwater at the site via intrinsic remediation is currently being implemented. EPA is expected to issue an explanation of significant difference (ESD) to the 1989 Record of Decision for Operable Units 1 & 3. The original ROD called for a soil flushing and groundwater pump and treat remedy estimated to cost $6 million.

Shaw® Shaw E & I

Solvent Savers Superfund Site

Client: Former Waste Solvent Recovery Facility - New York

Project Dates: July 1995 - present

Contaminants: Chlorinated solvents, primarily consisting of Trichloroethylene (TCE) and 1,1,1-Trichloroethane (1,1,1-TCA)

Services: Soil Vapor Extraction

Project Description:

This site was operated as a waste solvent recovery and drum reconditioning business from approximately 1967 to 1973. As a result of waste handling and disposal practices, waste materials entered the site soils during this period.

In October 1994, Shaw submitted the final ISVE system design to the US EPA on behalf of the participating parties. The ISVE system design addressed vadose zone soils where they exceeded the preliminary VOC cleanup levels identified at the time of the design. The initial ISVE system installation was completed in July 1995. In an effort to further remediate the site, a final design for expansion of the ISVE system was submitted to the US EPA in September 1996.

The ISVE system was highly effective at the removal of VOCs from vadose zone soils during the initial testing program. Construction of the expansion to the current ISVE system was completed in January 1997 allowing an additional 60,000 yd^3 of soil to be treated for a total of 135,000 yd^3.

The remedial system relies primarily on pressurized injection and vacuum withdrawal of air through a total of 120 air wells. Combined system flow of approximately 750 scfm passes through the soils on a continuous basis. Air is injected into the subsurface soils and recovered using PVC piping and ISVE wells. Contaminated vapors are treated by passage through granular activated carbon units, and subsequently re-injected into the soils A buried polyethylene site cover limits vertical air flow and excludes moisture from entering the soils under treatment.

The design cleanup levels are in terms of the following:

- 2.2 mg/kg for TCE and 0.9 mg/kg for 1,1,1-TCA

Shaw® Shaw E & I

Subsurface Soils Contaminated with Chlorinated Organic Solvent Compounds

Client:	United States Army Corp of Engineers United States Environmental Protection Agency
Site:	Genzale Plating Superfund Site Franklin Square, New York
Dates:	April 1995 - July 1996
Contaminants:	Chlorinated organic solvent compounds. Target Compound: TCE
Services:	Phase 1 - Design, Installation, Operation of Soil Vapor Extraction System Phase 2 - Confirmational Soil Sampling

Project Description:

The site on Long Island, New York consisted of 18,000 cubic yards of sandy soils that were contaminated as a result of disposal practices over many years. Contamination extended to the groundwater table, located approximately 35 feet below grade.

The soil vapor extraction (SVE) system was designed, installed, and operated to remove volatile organic compounds (VOCs) from vadose zone soils primarily through direct volatilization. The SVE system consisted of an integrated network of 14 air withdrawal and injection wells (SVE wells) beneath a site cover comprised of compacted crushed stone. The wells were individually connected to process machinery to allow the wells to be operated in either the air injection or air withdrawal mode and enable greater control of system flow within the treatment zone. Extracted process air was passed through granular activated carbon for removal of VOC vapors before being reinjected into the treatment cell (closed-loop configuration). The SVE system was operated for a period of one year.

Based on results of process air sampling, soil sampling was performed in Phase 2 to confirm treatment effectiveness. Analysis of soil samples revealed TCE levels below the target cleanup level. Therefore, with the permission of the USEPA, the SVE system was shutdown and decommissioned in July 1996.

Analysis of the confirmational soil samples collected after one year of operation revealed TCE concentrations of less than 5 ppb for all samples. Since these concentrations were less than target clean up levels, and based on the off gas monitoring performed during the operational period, it was evident that the amount of TCE in vadose zone soils was reduced and that any potential adverse effects of TCE on human health or the environment had been mitigated.

Shaw® Shaw E & I

SHAW ENVIRONMENTAL, INC.

CHLORINATED SOLVENT PUBLICATION LIST

1. Field-Scale Evaluation of In Situ Bioaugmentation for Remediation of Chlorinated Solvents in Groundwater, Robert Steffan, Kenneth Sperry, Matthew Walsh, Simon Vainberg, Charles Condee, Environ. Sci. Technol., 33:2771-2781, 1999.

2. Alterations in Adhesion, Transport, and Membrane Characteristics in an Adhesion-deficient Pseudomonad, M. F. DeFlaun, S. R. Oppenheimer, S. Streger, C. W. Condee, M. Fletcher, Appl. Environ. Microbiol., 65:759-765, 1999.

3. The New Wave in Wastewater Treatment, Mike Pitre, Dave Enegess, Ron Unterman, Environmental Protection, pg. 30-32, September 1999.

4. Membrane Filtration An Internal-Membrane Bioreactor Helps Solve a Treatment Plant's Operational Problems, Jeff Canto, Paul Sutton, Richard Steinheber, Mark Myronyk, Industrial Wastewater, November/December, pgs. 18-22, 1999.

5. Remediation of a Low Permeability TCE Contaminated Siltstone Bedrock, Part 2. Pneumatic Injection of Constitutive TCE Degrading Organisms, Mathew Walsh, Thomas Boland, John Liskowitz, Mary DeFlaun, Robert Steffan, Remediation in Rock Masses, H.I. Inyang, and C.J. Bruell (Eds), ASCE Press, Reston, VA, p. 152-168, 2000.

6. Performance Evaluation of an In Situ Anaerobic Biotreatment System for Chlorinated Solvents, In *Designing and Applying Treatment Technologies Remediation of Chlorinated and Recalcitrant Compounds*, G.B. Wickramanayake and R.E. Hinchee (eds), pp. 15-20, Battelle Press, OH, Guy W. Sewell, Mary F. DeFlaun, Nam H. Baek, Ed Lutz, Brent Weesner, Bill Mahaffey, 1998.

7. Surfactant Foam/Bioaugmentation Technology for In Situ Treatment of TCE-DNAPLs, Randi K. Rothmel, Robert W. Peters, Edward St. Martin, Mary F. DeFlaun, Environ. Sci. Technol., 32:1667-1675, 1998.

8. Electrokinetic Transport of Bacteria, Mary F. DeFlaun, Charles W. Condee, J. Hazardous Materials, 55:263-277, 1997.

9. Interactive Effects of Trichloroethylene (TCE) and Toluene on the Soil Nitrogen Cycle, M. E. Fuller, K. M. Scow, Appl. Environ. Microbiol., 63:4015-4019, 1997.

10. Effects of Trichloroethylene and Toluene on Soil Community Structure and Function, M. E. Fuller, K. M. Scow, S. Lau, H. Ferris, Soil Biology Biochemistry, 29:75-89, 1997.

11. In Situ Remediation of Trichloroethylene (TCE)-contaminated Groundwater by Bioaugmentation, In Proceedings of the IGT Symposium on Gas, Oil and Environmental Biotechnology and Site Remediation Technologies, Orlando, Robert J. Steffan, Kenneth Sperry, Charles W. Condee, Mathew Walsh, William Guarini, Alison Thomas, 1997.

12. Changes in Regiospecificity of Aromatic Hydroxylation Produced by Active Site Engineering in the Diiron Enzyme Toluene 4-Monooxygenase, Jeremie D. Pikus, Joey M. Studts, Kevin McClay, Robert J. Steffan, Brian G. Fox, Biochemistry, 36:9283-9289, 1997.

13. Chlorinated Solvent Reductions Induced by an Aquifer Sparge Fence, In Proceedings of the First International Conference on In Situ Air Sparging for Site Remediation, Las Vegas, Nevada, F. C. Payne, D. T. Rogers, M. D. Buehlman, 1996.

14. Biodegradation of Toluene and Trichloroethylene in Vadose Sediments, M. E. Fuller, D. Mu, K. M. Scow, Microbial Ecology, 29:311-325, 1995.

15. Induction of Toluene Oxidation Activity in Pseudomonas medocina KR1 and Pseudomonas sp. Strain ENVPC5 by Chlorinated Solvents and Alkanes, Kevin McClay, Sheryl H. Streger, Robert J. Steffan, Appl. Environ. Microbiol., 61:3479-3481, 1995.

16. Two-stage Bioreactor to Destroy Chlorinated and Non-chlorinated Organic Groundwater Contaminants, In Proceedings of 3rd International In Situ and On-Site and Bioreclamation Symposia, Biological Unit Processes for Hazardous Waste Treatment, R. E. Hinchee, R. S. Skeen, G. D. Sayles (eds), pgs. 77-86, Battelle Press, Ohio, W. J. Guarini, B. R. Folsom, A. K. Bohner, T. Burick, 1995.

