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Attorneys at Law in
Milwaukee and Madison, Wisconsin
West Palm Beach and Naples, Florida
Phoenix, Arizona

Quarles & Brady

May 17, 1994

VIA UPS OVERNIGHT DELIVERY

Mr. Michael Schmoller
Department of Natural Resources
3911 Fish Hatchery Road
Madison, WI 53711

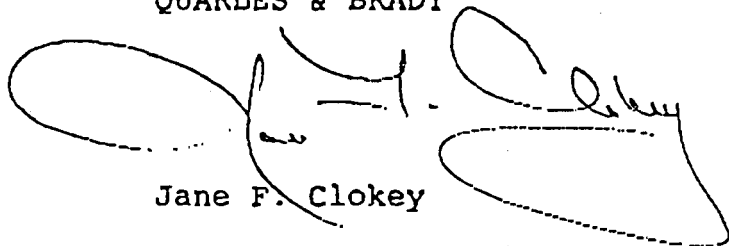
Re: 433-437 Woodward Avenue, Beloit

Dear Mike:

Enclosed, per our conversation last week, is a copy of the draft Agreement regarding cost-sharing for the cleanup of the Borgerding Estate property on Woodward Avenue in Beloit. I would be pleased to discuss the contract with you, or with other DNR representatives, at your earliest convenience.

Sincerely yours,

QUARLES & BRADY



Jane F. Clokey

434:cam

cc: David Townsend (w/enc.)
Eric Scott (w/enc.)
Kristine Casper (w/enc.)

#17-340-301-1

AGREEMENT

See also a few additional comments.

This Agreement is made effective this _____ day of Linda, 1994, by and between the Estate of Ursula Borgerding ("Estate") and the Wisconsin Department of Natural Resources ("DNR").

WHEREAS, the Estate holds title to a parcel of property located at 435 Woodward Avenue in Beloit, Wisconsin ("the Site"), which property is the subject of a remedial action effort undertaken by the Estate and overseen by the DNR and the Wisconsin Department of Industry, Labor and Human Relations ("DILHR"); and

WHEREAS, the Estate, acting through its retained consultant Dames & Moore, has substantially completed an investigation into the extent and nature of contamination present at the Site and has prepared a remedial technology cost evaluation for the Site; and

WHEREAS, current cost estimates for completion of remedial action at the site exceed the funds available to the Estate under the Petroleum Environmental Cleanup Fund program ("PECFA"); and

WHEREAS, the Estate's assets are nearly depleted and ~~will not~~ ^{the DNR has determined that the estate does not have the ability to} support completion of the remediation; and ^{if the cost of remediation exceeds the maximum reimbursement available under PECFA}

WHEREAS, because private funding in excess of amounts available under PECFA is unavailable, a risk exists that ^{pay for the} remediation might not be completed; and

WHEREAS, a financial institution would be unwilling to extend a PECFA loan where there exists a risk that the remediation might not be completed; and

WHEREAS, the DNR has funds available ⁱⁿ through the Environmental Remediation Fund (~~"ERF"~~) Program which can be applied to complete the remediation; and

WHEREAS, absent continuing involvement by the Estate there exists a substantial probability that the DNR would find it necessary to fund the entire remediation effort at the Site ^{with} ~~through~~ Environmental Fund monies; ~~the ERF Program;~~

NOW THEREFORE, the undersigned parties, intending to be legally bound, agree as follows:

1. Upon execution of this Agreement, the Estate will apply for a loan from a lending institution for funds up to the amount available to the Estate for the Site under the PECFA program.
2. Once such a PECFA loan is made to the Estate, the Estate acting through its retained consultant will undertake to conduct remediation of contamination existing on the Site and other activities, consistent with the directives of the DNR and DILHR.

3. If, despite the Estate's expenditure of funds available under the PECFA program, insufficient funds are available to complete remediation of the Site, DNR agrees to fund the remainder of the necessary remediation of the Site, by application of funds available ~~under the ERF Program.~~ ^{in Environmental Fund}

4. Following completion of the remediation of the Site, the Estate shall reimburse DNR for funds expended by DNR under the ~~ERF~~ Program for Site remediation, up to an amount equal to the value of the Estate's assets at the time remediation is completed.

5. Once DNR determines that remediation of the Site has been completed in accordance with applicable statutory requirements and DNR regulations, it will issue a "No Further Action Letter" to the Estate, indicating that no further investigation or remediation is necessary based upon the information available to DNR at that time.