17. A Gas Lift Bioreactor for Removal of Contaminants from the Vapor Phase, B. D. Ensley, P. R. Kurisko, Appl. Environ. Microbiol., 60:285-290, 1994.

18. Enhanced Transport of Degradative Bacteria for In Situ Bioremediation, In *In Situ Remediation: Scientific Basis for Current and Future Technologies*, M. F. DeFlaun, C. W. Condee, B. D. Ensley, 1994.

Appendix C
Resumes

Timothy P. Welch, P.G.

Professional Qualifications

Mr. Welch is a hydrogeologist with 16 years experience in project management, remedial investigation and feasibility studies, evaluation, design and implementation of remedial action plans, and site assessments. He is responsible for identifying client objectives, developing project scope, schedule and budget, and acting as client\regulator liaison. Also, Mr. Welch administers technical assistance and training to staff and provides technical review of project documentation.

Education

Graduate Studies, Hydrogeology, Wright State University, Dayton, Ohio, 1993 to 1994

B.S., Geological Sciences, University of Wisconsin- Milwaukee, Milwaukee, Wisconsin, December 1985

Additional Training:
40-Hour Health and Safety Training; 1988
8-Hour OSHA Refresher Training; 2001

Registrations and Certifications:
Professional Geologist: 1995, Wisconsin, No. 558-013, expires July 2006

Experience and Background

September 2004- Present
Project Hydrogeologist/Manager, Shaw Environmental & Infrastructure, Inc., Pewaukee, Wisconsin

February 2002-September 2004
Project Hydrogeologist/Manager, Giles Engineering Associates, Inc., Waukesha, Wisconsin
Responsibilities included working with clients to identify issues, provide strategic and technical support; project management of groundwater and soil contamination projects; planning and implementation of remedial investigations; mentoring and training of technical staff; preparation of cost proposals; technical document review; management of geotechnical\environmental subsurface investigations; negotiations with state regulatory agencies, and performance of risk assessments. Project specific experience has included:

- Project Director for an environmental subsurface investigation\geotechnical exploration of a 16 acre parcel of property for the City of Milwaukee. Approximately 1,110 feet of drilling was performed, with the subsequent installation of 17 groundwater monitoring wells, 9 piezometers and 4 soil borings. Soil and groundwater sampling, along with methane monitoring was performed. The $95,000 project was completed in one month to facilitate a property transaction between the City and The Harley Davidson Corporation. Responsibilities included the development of sampling and analysis protocols, coordination

of the investigation and subsequent site survey, disposal of investigative waste, and technical review of chemical, physical data and project documentation.

- Project Manager responsible for conducting Phase II Environmental Site Assessments (ESAs) for owners of industrial, commercial, and agriculture properties throughout the United States. The overall objective of the projects was to establish an acceptable level of risk for each party involved with the real estate transfer or refinancing. If concerns were identified during the Phase I ESA process, Phase II activities were recommended and implemented.

- Project Manager for multiple projects with the City of Milwaukee Redevelopment Authority, Buildings and Fleet Division and the Port Authority. Phase II and Phase III projects ranging in price from $10,000- $250,000 was performed. Familiarity with Site Assessment and Greenspace Grants, utilization of Environmental Protection Agency (EPA) Hazardous Site Assessment and Brownfield Cleanup Grant funding.

- Project Hydrogeologist\Manager for the City of Milwaukee King Drive Commons EPA Brownfield project. As part of the WDNR approved Remedial Action Plan for the property, petroleum and chlorinated hydrocarbon contaminated soils were delineated and characterized as non-hazardous and hazardous waste streams prior to construction of the three story residential\commercial structure. Source soil excavation and off-site disposal of special and hazardous waste was performed, with the subsequent implementation of a soil management plan for construction. A passive vapor mitigation system was designed for installation beneath the structure.

- Project Manager for a subsurface investigation\geotechnical exploration and remedial action associated with the construction of a Wendy's restaurant in Chicago, Illinois. Contaminated soils associated with the former Chicago Transit Authority property were that were generated during excavation and grading were delineated, characterized and transported off-site for landfill disposal. Based on contaminant concentrations and building construction, a subsurface vapor mitigation system was designed and installed to meet an aggressive construction schedule. The vapor mitigation system consisted of applying a cold-spray, rubberized asphaltic membrane over a passive venting system. The implementation of this system reduced installation labor hours and reduced overall mitigation system costs.

- Project Hydrogeologist\Manager for a Preliminary Endangerment Assessment (PEA) for the proposed West Coachella Elementary School site in Coachella, California. The risk assessment included the performance of risk\hazard calculations for chemicals of potential concern including metals, pesticides and dioxins. Successfully completed the PEA report while working with the California Environmental Protection Agency-Human and Ecological Risk Division toxicologist.

February 1989 - February 2002
Project Hydrogeologist/ Manager, Sigma Environmental Services, Inc., Milwaukee, Wisconsin
Responsibilities included project management of remedial investigation and feasibility studies at numerous sites; performance of soil, groundwater, surface and sludge sampling; development and preparation of cost proposals, work plans, sampling and analysis plans and QA/QC plans; provided technical review on proposals, work plans, budgets, projects and reports; negotiated investigative plans, clean-up criteria and remedial actions with regulatory agencies; collected and interpreted data from in-situ pilot tests, with subsequent design and development of plans and technical specifications for groundwater/product recovery, air sparging and soil vapor extraction systems; interpretation of field and laboratory information; preparation of soil and groundwater investigative reports, and development of remedial action plans. Projects have included:

- Project Manager and client liaison for over 150 remedial investigation/feasibility study projects and site remediations for petroleum refineries and distributors, municipalities, and commercial and industrial property owners. Successfully negotiated closure with governmental agencies. Remedial action plans, remedial options reports, and costs estimates were developed based upon the property owners' objectives, environmental factors, and hydrogeologic conditions. Remedial actions included soil excavation, landspreading, mechanical soil and groundwater treatment systems, passive bioremediation, using engineering controls (i.e.; capping), institutional controls (i.e.; deed restrictions), and assessing the natural attenuation of contaminants through long-term monitoring programs. This experience provided excellent project management experience and the ability to manage multiple projects concurrently.

- Project Hydrogeologist\Manager for the first Wisconsin Department of Commerce's (COMM) multi-site bundled remediation. Negotiated a cost partitioning strategy with COMM, Condon Companies and Grand River Cooperative, for the remediation of 8,800 tons of petroleum contaminated soil. Performed a pump test on the Del Monte Foods high capacity production well that pumps 2-2.5 million gallons of water per day during production season, and is located 200 feet down gradient of the contaminant source. The pump test was performed to evaluate the vertical groundwater flow component relative to the dissolved phase contaminant plume during Del Monte's canning season.

- Project Hydrogeologist for numerous mechanical soil and groundwater treatment remediation projects. Project responsibilities included technical involvement during the remedial investigation phase, pilot testing, remediation system design, construction specification and bid document preparation and solicitation, and project management. Responsibilities also included data analysis, resolution and interpretation, evaluation of system efficiency/progress, and client/regulator liaison.

- Project Hydrogeologist/Manager for the development of an RI/FS for the closure of a Wisconsin hazardous waste (RCRA) printing facility. Responsibilities included project management, supervision of the project team, regulator/client/attorney liaison, interpretation and presentation of data, development of remedial strategies, and implementation of a successful closure strategy.

- Project Hydrogeologist for a subsurface investigation and feasibility study of the Village of Whitefish Bay's abandoned solid and hazardous waste landfill, that contained chlorinated solvent, petroleum hydrocarbon and metals contamination. The project involved developing a sampling and analysis plan; review, evaluation, and continuation of previously performed investigative work; evaluation of applicable remedial alternative strategies, and technical report preparation.

- Project Hydrogeologist and manager for numerous groundwater attenuation monitoring projects. Responsibilities included serving as client and regulatory liaison, preparing quality assurance plans, developing sampling and analysis protocols, and implementing natural attenuation monitoring programs.

- Project Hydrogeologist responsible for planning in-situ based remediation pilot tests; collecting and interpreting data; and subsequent design of in-situ groundwater recovery, air sparging and SVE systems.

- Project Hydrogeologist\Manager for Condon Companies on an 11-acre petroleum UST/AST site. Site-specific residual soil cleanup standards were developed and, in conjunction with local governmental and regulatory approval, petroleum-impacted soil was land spread on a 2.5-acre portion of the property. The development of the landspreading remediation strategy resulted in an approximately 50% cost savings relative to other conventional remediation strategies. All remedial work was coordinated and performed concurrent with site preparation and grading activities, allowing the client to meet a strict construction schedule.

March 1988 – February 1989
Assistant Project Geologist, STS Consultants, Ltd., Milwaukee, Wisconsin
Responsibilities included the performance and interpretation of ASTM tests on soils to define physical soil characteristics; performed assessment and subsurface investigation of residential, commercial and industrial properties which included the collection, sampling and classification of soil samples and monitoring well installation, development and sampling; evaluated data and prepared reports; responsible for rock core logging, formation permeability testing and curtain grouting. Projects have included:

- Assistant Project Geologist on the Milwaukee Metropolitan Sewerage District deep tunnel project. Responsibilities included rock core logging, formation permeability testing, curtain grouting and determination of groundwater flow patterns in fractured rock.

- Assistant Project Geologist for a landfill feasibility study in Peoria, Illinois, responsible for core logging the sedimentary strata.

March 1987 – October 1987
Engineering Technician, Giles Engineering Associates, Inc., Waukesha, Wisconsin
Responsibilities included: field inspector for monitoring construction activities, including concrete testing, soil compaction density testing and bedrock drilling and blasting; drillers assistant responsible for placement and installation of soil borings and monitoring wells; performance of ASTM Tests on soils to define physical characteristics for geotechnical

engineering applications, and logging and classification of soil and rock samples for engineering and/or environmental evaluation in the southern and eastern United States. Projects have included:

- Field Geologist responsible for contractor coordination, soil sampling and classification for geotechnical and environmental investigations in Texas, Arkansas, Georgia, Tennessee, Florida, West Virginia, Illinois, and Wisconsin.

Professional Affiliations

American Association of Petroleum Geologists (AAPG)
National Ground Water Association- Association of Ground Water Scientists &Engineers (NGWA-AGSWE)
Wisconsin Ground Water Association (WGWA)

James F. Drought, P.H.

Professional Qualifications

As Principal Hydrogeologist at Shaw Environmental, Inc. Mr. Drought is responsible for the development, management and completion of brownfield remediation and redevelopment, real property due diligence, Fixed Price Remediation, peer review, and litigation support services. Mr. Drought and his staff provide these services to clients throughout the United States. Mr. Drought's Project Director responsibilities include staff development and monitoring, client and regulatory agency coordination, project scope and budget development and control, development and execution of investigation and remediation work plans, analytical and feasibility data review, and report technical review.

Mr. Drought's responsibilities also include professional seminar presentations to attorneys, financial institutions, realtors, and contractors, and proposal preparation and execution. Mr. Drought serves as a regulatory compliance specialist by tracking and commenting on proposed regulations at the state and federal level. Mr. Drought also serves as the account manager for several national and regional clients. Prior to joining Shaw, Mr. Drought was a Vice President and Principal Hydrogeologist for ARCADIS, a national and international engineering firm, for about ten years. Mr. Drought also served as the Assistant Environmental Manager at a national environmental and geotechnical consulting firm from 1989 through 1994 and was responsible for the development, management and completion of soil and groundwater remedial investigations, feasibility studies and remedial design. Mr. Drought was also responsible for the supervision of professional and technical staff and the coordination of an analytical laboratory certified under Chapter NR 149 of the Wisconsin Administrative Code.

Mr. Drought served as an Assistant Environmental Planner at the Bay-Lake Regional Planning Commission (BLRPC) and the Southeastern Wisconsin Regional Planning Commission (SEWRPC) from 1985 through 1988. Mr. Drought's responsibilities included the preparation of resource management and environmental planning reports, and serving as a regulatory agency liaison between USEPA, WDNR, WDOA, and local and county units and agencies of government.

Education

MS, Contaminant Hydrogeology and Geosciences, University of Wisconsin-Milwaukee, June 1999

Graduate Coursework in Biological and Chemical Sciences, University of Wisconsin-Milwaukee, 1983 to1985

BS, Physical Geography and Biology, Carroll College, May 1982

Professional Associations

Federation of Environmental Technologists
National Ground Water Association
Wisconsin Fabricare Institute
Wisconsin Ground Water Association

Registrations/Certifications

Wisconsin Professional Hydrologist (No. 45-111)
NR 712 Hydrogeologist
COMM UST Site Assessor
COMM PECFA Consultant

Fields of Specialization

- Brownfield remediation, redevelopment, and financing
- Fate and transport of chlorinated hydrocarbons in the subsurface
- Peer review and litigation support services
- Real property due diligence and Guaranteed Fixed Price Remediation services
- Petroleum and chlorinated hydrocarbon (NR 700), hazardous waste (NR 600), and PCB remedial investigations, feasibility studies, and remediation
- Underground storage tank (UST) closure assessments, and leaking underground storage tank (LUST) remedial investigations
- Commingled petroleum aromatic and chlorinated aliphatic hydrocarbon remedial investigations and remedial design
- Ex-situ remedial design and monitoring utilizing thermal desorption, passive aeration, and bioremediation technologies
- Petroleum Environmental Clean-up Fund Act (PECFA) reimbursement guidance
- Dry cleaning solvent (PCE and stoddard solvent) investigation, remedial design, and remediation cost recovery under the Drycleaner Environmental Response Program (DERP)
- Computer fate and transport modeling utilizing the USEPA SESOIL model
- Abiotic and biotic degradation of chlorinated and petroleum hydrocarbons

- Subsurface explorations utilizing Geoprobe, truck and track-mounted, portable and low clearance, and all-terrain drilling equipment

- Feasibility evaluations including vapor extraction and air sparging, aquifer studies, and in-situ hydraulic conductivity determinations

- State and Federal regulatory compliance

Committee Representation

- WDNR NR 169 Committee (DERP)

- WDNR NR 700 Focus Group

- WDNR Brownfields Committee

- COMM 47 Advisory Committee

Relevant Experience

- Project advisor for the investigation, remedial design, and remediation of the 35 acre Tower Automotive West Plant Project (former A.O. Smith facility) located in the City of Milwaukee, Wisconsin. Approximately 25 acres of the 80-year old facility is proposed for acquisition and redevelopment as the City of Milwaukee Department of Public Works (DPW) facility. The site investigation, consisting of the advancement and sampling of approximately 80 soil borings and monitoring wells, identified the presence of petroleum and chlorinated hydrocarbon-affected soils and groundwater. The remedial strategy presented in the Remedial Action Plan (RAP) included source removal, enhanced biodegradation, and use of the new development to improve remedial performance. The RAP was submitted to the WDNR on October 11 and approved on October 25, 2004. Remediation will be completed under a Fixed Fee contract with Shaw.

- Retained expert in 2004 for the evaluation of investigation and remediation activities conducted in accordance with contract requirements and the requirements of the Wisconsin State Statutes and Wisconsin Administrative Code for a former paper mill located in Appleton, Wisconsin.

- Retained expert in 2003 for the evaluation of the technical and economic feasibility and appropriateness of investigation and remediation activities, and the potential for multiple release occurrences, at a bulk petroleum facility located in Oconomowoc, Wisconsin.

- Project advisor for the investigation, remediation, and redevelopment of the former Pabst Brewery Complex in Milwaukee, Wisconsin. The 150-year-old, 1,400,000 square foot Pabst Brewer Complex had been vacant since 1997 and was selected for commercial and residential redevelopment in 2002. The project focus was to assess and inventory the environmental impairment, develop restoration plans and cost projections, and coordinate the restoration with the redevelopment activities.

- Retained expert in 2000 for the evaluation of site investigation and remediation activities with respect to the Petroleum Environmental Cleanup Fund Act, at a former retail gasoline service station located in Cross Plains, Wisconsin.

- Project advisor for PCE-impacted soil and groundwater investigation and remediation activities at the former Crestwood Shopping Center brownfield site located in Glendale, Wisconsin. A dry cleaning facility had operated within the mall, two different locations, from the early 1960s to 2000. A plume of PCE-impacted soils and groundwater existed on and off the seven-acre shopping center.

  A combination of aggressive in-situ soil and groundwater treatment and institutional controls were selected, approved by the WDNR, and completed within six months of contract execution. Demolition of the existing mall and construction of new retail and commercial buildings were completed concurrently with treatment activities. Investigation and remediation activities were completed under a guaranteed maximum price contract.