6. DNR will review and comment upon any plans submitted for its review in a timely manner.

7. DNR will oversee remediation efforts at the property and will consider for approval alternative proposals to address Site remediation if the proposals appear likely to minimize harmful effects from the release of any hazardous substance.

Is District willing to agree to this? Not required for estate to obtain a loan. I wouldn't think.

Would we be assigning a project manager to oversee the project anyway?

8. The Estate will make available to DNR all information which the Estate has compiled regarding third parties who may be responsible for contamination existing on the Site.

9. The provisions of this document constitute the sole agreement between the parties relating to remediation of the Site.

10. Nothing contained herein shall preclude DNR from pursuing remedies available to it for violations of any applicable statute or regulation applicable to this matter.

11. Execution of this agreement shall not in any way affect the rights, interests or obligations of the Estate or DNR with respect to any parties who are not signatories hereto.

Effective this ____ day of _____, 1994

Wisconsin Department of Natural Resources

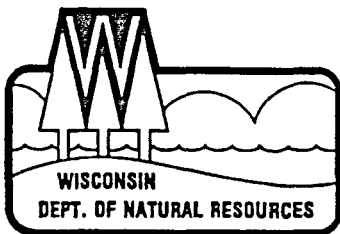
By: _____
George Meyer, Secretary

Date: _____

Estate of Ursula Borgerding

By: _____
Frances Borgerding Sheehy
Estate Representative

Date: _____



George E. Meyer
Secretary

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

101 South Webster Street
Box 7921
Madison, Wisconsin 53707
TELEPHONE 608-266-2621
TELEFAX 608-267-3579
TDD 608-267-6897

June 30, 1993

Ms. Lanette Altenbach
Foth & Van Dyke
2737 S. Ridge Road
P.O. Box 19012
Green Bay, Wi 54307-9012

SUBJECT: Borgerding Site Investigation

Dear Ms. Altenbach:

This letter is to notify you that the Department intends to cancel its contract with your firm at the Borgerding Site in Beloit. The responsible party for the site has agreed to continue the investigation with the use of its own consultant.

Therefore, the scope of work for the contract between the State and Foth & Van Dyke needs to be modified to reflect this change.

We are requesting that Foth & Van Dyke complete tasks 1 through 4 as identified in the approved scope of work. This will include monitoring well development. Foth & Van Dyke will complete the comparative enumeration analysis (task 4) as planned as well as the soil samples intended to define the extent of soils contamination.

Foth & Van Dyke will write a report summarizing the work completed. Included in the report should be laboratory reports, chain of custody, soil boring logs, monitoring results, etc. Data interpretation will not be required in the report. This is a reduced effort from that planned in task 8.

The work defined in the change order now being processed should be completed by Foth. All wells, including those already in existence, should be converted to flush mounts.

Foth & Van Dyke will not be responsible for surveying or groundwater sampling for VOC's, PAH's, or heavy metals.

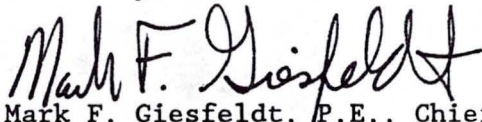
All reasonable costs incurred by Foth & Van Dyke in completing this modified scope of work will be paid by the Department. The final pay request and supporting documentation should be sent to Mike Schmoller for his approval.

We appreciate the work that Foth & Van Dyke has done to this point. This cancellation does not reflect at all on your firm's effort. The Department

and Foth & Van Dyke have a good working relationship and we hope to continue that relationship in the future.

Thank you again for your effort on our behalf and we regret any inconvenience this may cause your firm.

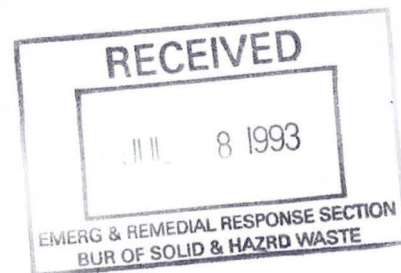
Sincerely,



Mark F. Giesfeldt, P.E., Chief
Emergency and Remedial Response Section
Bureau of Solid & Hazardous Waste Management

MFG:jye

cc: Deborah Johnson - LE/5
Bob Strous - SW/3
Dave Behn - FN/1
Mike Schmoller - SOD
Jonathan Young Eagle - SW/3
Paul Didier - SW/3



DATE: June 17, 1993
TO: File
FROM: Bob Strous SW/3
SUBJECT: Borgerding Site

FILE REF: ERP

I finally contacted Bob Consigny, the attorney representing the Sheehy's. I expressed my dissatisfaction in his lack of response to Mike Schmoller's letter requesting a commitment from the estate to perform the next phase of investigation in the same time frame the department intended to do (or less). The commitment was to be only a letter of intent signed by the RP.