- Project advisor for the completion of a remedial investigation and an in-situ remedial pilot test at an existing industrial facility located in Oconomowoc, Wisconsin. A spill of TCE occurred at this site in 1994 within a former vapor degreasing system. The spill resulted in the release of TCE to soils and groundwater. The TCE migrated in saturated coarse alluvial deposits in a long and narrow groundwater plume ("core") off-site in the direction of the Oconomowoc River.

  The remedial investigation consisted of the advancement and sampling of 52 Geoprobe borings, eight groundwater monitoring wells, and four piezometers on and off the property. In addition, five seepage meters were installed in the Oconomowoc River to determine rates of contaminant and water fluxes. The in-situ pilot test included injection and recirculation of a natural carbon supplement to enhance anaerobic conditions and promote reductive dechlorination of TCE as an electron donor. The in-situ pilot test was completed over the course of six months and demonstrated to the WDNR that the injection of natural carbon represented a feasible and cost effective remedial alternative.

  A risk assessment was also completed as part of the pilot test activities to determine "threshold" levels for the chlorinated hydrocarbons venting to the Oconomowoc River. The "threshold" levels determined by the risk assessment demonstrated that active remediation was not warranted adjacent to the Oconomowoc River. The project was managed under Chapter NR 700 of the Wisconsin Administrative Code.

- Retained expert in 1999 for the evaluation of institutional controls available for closure following completion of site investigation and remediation activities at multiple petroleum retail facilities located in Wisconsin.

- Project advisor for a PCE impacted soil and groundwater investigation and remediation project at the Washington Square Mall brownfield site located in Germantown, Wisconsin. A dry cleaning facility operated within the retail mall over the period from 1980 to 1997. The remedial investigation consisted of the advancement and sampling of Geoprobe borings, monitoring wells,

and piezometers within and adjacent to the retail mall. Soil remediation consisted of the excavation and off-site disposal (at a RCRA subtitle C landfill in Michigan) of approximately 3,500 tons of PCE impacted soils. Groundwater remediation consisted of the extraction and treatment of approximately 80,000 gallons of PCE-impacted groundwater from the resulting excavation, and the injection of a natural carbon solution as an electron donor to promote the reductive dechlorination of PCE.

This project was completed under the Wisconsin Brownfields Program (Wisconsin Act 453) and Chapters NR 700 and 600 of the Wisconsin Administrative Code. In addition, all investigation and remediation activities were completed under a guaranteed maximum price contract. The Washington Square Mall project was closed by the WDNR in January 2001, approximately 2-1/2 years after the initiation of remediation activities.

- Project advisor for a commingled polychlorinated biphenyl (PCB) and tetrachloroethylene (PCE) impacted soil and groundwater project at an existing die casting facility located in Milwaukee, Wisconsin. Prior to 1981, some of the die casting machines within the facility used phosphate ester oil (PEO) hydraulic oils that contained PCBs. PCE was utilized during the die casting process as a vapor degreaser.

  Investigation activities included an evaluation of the extent of PCB and PCE impacted soils and groundwater by advancing and sampling Geoprobe borings and monitoring wells. Groundwater samples were collected using low-flow sampling methods. Soil and groundwater remedial alternatives were evaluated in accordance with Chapter NR722 of the Wisconsin Administrative Code. A performance standard consisting of a engineered cap and long-term monitoring was selected as the final remedial alternative.

Professional Affiliations

Federation of Environmental Technologists

National Ground Water Association

Wisconsin Fabricare Institute

Wisconsin Ground Water Association

Selected Presentations

Guaranteed Remediation Contracts: Features and Applications, Redevelopment of Contaminated Property Seminar, Lorman Educational Services, May 25, 2004.

Practical Considerations for Project Closure and Property Development – An Overview of New WDNR Guidance Documents on Vapor Intrusion and Performance Standards, Milwaukee Bar Association, March 17, 2004

Urban Revitalization: Remediation and Redevelopment of Former Third Ward MGP Site, Keep Greater Milwaukee Beautiful, Inc. 12th Annual Seminar, May 20, 2003

Brownfield Remediation and Redevelopment: Work in Progress – Crestwood Site, Glendale, Wisconsin, Bio-Link Environmental Biotechnology Meeting Bioremediation Panel, March 6, 2003

Active Remediation and Insurance Coverage to Obtain VPLE Certificate of Completion – Washington Square Mall, Germantown, Wisconsin, WDNR/FET Southeast Region Consultant's Day, October 29, 2002

Regulatory Update: Principles and Applications, Milwaukee Bar Association, July 24, 2002.

Crestwood Shopping Center Brownfield Case Study, Wisconsin Department of Natural Resources, Bureau for Remediation and Redevelopment In-House Conference, Wisconsin Dells, Wisconsin, November 9, 2000.

Natural Attenuation of a Mixed Hydrocarbon Plume, Summer Intern Program, University of Wisconsin-Milwaukee Great Lakes Water Institute, July 19, 1999.

Development and Implementation of a Better Mouse Trap! Technical Update - Trends and Developments in Site Investigation, Remediation, and Institutional Controls, 1999 Environmental Law Update, Sheraton Hotel, Brookfield, Wisconsin; May 4, 1999.

Fate of Tetrachloroethene and Benzene at a Dry Cleaning Facility, In-Situ and On-Site Bioremediation - The Fifth International Symposium, Sheraton San Diego Hotel and Marina, San Diego, California; April 22, 1999.

A Case Study of Natural Attenuation at a Dry Cleaning Facility, American Water Resources Association Annual Meeting, Radisson Hotel, La Crosse, Wisconsin; March 25, 1999.

Controlling and Managing Investigation and Remediation Activities and Costs, Wisconsin Fabricare Institute Fall Convention, Devil's Head Resort, Merrimac, Wisconsin; September 20, 1998.

Natural Attenuation of Petroleum and Chlorinated Hydrocarbons, Graduate Student Groundwater Seminar, University of Wisconsin-Milwaukee, Milwaukee, Wisconsin; March 31, 1997.

Natural Attenuation and the Wisconsin Groundwater Reform Policy, Wisconsin Fabricare Institute Winter Convention, Radisson Hotel, Green Bay, Wisconsin; February 8, 1997.

Fate, Transport, and In-Situ Remediation of Hazardous Wastes, Registered Environmental Manager Training, University of Wisconsin - Extension, Madison, Wisconsin; April 22, 1996.

Public Comments, Proposed Wisconsin Department of Natural Resources Groundwater Reform Policy, Havenswood State Forest Auditorium, Milwaukee, Wisconsin, March 21, 1996.

The Petroleum Environmental Clean-up Fund Act: Proposed Changes and a Consultants Perspective on the Future of the Program, The Milwaukee Bar Association, Milwaukee, Wisconsin; December 14, 1995.

Fate and Transport of Tetrachloroethylene, Wisconsin Fabricare Institute Fall Convention, Pioneer Inn, Oshkosh, Wisconsin; September 17, 1995.

Overview: Environmental Site Assessments, Registered Environmental Manager Training Seminar, University of Wisconsin - Extension, Madison, Wisconsin; August 28, 1995.

The Petroleum Environmental Clean-Up Fund Act (PECFA) and Recent Updates, Milwaukee Bar Association, Milwaukee, WI; October 24, 1994.

Environmental Consultant's Perspective - Practice Under the New NR 700 Rule Series, State Bar of Wisconsin 1994 Annual Convention, Milwaukee, WI; June 23, 1994.

Wetlands: Features, Functions, and Regulations, Commercial Real Estate Issues Seminar sponsored by Hiller and Frank S.C., Marriott Hotel, Brookfield, WI; March 17, 1994.

USTs and Petroleum-Impacted Soil: Concerns and Solutions, Wisconsin Mortgage Banker's Association meeting, Midway Hotel, Brookfield, WI; January 18, 1994.

Environmental Assessments and Remediation Alternatives, Upper Midwest Fabricare Exposition sponsored by the Wisconsin Fabricare Institute, Waukesha Exposition Center, Waukesha, WI; October 17, 1992.

Multi-Phased Approach to Environmental Assessments, Hazardous Contamination and Environmental Protection Seminar sponsored by the Metropolitan Builders Association of Greater Milwaukee, Milwaukee Athletic Club, Milwaukee, WI; November 13, 1990.

Environmental Liabilities in Real Property Transactions, CECO Exchange Club meeting, Sheraton Inn-Mayfair, Wauwatosa, WI; March 13, 1990.

Featured on PBS "Outdoor Wisconsin" (1987, 1989, & 1990).

Selected Publications

A Case Study of a Natural Attenuation of a Mixed Hydrocarbon Plume, M.S. Thesis, University of Wisconsin-Milwaukee, June 1999.

Fate of Tetrachloroethene and Benzene at a Dry Cleaning Facility, Proceedings of the In-Situ and On-Site Bioremediation - The Fifth International Symposium, Sheraton San Diego Hotel and Marina, San Diego, California; April, 1999.

Andrew T. Ehlert P.E.

Professional Qualifications

Andy Ehlert has over 12 years experience in the environmental consulting industry. Mr. Ehlert's experience includes district/office management, project management of Phase II Environmental Site Assessments (Phase II ESAs) for petroleum hydrocarbon, chlorinated solvent, Resource Conservation and Recovery Act (RCRA) metals and agricultural chemical impacts, health risk and natural attenuation assessments, remedial design/implementation/monitoring/reporting of in-situ/ex-situ soil/groundwater remedial actions, and compliance monitoring/reporting. Mr. Ehlert has extensive experience in the consulting aspects of project budgeting, business development, and staff training/mentoring. Mr. Ehlert has substantial experience in writing, reviewing, and developing strategies for all forms of state-level regulatory reports, set forth in the state statutes of environmental regulatory agencies of the Midwest as well as the eastern portion of the United States. Mr. Ehlert combines his expertise to evaluate cost effective remedial and closure solutions to all types of environmental scenarios for industrial and commercial clients.

Education

B.S., Civil Engineering, Marquette University, Department of Engineering, Milwaukee, Wisconsin, May 1991 (Emphasis on Environmental and Structural Engineering).

Additional Training:
40-Hour Health and Safety Waste Site Worker – 29CFR 1910.120 (e)8; 1991.
8-Hour OSHA Refresher Training; 2003.

Registrations and Certifications:
State of Wisconsin Professional Engineer License (No: 33864-006) – December 1999.
State of Wisconsin Petroleum Environmental Cleanup Fund Act (PECFA) Registered Consultant.

Experience and Background

September 2004-Present
Project Manager, Shaw Environmental and Infrastructure, Inc, Pewaukee, Wisconsin

As a Project Manager for regional commercial clients, responsibilities include working with clients to identify issues and provide strategic support and technical guidance, coordinate and plan projects, assign company resources to complete tasks and produce a quality work product on time and within budget, provide status updates and financial forecasts to the client for fiscal planning and tracking, and insure overall client satisfaction. As a manager with business development goals, responsibilities also include budget and proposal development. Project-specific experience has included:

- Manage post free product abatement closure attempt and regulatory negotiations for the on-going remedial action/monitoring program at the Waukesha, Wisconsin facility of US Filter/Envirex. The Project includes complexities involving negotiations with the state regulatory agency to achieve closure with an existing/persistent free product petroleum hydrocarbon plume and a co-mingled chlorinated solvent plume.

- As the EPA Region 5 Regional lead and State of Illinois State lead, managed dye trace testing of sanitary sewer lines of 200,000 square-foot store facilities located throughout the Midwest. The dye trace testing aspect of the project was one phase of a multi-faceted, nationwide compliance project for a Fortune-500 company.

- Conducted a fast-tracked Environmental Compliance Audit and Phase I Environmental Site Assessment, as part of a 20-person intra-office Shaw compliance team, for three, one-million plus square-foot facilities of a large, world renowned, Aerospace Company. As the remediation team leader for the compliance assessment conducted on the Kansas facility, was responsible for evaluating, assessing, obtaining regulatory feedback on, and reporting about the on-going, active remediation measures at the facility to mitigate and contain a groundwater chlorinated solvent plume emanating from multiple sources at the facility, as well as the contaminant contribution from multiple former leaking underground storage tank (UST) and aboveground storage tank (AST) systems soil source areas. The remediation evaluation was conducted on a 15-year effort consisting of dual phase extraction from 220 groundwater and vapor extraction wells, which are extracting/treating 117 million gallons of groundwater annually. The ultimate goal of the compliance assessment was to establish an environmental baseline for a perspective buyer of the three facilities.

- Reviewed stormwater flow and drainage calculations for, and assisted in the development of a Stormwater Management Plan for the Lincoln Avenue Miller Compressing Company site in Milwaukee, Wisconsin.

- Provided Professional Engineering review and certification of a Spill Prevention, Control and Countermeasure (SPCC) Plan for the Northern Engraving Company facility in Sparta, Wisconsin. The SPCC plan was prepared to assure compliance with 40 CFR 112 and Environmental Protection Agency (EPA) requirements.

- Provided pre-construction engineering design input to assure SPCC compliance for the Rockwell Automation Company Clock Tower facility in Milwaukee, Wisconsin. The engineering conceptual design input was conducted to assure compliance with 40 CFR 112 and Environmental Protection Agency (EPA) requirements, following the facility modifications of oil storage capacity for an emergency generator project.

July 2002-September 2004
Project Engineer/Manager, Giles Engineering Associates, Inc., Waukesha, Wisconsin

As a Project Engineer/Manager, responsibilities primarily included fiscal responsibility and project management of the Phase II Environmental Site Assessment (ESA) and Phase III Remediation contract with the City of Milwaukee. The major emphasis of the contract with the Redevelopment Authority was the cleanup of blighted/tax delinquent properties with the objective to reduce the environmental risk to human health/environment, ultimately producing marketable/taxable parcels and improving overall quality of living and business in the City of Milwaukee. The emphasis of the contract with the Port of Milwaukee and the Buildings and Fleet Division was primarily to address historical-use impacts, in order to assure environmental regulatory compliance while maximizing state and federal financial grant reimbursement. While at Giles the majority of the environmental cleanups involved the removal, in-situ treatment or

risk evaluation of one or a combination of the following contaminant families; chlorinated solvents, petroleum hydrocarbons, poly-cyclic aromatic hydrocarbons, Resource Conservation and Recovery Act (RCRA) metals, poly-chlorinated bi-phenyls (PCBs), and methane. As a manager with business development goals, responsibilities also included budget and proposal development, and the pursuit of work in the Brownfields cleanup market.

Project-specific experience included:

- Managed the Giles Engineering Associates, Inc. environmental contract with the City of Milwaukee Redevelopment Authority, Buildings and Fleet Division and the Port Authority. This task included, but was not limited to the following management and technical lead aspects; fiscal oversight of all Phase II ESA and Phase III projects, client interaction, the use of Emerging Business Enterprise (EBE) contractors, the use of EPA Hazardous Site Assessment grants and EPA Petroleum Assessment grant funding, state voluntary cleanup funding mechanisms/incentives, regulatory negotiation, report reviews and preparation, project scope/budget development, risk assessments, and development of and adherence to Quality Assurance Project Plans (QAPP), and EPA Sampling and Analysis Plans (SAPs).

- Designed and oversaw the installation of vapor intrusion sub-floor barriers and venting systems for a Wendy's Restaurant on Cicero Avenue, Chicago Illinois, and the Port of Milwaukee's Lake Express Ferry Terminal site, Milwaukee, Wisconsin. The vapor mitigation systems (VMSs) were designed to short-circuit human health risk impacts associated with potential infiltration of methane and/or petroleum hydrocarbon vapors, emanating from existing fill and due to historical land use. The VMS designs included a passive venting system network covered by an application of a cold-sprayed, rubberized, asphaltic geomembrane. The cold-sprayed membrane application technique is quickly being recognized nationwide as a proven low cost, less labor-intensive alternative to traditional geosynthetic membranes, and is being increasingly applied at sites where new construction over existing contamination as a viable brownfields alternative to soil excavation and insitu remediation.

- Managed the subsurface investigation, the cost estimating for EPA grant approval, regulatory and landfill acceptance permitting, and soil excavation plans and specifications preparation of a hazardous waste-level chlorinated solvent impacted Site. The blighted former dry cleaners site was acquired through foreclosure by the City of Milwaukee Redevelopment Authority and through EPA Grant financial assistance, was to be remediated, capped with a parking lot and subsequently acquired by Alterra Coffee Company.

- Managed the investigation, the cost estimating for EPA grant approval, and regulatory negotiation in preparation for a potential hazardous waste-level dissolved sulfide/hydrogen sulfide impacted Site in Milwaukee, Wisconsin. The blighted site which was impacted with sulfide bearing fill material, thereby producing high hydrogen sulfide gas concentrations was to be remediated under complex, tight urban settings, and potentially under level B atmospheric conditions using EPA grant financial assistance.