Bob explained that he was on vacation last week and could not comply with the request in the time provided. I asked him why he had not told us he planned to be on vacation in our meeting, or possibly arrange with an associate to provide the letter to the Mrs. Sheehy so the commitment would have been provided in the time requested. His response was that he did not understand the necessity of a fast reply and that the urgency of the response had not been communicated to him.

I explained again that we have a contractor on board with a schedule to follow and that we did not intend to cancel the contract until we had a "firm" commitment from the RP to at least complete the phase II work.

The conversation ended that Mr. Consigny would be sending the letter shortly.

This conversation reaffirmed my impression of Mr. Consigny that he is not particularly familiar with environmental contamination issues. Once the Phase II work is complete we will have to communicate our intentions to him very clearly to assure the design and remediation is initiated in a timely manner.

JYE - File

CONSIGNY, ANDREWS, HEMMING & GRANT, S.O.

Attorneys at Law

303 EAST COURT STREET

P.O. BOX 1449

JANESVILLE, WISCONSIN 53547

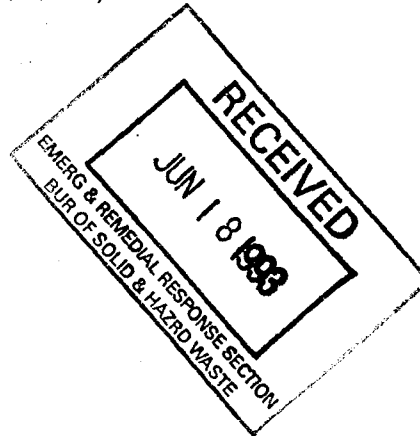
ROBERT H. CONSIGNY
JOHN H. ANDREWS
RICHARD E. HEMMING
RICHARD R. GRANT
JOHN W. HOLZHUTER
MARK A. SCHROEDER

LOUIS D. GAGE
MARK D. KOPP
RITA C. HORN
KATHRYN K. SHEBIEL
BRIAN C. ANDERSON

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ELKHORN, WI 53121
TELEPHONE
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FAX
(414) 273-7185



June 17, 1993

Michael R. Schmoller
Wisconsin Department of Natural Resources
3911 Fish Hatchery Road
Fitchburg, WI 53711

Re: Borgerding Estate
Property located at 433 Woodward, Beloit, WI

Dear Mike:

This letter is in response to your letter of June 3, 1993 to Mrs. Sheehy which was forwarded to me and received while I was on vacation during the week of June 7th.

This will advise that the estate will hire a qualified consultant to finish the investigation. We are proposing to hire Dames & Moore to complete the investigation and they have already provided you with a written commitment to finish the study as planned.

This will further advise that the investigation will comply with the existing work plan and timeline for the site.

Also enclosed is the original ACCESS PERMISSION FORM which has been signed by Mrs. Sheehy and was dated June 9th. This was received in my office on June 10th.

I believe this complies with the request in your letter of June 3, 1993. If you need anything further, please contact me. Please call if you have any questions. Thank you for your assistance and cooperation.

CONSIGNY, ANDREWS, HEMMING & GRANT, S.C.

Michael R. Schmoller

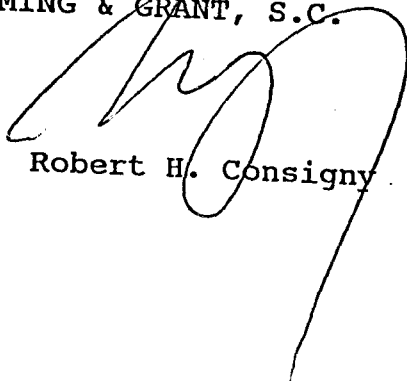
June 17, 1993

Page 2.

Very truly yours,

CONSIGNY, ANDREWS,
HEMMING & GRANT, S.C.