- Managed the long-term groundwater quality monitoring, quarterly reporting and routine effluent sampling of the methane vapor recovery system at the closed South Milwaukee Landfill in Oak Creek, Wisconsin. Project duties primarily involved significant negotiations with the WDNR Solid Waste Division to accept the proposed Groundwater Sampling Reduction Plan, in order to reduce the frequency of sampling for the majority of the monitoring well network and eliminate specific monitoring wells from the sampling routine that have historically been free of detectable levels of contaminants. The WDNR's approval of the reduction plan ultimately resulted in a reduction in the annual landfill monitoring costs for the City of South Milwaukee.

- Reviewed regulatory rules and regulations, evaluated potential health risk and additional future liabilities associated with Brownfields and Voluntary Cleanup Program sites in Pennsylvania and Maryland. Evaluations were then summarized and provided to various interested development clients to outline a clear environmental scope of work and the environmental liability which was associated with the acquisition of the property.

- Managed Phase II ESAs in the states of New York, Pennsylvania, Missouri, Ohio, Florida, Maryland, Virginia, Iowa, Colorado, and Illinois, while complying with voluntary cleanup programs and environmental regulations of the respective states.

- Assisted in the development of Giles' Field Standard Operating Procedures (SOP) guidance document.

September 1993 - May 2002
Senior Engineer/District Manager, Envirogen, Inc., Pewaukee, Wisconsin

As District Manager for the Pewaukee Remediation group of Envirogen from December 2000, achieved annual total revenues of $3,000,000, while conducting management support of 150 contaminated site remedial and investigative efforts. Successfully managed a technical staff of 30 employees through excellent communication, prioritization, and mentoring skills. Duties involved the management of technical staff utilization/productivity, conducting employee evaluations and reviews, recommending promotions, salary adjustments and hiring considerations, and the mentoring/training of technical staff. As a Senior Project Engineer, successfully managed and negotiated with governmental agencies the closure of 100+ environmental site investigations and remedial actions for commercial and industrial contaminated sites.

Project-specific accomplishments are as follows;

- Conducted site investigation and active remedial action activities at the Wilmot Auto Service Site, Wilmot Wisconsin, The primary remedial technique of the 9-year environmental restoration effort included an in-situ soil vapor extraction and groundwater pump and treat remedial treatment system to mitigate a petroleum hydrocarbon release from historical commercial UST operations. The project included the following environmental activities; all site investigation activities; design and implementation of a pilot test work plan; regulatory approval of the remedial action plan (RAP); Wisconsin Pollutant Discharge Elimination System (WPDES) permit discharge compliance

monitoring and reporting; budgeting of remedial costs; performing system design, installation, startup, monitoring of soil vapor extraction air and treatment system water discharges; and the implementation of quarterly groundwater monitoring of the monitoring well network to assess system remedial progress and post system shutdown natural attenuation monitoring. The project involved complexities due to the location of adjacent private potable wells, a surface water discharge, and a confined location. Similar project scopes including active system design and operation were performed and managed for 30 commercial and industrial clients/projects.

- Managed the monitoring, maintenance and restart of a multi-phase extraction (MPE) groundwater recovery and vapor extraction system to mitigate soil and groundwater contamination associated with a chlorinated solvent release at the United Technologies Automotive (UTA) Inc., facility, Iowa City, Iowa. The MPE system was designed to be fully automated with telemetry communication technology, and was truck-mounted for re-location after project completion. Complexities of the remedial action included the wide-spread affects of the plume migration and a dual (shallow and deep) aquifer system requiring treatment.

- Designed and oversaw construction of a petroleum loading rack spill control/containment system for the Caine Transfer Petroleum Bulk distribution facility in Lowell, Wisconsin. Previous bulk storage area had an aboveground capacity of 30,000 gallons and included insufficient secondary spill containment. The new transfer facility design included a capacity of 50,000 gallons, double-walled aboveground storage tanks (ASTs), and was designed to be compliant with SPCC regulations as per 40 CFR 112.

- Other general accomplishments included the following; coordinated, developed, and approved remedial project scopes/budgets; conducted risk assessments and applied risk-based closure alternatives; prepared and performed final reviews/sign off on all regulatory/governmental correspondence and technical reports; developed and stamped SPCC Plans for petroleum bulk facilities and industrial customers; and prepared proposals and conducted marketing/business development.

January 1992 - September 1993
Staff Engineer, The Earth Technology Corporation, Brookfield, Wisconsin

As staff engineer/technician, duties involved the successful accomplishment of all field tasks for the Brookfield, Wisconsin office. Responsibilities included Phase I ESA field assignments and report generation, SPCC field assignments, industrial wastewater discharge compliance sampling soil classification, logging, field screening and sample collection of environmental drilling/investigation activities, surface water and groundwater sample collection, level-B work space air monitoring, subcontractor scheduling and field interaction, proper soil and groundwater sample preservation, chain of custody procedures, detailed field note documentation, of all field equipment, proper health and safety procedures, proficient use of the following field instruments; photoionization detector (PID) units, flame ionization detector (FID) units, peristaltic/downhole sampling pumps, petrotraps, personal air sample pumps, aquifer testing data loggers and transducers, data downloading equipment, and computer modeling programs. Other project-specific accomplishments are as follows;

- Conducted construction oversight, startup, and preparation of a QA/QC & Operator's manual, for a Zinc–Phosphate Precipitation Wastewater Pretreatment System at the Troestle Packings Company, Inc. facility in Lake Geneva, Wisconsin. The pretreatment system was installed to precipitate and subsequently remove Zinc from facility wastewater discharge stream as a pretreatment requirement. Duties also included conducting industrial wastewater discharge sampling using an ISCO sampling unit, discharge reporting, providing system construction documentation, assuring successful system startup operation, and assembling a pretreatment system QA/QC Operator's manual.

- Conducted Health and Safety personnel air monitoring oversight in Level-B contaminated atmospheric conditions for the Ionia Landfill EPA Superfund Project, in Ionia, Michigan. During this phase of the project, the impacted portion of the landfill cell was being prepared for an in-situ vitrification pilot test. Buried 55-gallon drums of spent chlorinated solvents were excavated and overpacked for offsite transportation and disposal. Excavation activities resulted in significant odor and vapor emissions, which required hourly hot-zone perimeter monitoring and collection of ambient air samples on a daily basis. Additionally, conducted soil sample collection from open-excavation while in level B personal protective equipment and full-faced, supplied air, breathing apparatus.

Appendix D
Insurance Certificate

ACORD™ CERTIFICATE OF LIABILITY INSURANCE

DATE 04/18/2005

PRODUCER 877-945-7378

Willis North America, Inc. - Regional Cert Center
26 Century Blvd.
P. O. Box 305191
Nashville, TN 372305191

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

INSURED

Shaw Environmental & Infrastructure, Inc.
4171 Essen Lane
Baton Rouge, LA 70809

INSURERS AFFORDING COVERAGE	NAIC#
INSURER A: American International Specialty Lines In	26883-001
INSURER B:	
INSURER C:	
INSURER D:	
INSURER E:	

COVERAGES

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. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	ADD'L INSRD	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS	
		GENERAL LIABILITY					
		☐ COMMERCIAL GENERAL LIABILITY				EACH OCCURRENCE	$
		☐ CLAIMS MADE ☐ OCCUR				DAMAGE TO RENTED PREMISES (Ea occurence)	$
						MED EXP (Any one person)	$
						PERSONAL & ADV INJURY	$
						GENERAL AGGREGATE	$
		GEN'L AGGREGATE LIMIT APPLIES PER:				PRODUCTS - COMP/OP AGG	$
		☐ POLICY ☐ PRO-JECT ☐ LOC					
		AUTOMOBILE LIABILITY					
		☐ ANY AUTO				COMBINED SINGLE LIMIT (Ea accident)	$
		☐ ALL OWNED AUTOS				BODILY INJURY (Per person)	$
		☐ SCHEDULED AUTOS					
		☐ HIRED AUTOS				BODILY INJURY (Per accident)	$
		☐ NON-OWNED AUTOS					
						PROPERTY DAMAGE (Per accident)	$
		GARAGE LIABILITY				AUTO ONLY - EA ACCIDENT	$
		☐ ANY AUTO				OTHER THAN AUTO ONLY: EA ACC	$
						AGG	$
		EXCESS LIABILITY				EACH OCCURRENCE	$
		☐ OCCUR ☐ CLAIMS MADE				AGGREGATE	$
							$
		☐ DEDUCTIBLE					$
		☐ RETENTION $					$
		WORKERS COMPENSATION AND EMPLOYERS' LIABILITY				☐ WC STATU-TORY LIMITS ☐ OTH-ER	
		ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED?				E.L. EACH ACCIDENT	$
		If yes, describe under SPECIAL PROVISIONS below				E.L. DISEASE - EA EMPLOYEE	$
						E.L. DISEASE - POLICY LIMIT	$
A		OTHERContractors Pollution/Professional Errors & Omissions (Claims-Made)	3779547	8/31/2004	9/1/2005	$1,000,000 Each Claim $1,000,000 aggregate $100,000 deductible	