By:



Robert H. Consigny

RHC:bk

Enc.

cc: Robert Strauss
Frances Sheehy

PROPERTY ACCESS AGREEMENT

WITNESS, this agreement made this _____ day of _____, 1993 between the City of Beloit, a political subdivision of the State of Wisconsin, located in Rock County, Wisconsin (hereinafter referred to as "City") and Ursula Borgerding Estate, c/o F. Sheehy, 10711 N. De La Warr Circle, Mequon, WI 53092 (hereinafter referred to as "Borgerding")

1. RECITALS.

- A. Borgerding is vested with fee simple title to a parcel of land situated in the City of Beloit, County of Rock, State of Wisconsin, located north of Woodward Avenue, along the east bank of the Rock River. (Tax Parcel #1351-1210; Address: 433 Woodward Avenue)
- B. The City has indicated its desire to lease said parcel for the purpose of extending Riverside Park southward.
- C. The City wishes to raze any and all structures on said parcel, then grade and seed the vacant lot prior to September 1, 1993.

2. RIGHT OF ENTRY.

Borgerding hereby grants the City the right and privilege to enter in the above-described land to commence demolition activities, including the following:

- A. Demolish all structures on the property and haul away the debris;
- B. Remove any foundation to two feet below the finish grade;
- C. Grade and seed the vacant lot for use as municipal park land.

3. DURATION.

The term of this agreement and the rights and privileges granted hereunder shall terminate on September 30, 1993.

4. INDEMNIFICATION.

The City agrees to and does hereby indemnify and hold Borgerding harmless against any and all claims, loss, or liability arising from damage to or destruction of property or injury to persons occurring because of the entry upon and use of the property by the City, its contractors, subcontractors, agents, officers, and employees. In the event of any claims made or lawsuits filed with respect thereto, the City agrees to defend the same and pay all costs of defense, including attorney's fees, and to pay any judgments that may be entered.

5. INSURANCE.

The City agrees to maintain and to continue in force insurance during the period of time that it enters upon and uses the property as follows:

- A. Workers Compensation Insurance in compliance with the laws of the State of Wisconsin.
- B. General liability insurance for property damage and bodily injury of not less than \$1,000,000.00 each per occurrence, including coverages for the following:

- Underground Explosion and Collapse Hazard
- Independent Contractors
- Products Liability
- Completed Operations
- Broad Form Property Coverage
- Personal Injury Coverage

- C. Comprehensive automobile liability with not less than \$1,000,000.00 for each person and \$1,000,000.00 for each occurrence.
- D. Contractual liability coverage shall be not less than \$1,000,000.00 for bodily injury for each occurrence with coverage for property damage of not less than \$1,000,000.00 for each occurrence.
- E. Umbrella insurance for coverage in excess of the above stated limits of not less than \$2,000,000.00 per occurrence.
- F. The City shall provide a Certificate of Insurance to Borgerding showing that the required coverages are being provided.

6. USE OF MACHINERY AND EQUIPMENT.

The City, its contractors, subcontractors, or agents shall have the right to bring on to the premises all necessary machinery and equipment to be used by it, its contractors or subcontractors in the demolition process and shall require that each person or entity bringing equipment onto the premises or participating in the construction process to provide insurance of the same coverages as required of the City prior to entry.

7. BINDING EFFECT.

This agreement shall be binding upon and inure to the benefit of the parties and their respective successors and assigns.

8. ASSIGNMENT.

The City shall not have the right to assign this Property Access Agreement or any of the rights or obligations hereunder except by written authorization of Borgerding in its sole discretion.

9. Insert (See below for insert marked "*").

IN WITNESS WHEREOF, the parties hereto have executed this agreement as of the day and year first written above.

x 19.
FS

Approved as to form:

Richard W. Holm
CITY ATTORNEY

CITY OF BELOIT:

By:

Daniel T. Kelley
Daniel T. Kelley, City Manager

ATTEST:

Diane E. Henry
Diane Henry, City Clerk

*The City will not interfere with or remove or damage any equipment or devices for pollution control, pollution abatement or pollution testing which are presently located on the premises.