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/EXCLUSIONS ADDED BY ENDORSEMENT/SPECIAL PROVISIONS

CERTIFICATE HOLDER

Specimen Copy

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING INSURER WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO DO SO SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE

Appendix E
Shaw Fee Schedule and Services Agreement

EXHIBIT A
SHAW ENVIRONMENTAL, INC. - WISCONSIN
2004/2005 LABOR RATE SCHEDULE

PROJECT DIRECTOR.	$130.00/Hr.
SENIOR TECHNICAL RESOURCE.	$129.00/Hr.
PROJECT MANAGER.	$112.00/Hr.
PROJECT ENGINEER	$104.00/Hr.
PROJECT SCIENTIST	$96.00/Hr.
STAFF ENGINEER/SCIENTIST	$76.00/Hr.
FIELD TECHNICIAN	$57.00/Hr.
CAD OPERATOR	$57.00/Hr.
ADMINISTRATIVE SUPPORT	$40.00/Hr.

SHAW ENVIRONMENTAL, INC.
PROFESSIONAL SERVICES AGREEMENT
TIME AND MATERIALS BASIS

1. SERVICES: Shaw Environmental, Inc. ("SHAW") agrees to perform for the undersigned CLIENT professional environmental, health and safety, consulting and/or analytical services ("Services") described in attached proposal and in accord with the following terms and conditions.

2. FEES, INVOICES AND PAYMENTS: The Services will be performed on a time and materials basis, with compensation due for all goods and Services provided by SHAW, computed in accord with currently-in-effect SHAW rates for Time & Material work. SHAW's particular applicable T & M Rate Sheet for the Services may be attached hereto. Other compensation provisions are as follows:

_____

_____

_____

Invoices will be submitted by SHAW no more frequently than every two weeks, with payment due upon CLIENT'S receipt of invoice. Payment shall be in U.S. Dollars. CLIENT shall be responsible for payment (without deduction or offset from the total invoice amount) of any and all sales, use, value added, gross receipts, franchise and like taxes, and tariffs and duties, and all disposal fees and taxes, levied against SHAW or its employees by any government or taxing authority. A service charge equal to one and one-half percent (1 ½ %) per month, or the maximum rate permitted by law, whichever is less, will be added to all accounts which remain unpaid for more than thirty (30) calendar days beyond the date of the invoice. Should there be any dispute as to any portion of an invoice, the undisputed portion shall be promptly paid.

3. CLIENT'S COOPERATION: To assist SHAW in performing the Services, CLIENT shall (i) provide SHAW with relevant material, data, and information in its possession pertaining to the specific project or activity, (ii) consult with SHAW when requested, (iii) permit SHAW reasonable access to relevant CLIENT sites, (iv) ensure reasonable cooperation of CLIENT's employees in SHAW's activities, and (v) notify and report to all regulatory agencies as required by such agencies.

4. CONFIDENTIALITY: If initialed here_____by SHAW's authorized representative, in the course of performing Services, to the extent that CLIENT discloses to SHAW, business or technical information that CLIENT clearly marks in writing as confidential or proprietary, SHAW will exercise reasonable efforts to avoid the disclosure of such information to others. Nonetheless, CLIENT shall treat as confidential all information and data furnished to it by SHAW in connection with this Agreement including, but not limited to, SHAW's technology, formulae, procedures, processes, methods, trade secrets, ideas, inventions, and/or computer programs; and CLIENT shall not disclose such information to any third party.

Nothing herein is meant to prevent nor shall be interpreted as preventing either party from disclosing and/or using any information or data (i) when the information or data are actually known to the receiving party before being obtained or derived from the transmitting party, (ii) when information or data are generally available to the public without the receiving party's fault at any time before or after it is acquired from the transmitting party; (iii) where the information or data are obtained or acquired in good faith at any time by the receiving party from a third party who has the same in good faith and who is not under any obligation to the transmitting party in respect thereto; (iv) where a written release is obtained by the receiving party from the transmitting party; (v) three (3) years from the date of receipt of such information; or (vi) when required by process of law; provided, however, upon service of such process, the recipient thereof shall use reasonable efforts to notify the other party and afford it an opportunity to resist such process.

5. RIGHT TO USE INFORMATION AND DOCUMENTS: CLIENT may use any final reports of findings, feasibility studies, industrial hygiene and safety, engineering work or other work performed or prepared by SHAW under this Agreement in connection with the project and/or location indicated in the Services for which such work was prepared, but SHAW reserves all other rights with respect to such documents and all other documents produced in performing the Services. CLIENT shall obtain prior written consent from SHAW for any other use, distribution, or publication of such reports or work results. Unless otherwise expressly agreed to in writing, nothing in this Agreement shall be interpreted to prevent SHAW from application and use of any information learned by it from the services (subject to the provisions of Section 4). All reports will be delivered subject to SHAW's then current limitations and disclaimers.

6. PATENTS AND CONFIDENTIAL INFORMATION: SHAW shall retain all right and title to all patentable and unpatentable inventions including confidential know-how developed by SHAW hereunder. However, SHAW hereby grants to CLIENT a royalty-free, nonexclusive, nonassignable license as to such inventions and know-how to use the same in any of CLIENT's facilities. Information submitted to CLIENT by SHAW hereunder is not intended nor shall such submission constitute inducement and/or contribution to infringe any patent(s) owned by a third party, and SHAW specifically disclaims any liability therefor.

7. DELAYS AND CHANGES IN CONDITIONS: If SHAW is delayed or otherwise in any way hindered or impacted at any time in performing the Services by (i) an act, failure to act or neglect of CLIENT or CLIENT's employees or any third parties; (ii) changes in the scope of the work; (iii) unforeseen, differing or changed circumstances or conditions including differing site conditions, acts of force majeure (such as fires, floods, riots, and strikes); (iv) changes in government acts or regulations; (v) delay authorized by CLIENT and agreed to by SHAW; or (vi) any other cause beyond the reasonable control of SHAW, **then** 1) the time for completion of the Services shall be extended based upon the impact of the delay, and 2) SHAW shall receive an equitable compensation adjustment. (Any such equitable adjustment shall be based on SHAW's then current Time and Material Rates, as may be provided in a Rate sheet attached hereto.)

8. INSURANCE: SHAW is presently protected by Worker's Compensation Insurance as required by applicable law and by General Liability and Automobile Liability Insurance (in the amount of $1,000,000 combined single limit) for bodily injury and property damage. Insurance certificates will be furnished to Client on request. If the CLIENT requires further insurance coverage, SHAW will endeavor to obtain said coverage, and CLIENT shall pay any extra costs therefor.

9. RISK ALLOCATION - CLIENT hereby agrees that: (1) there are risks inherent to the Services, many of which cannot be

ascertained or anticipated prior to or during the course of the Services; (2) due to the inherently limited nature and amount of the data resulting from environmental investigation methods, complete analysis of conditions is not always possible, and, therefore, conditions frequently vary from those anticipated earlier; and (3) technology, methods, accepted professional standards as well as law and policy, are undefined and/or constantly changing and evolving. In light of all of the foregoing and considering SHAW's lack of responsibility for creating the conditions requiring the Services, as a material inducement to and consideration for SHAW's agreement to perform the Services on the terms and at the price herein provided for, CLIENT SPECIFICALLY AGREES THAT SHAW'S LIABILITY SHALL BE STRICTLY LIMITED AS PROVIDED IN SECTIONS 10 THROUGH 12 OF THIS AGREEMENT.

10. WARRANTY: SHAW is an independent contractor and SHAW's Services will be performed, findings obtained, and recommendations prepared in accordance with generally and currently accepted professional practices and standards governing recognized firms in the area engaged in similar work. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES EITHER EXPRESSED OR IMPLIED.

11. INDEMNITIES: SHAW shall defend, indemnify and hold harmless CLIENT from and against loss or damage to tangible property, or injury to persons, to the extent arising from the negligent acts or omissions or willful misconduct of SHAW, its subcontractors, and their respective employees and agents acting in the course and scope of their employment; provided, however, SHAW shall indemnify CLIENT from and against any loss or damage in the handling or management of any hazardous or radioactive material, or any pollution, contamination, or release of hazardous or radioactive materials, only to the extent resulting from SHAW's gross negligence or willful misconduct. CLIENT shall defend, indemnify and save harmless SHAW (including its parent, subsidiary, and affiliated companies and their officers, directors, employees, and agents) from and against, and any indemnity by SHAW shall not apply to, loss, damage, injury or liability arising from the (i) acts or omissions of CLIENT, its contractors, and their respective subcontractors, employees and agents, or of third parties; (ii) any allegations that SHAW is the owner, operator, manager, or person in charge of all or any portion of a site addressed by the services, or arranged for the treatment, transportation, or disposal of, or owned or possessed, or chose the treatment, transportation or disposal site for, any material with respect to which Services are provided, and (iii) any pollution, contamination or release of hazardous or radioactive materials, including all adverse health effects thereof, except for any portion thereof which results from SHAW's gross negligence or willful misconduct.

12. LIMITATIONS OF LIABILITY:

a. GENERAL LIMITATION - CLIENT'S SOLE AND EXCLUSIVE REMEDY FOR ANY ALLEGED BREACH OF WARRANTY BY IT SHALL BE TO REQUIRE IT TO RE-PERFORM ANY DEFECTIVE SERVICES. SHAW'S LIABILITY AND CLIENT'S REMEDIES FOR ALL CAUSES OF ACTION ARISING HEREUNDER WHETHER BASED IN CONTRACT, WARRANTY, NEGLIGENCE, INDEMNITY, OR ANY OTHER CAUSE OF ACTION, SHALL NOT EXCEED IN THE CUMULATIVE AGGREGATE (INCLUDING ANY INSURANCE PROCEEDS) WITH RESPECT TO ALL CLAIMS ARISING OUT OF OR RELATED TO THIS AGREEMENT, WHATEVER MINIMUM AMOUNT MAY BE REQUIRED BY LAW OR, IF NONE, THE LESSER OF THE AMOUNT OF COMPENSATION FOR SUCH SERVICES, OR $100,000 (WHICH AMOUNT INCLUDES ANY FEES AND COSTS INCURRED IN RE-PERFORMING SERVICES). THE REMEDIES IN THIS AGREEMENT ARE CLIENT'S SOLE AND EXCLUSIVE REMEDIES. ALL CLAIMS, INCLUDING THOSE FOR NEGLIGENCE OR ANY OTHER CAUSE WHATSOEVER SHALL BE DEEMED WAIVED UNLESS SUIT THEREON IS FILED WITHIN ONE (1) YEAR AFTER THE EARLIER OF (1) SHAW'S SUBSTANTIAL COMPLETION OF THE SERVICES OR (2) THE DATE OF SHAW'S FINAL INVOICE. FURTHER, SHAW SHALL HAVE NO LIABILITY FOR ANY ACTION INCLUDING DISCLOSURE OF INFORMATION WHERE IT BELIEVES IN GOOD FAITH THAT SUCH ACTION IS REQUIRED BY PROFESSIONAL STANDARDS OF CONDUCT FOR THE PRESERVATION OF PUBLIC HEALTH, SAFETY OR WELFARE, OR BY LAW.

b. CONSEQUENTIAL DAMAGES: FURTHER AND REGARDLESS OF ANY OTHER PROVISION HEREIN, SHAW SHALL NOT BE LIABLE FOR ANY INCIDENTAL, INDIRECT, OR CONSEQUENTIAL DAMAGES (INCLUDING LOSS OF PROFITS, DECLINE IN PROPERTY VALUE, REGULATORY AGENCY FINES, LOST PRODUCTION OR LOSS OF USE) INCURRED BY CLIENT OR FOR WHICH CLIENT MAY BE LIABLE TO ANY THIRD PARTY OCCASIONED BY THE SERVICES OR BY APPLICATION OR USE OF REPORTS OR OTHER WORK PERFORMED HEREUNDER.

13. GOVERNING LAWS: This Agreement shall be governed and construed in accordance with the laws of the State in which the site to which the Services relate is located, or if there is no such site, or there are multiple sites in different states, in accord with Louisiana law.

14. TERMINATION: Either party may terminate this Agreement with or without cause upon twenty (20) days' written notice to the other party. Upon such termination, CLIENT shall pay SHAW for all Services performed hereunder up to the date of such termination. In addition, if CLIENT terminates, CLIENT shall pay SHAW all reasonable costs and expenses incurred by SHAW in effecting the termination, including, but not limited to non-cancelable commitments and demobilization costs.

15. ASSIGNMENT: Neither SHAW nor CLIENT shall assign any right or delegate any duty under this Agreement without the prior written consent of the other, which consent shall not be unreasonably withheld. Notwithstanding the foregoing, the Services may be performed by any subsidiary or affiliate of the IT Group or other person designated by SHAW, and, SHAW may, upon notice to CLIENT, assign, pledge or otherwise hypothecate the cash proceeds and accounts receivable resulting from the performance of any Services or sale of any goods pursuant to this Agreement.

16. MISCELLANEOUS:

a. ENTIRE AGREEMENT, PRECEDENCE, ACCEPTANCE MODIFICATIONS: The terms and conditions set forth herein

constitute the entire understanding of the Parties relating to the provisions of the Services by SHAW to the CLIENT. All previous proposals, offers, and other communications relative to the provisions of these Services by SHAW, oral or written, are hereby superseded, except to the extent that they have been expressly incorporated by reference herein. In the event of conflict, the three pages of this Agreement shall govern. CLIENT may accept these terms and conditions by execution of this Agreement or by authorizing SHAW to begin work. Any modifications or revision of any provisions hereof or any additional provisions contained in any purchase order, acknowledgement or other document issued by the CLIENT is hereby expressly objected to by SHAW and shall not operate to modify the Agreement.

b. DISPUTES, ATTORNEY FEES – Any dispute regarding this Agreement or the Services shall be resolved first by exchange of documents by senior management of the parties, who may be assisted by counsel. Any thereafter unresolved disputes shall be litigated in the state whose law governs under Section 13 hereunder. In any litigation, the Prevailing Party shall be entitled to receive, as part of any award or judgment, eighty percent (80%) of its reasonable attorneys' fees and costs incurred in handling the dispute. For these purposes, the "Prevailing Party" shall be the party who obtains a litigation result more favorable to it than its last formal written offer (made at least twenty calendar days prior to the formal trial) to settle such litigation.

c. WAIVER OF TERMS AND CONDITIONS - The failure of SHAW or CLIENT in any one or more instances to enforce one or more of the terms or conditions of this Agreement or to exercise any right or privilege in the Agreement or the waiver by SHAW or CLIENT of any breach of the terms or conditions of this Agreement shall not be construed as thereafter waiving any such terms, conditions, rights, or privileges, and the same shall continue and remain in force and effect as if no such failure to enforce had occurred.

d. NOTICES – Any notices required hereunder may be sent by orally confirmed US Mail, courier service (e.g. FedEx), orally confirmed telecopy (fax) or orally confirmed email (further confirmed by US Mail) to the addresses set forth below.

e. SEVERABILITY AND SURVIVAL - Each provision of this Agreement is severable from the others. Should any provision of this Agreement be found invalid or unenforceable, such provision shall be ineffective only to the extent required by law, without invalidating the remainder of such provision or the remainder of this Agreement.

Further, to the extent permitted by law, any provision found invalid or unenforceable shall be deemed automatically redrawn to the extent necessary to render it valid and enforceable consistent with the parties' intent. For example, if the gross negligence standard in Section 11 is unenforceable under an applicable "anti-indemnity" statute, but a sole negligence standard is enforceable, the sole negligence standard shall be automatically substituted therefor. The terms and conditions set forth herein shall survive the termination of this Agreement.

CLIENT and SHAW agree to the foregoing (**INCLUDING THE LIMITATIONS ON LIABILITY IN SECTIONS 9-12**) and have caused this Agreement to be executed by their duly authorized representatives as of the date set forth below.

Executed on _____, 200__

CLIENT

Client Name: _____

By (Sign): _____

Print Name: _____

Title: _____

Address: _____

_____

Phone: _____

Fax: _____

E-mail: _____

SHAW ENVIRONMENTAL, INC.

By (Sign): 

Print Name: Paul Zovic

Title: Business Line Manager

Address: 111 West Pleasant Street, Suite 105
Milwaukee, WI 53212-3939

Phone: (414) 291-2363

Fax: (414) 291-2385

E-mail: Paul.Zovic@shawgrp.com