URSULA BORGERDING ESTATE

By:

Frances Sheehy Per. Rep.
Frances Sheehy
Personal Representative

ATTEST:

411 East Wisconsin Avenue
Milwaukee Wisconsin 53202-4497
414/277-5000
FAX 414/271-3552

Attorneys at Law in
Milwaukee and Madison, Wisconsin
West Palm Beach and Naples, Florida
Phoenix, Arizona

Quarles & Brady

April 8, 1994

Mr. Michael Schmoller
Wisconsin Department of Natural Resources
3911 Fish Hatchery Road
Madison, WI 53711

RE: 433-437 Woodward Avenue, Beloit

Dear Mike:

As you know, in a report dated January 3, 1994 Dames & Moore set forth an evaluation of remedial technologies and associated cost estimates for cleaning up the above property. A copy has been provided to you. The January 3, 1994 report indicated, for the first time, that remedial costs at this site are likely to exceed the \$1 million PECFA reimbursement limit. The Estate has already expended at least \$200,000 in PECFA reimbursable funds.

When we spoke earlier this week, I mentioned that the Estate's assets are nearly depleted. It is simply impossible for the Estate to fund the clean up out of its own pocket. Therefore, insofar as we can see, the only mechanism available for obtaining the capital necessary to undertake the project would be a loan. PECFA loans are made by several financial institutions. However, reimbursement of PECFA expenses is conditioned upon successful completion of remedial activities at the site. There must be some reasonable assurance that remediation at the site will be completed before a loan can be obtained. Since even a loan up to the PECFA cap may be insufficient to fund the entire remediation effort, some third party assurance that remediation would be completed will be required before the Estate would be able to obtain a PECFA loan.

DNR, of course, has funds available under the Environmental Response Fund ("ERF") for conducting clean up activities at sites where private party funding is unavailable. As I understand it, DNR has used ERF monies to pay for the portion of the site investigation which was conducted by Foth & Van Dyke.

Mr. Michael Schmoller
April 8, 1994
Page 2

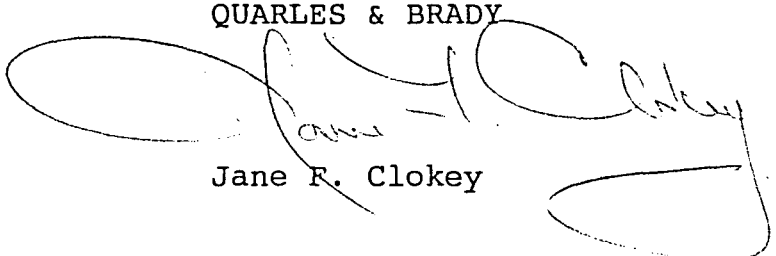
If DNR were willing to commit to apply ERF funds to complete remediation at the site if available PECFA funds are exhausted, it is likely that the Estate could obtain a PECFA loan. We have received preliminary indications from a major Wisconsin lending institution that funds up to the applicable PECFA "cap" would be available if such assurances were provided. Absent continuing participation by the Estate, the DNR very likely would be expending larger amounts to conduct the site clean up. Therefore, this proposal should be attractive to the DNR. The DNR's participation will be critical to the success of efforts to complete the site remediation.

The Estate would welcome DNR involvement in considering alternative remedial action plans which may be more cost-effective than those previously proposed for DNR/DILHR review and approval. One of the primary goals here is to assure that the site is cleaned up in a prompt and cost-effective manner.

I would like to meet with you to discuss this proposal at greater length. I can be reached at (414) 277-5519 or (608) 283-2610. I am hopeful that together we can develop a creative solution to this problem.

Very truly yours,

QUARLES & BRADY



Jane R. Clokey


JFC/jcd

cc: Mrs. Frances B. Sheehy
Thomas P. McElligott, Esq.
Robert Consigny, Esq.
Dave Townsend, City of Beloit
Ms. Kristine Casper, Dames and Moore
Eric Scott, DILHR
Richard Poirier, Esq.
Thomas R. Schrimpf, Esq.

17-340-301-1

QBMAD1\39062.

30855-003 102



DAMES & MOORE

250 EAST WISCONSIN AVENUE, SUITE 1500, MILWAUKEE, WISCONSIN 53202-4200
(414) 347-0800 FAX: (414) 347-0288

January 3, 1994

Ms. Frances B. Sheehy, Rep.
Ursula Borgerding Estate
10711 North De Le Warr Circle, 14 W.
Mequon, Wisconsin 53092

Re: Borgerding Estate Property
433-437 Woodward Avenue, Beloit, Wisconsin
Remediation Alternatives - Cost Evaluation

Dear Ms. Sheehy:

Dames & Moore is pleased to present the following cost evaluation of remedial technology alternatives for soil and ground water remediation at the Borgerding Estate Property (Property) referenced above. The evaluation is necessary to assess the feasible technologies as to their site-specific appropriateness and cost-effectiveness. Additionally, as stipulated in Wisconsin Administrative Code ILHR 47 (the PECFA code), section 47.335, a minimum of three remedial alternatives must be considered for possible implementation at sites eligible for reimbursement under the PECFA program. The Wisconsin Department of Natural Resources (WDNR) will require that the selected technology operate within WDNR guidelines and be able to achieve WDNR clean-up criteria. The Wisconsin Department of Industry, Labor and Human Relations (DILHR), which administers the PECFA program, will require that the technology selected is the least costly of the options that the WDNR will approve. If a more expensive technology is selected, PECFA will only reimburse the cost of the less expensive technology and the property owner will pay the difference.

Background

Site conditions have been documented in the following reports:

- CBC Environmental Services, 1989, A report for an underground storage tank closure site assessment at 435 Woodward Avenue, Beloit, Wisconsin.
- Dames & Moore, 1990, Subsurface investigation, Ursula Borgerding Estate, 435 Woodward Avenue, Beloit, Wisconsin.
- Dames & Moore, 1992, Phase III subsurface investigation report, Ursula Borgerding Estate Property, 433-437 Woodward Avenue, Beloit, Wisconsin.
- Foth & Van Dyke, 1993, Borgerding ERP project contamination study.
- Dames & Moore, 1993, Phase IV subsurface/remedial investigation, Ursula Borgerding Estate Property, 433-437 Woodward Avenue, Beloit, Wisconsin.

Following is a brief summary of the findings of the investigations. Petroleum fractions were found in the site soils and ground water in the vicinity of the former underground and above-ground storage tank systems. Ground water impacts appear to be largely confined to the site, although evidence of off-site impacts was found in the intermediate-depth monitoring well located south of the site, on the south side of Woodward Avenue (MW-11 well nest location). This occurrence is consistent with the identified ground water flow patterns at the site. The vertical extent of ground water impact attributable to the former operations at the site appears to be approximately 25 to 30 feet below the ground surface. Free petroleum has been detected on the ground water in one localized area of the site (MW-3 well nest location).

Specific issues to be considered during the evaluation of remedial technologies include the following:

- The Property is located within 500 feet of a recently-activated municipal water-supply well. The proximity of the site to the municipal well and the potential mobility of the contaminants in the soluble phase makes ground water remediation the main priority at the Property. Although preliminary monitoring indicates that the contaminated ground water on the Property does not immediately threaten the municipal well, sustained pumping of the well may cause the shallow impacted water at the Property to migrate toward the municipal well, potentially increasing the area requiring remediation and potentially threatening drinking-water quality. Ground water gradient control will likely be incorporated into any remedial action plan that will be conducted over time. Gradient control may consist of a physical barrier or pumping from ground water extraction wells on the Property.
- The thickness of the unsaturated zone at the Property is minimal due to the proximity of the Property to the Rock River, resulting in a high ground water table.
- The ground water plume generally appears to be moving toward the south-southwest, with horizontal and vertical gradients strongly related to the stage of the Rock River. However, off-site remedial system installation is impractical as the City of Beloit plans to relocate Woodward Avenue in the near future. Relocation of the street will likely interfere with remedial facilities located off site. Therefore, the ground water remediation system should address as much of the off-site impacts as possible from within the confines of the Property.
- The presence of free petroleum product in the area of the MW-3 well nest will require a limited period of pumping and product separation. During the product-recovery period, pumping rates will be minimized to limit vertical smearing of product within the aquifer.

Remedial Alternatives

The remedial alternative options evaluated below include:

- Alternative 1) **Air sparging** coupled with a physical barrier to maintain ground water gradient control, bioventing of the shallow, unsaturated soils and a vacuum extraction system to collect contaminated vapors from the unsaturated zone. Recovery of the free product will be conducted during the early period of remediation.

- Alternative 2) **Solidification/stabilization** of the entire impacted area, including the unsaturated soil and water-bearing aquifer material. Recovery of the free product may have to be conducted during the period prior to remediation.

- Alternative 3) **Pump and treat** ground water remediation coupled with vacuum extraction treatment of the unsaturated soils. Ground water treatment would consist of air-stripping followed by carbon adsorption polishing (if necessary) to recover less volatile contaminants. Recover of the free product will be conducted during the early period of remediation.

A discussion of advantages and disadvantages of each of these options is presented below. Cost estimates for these options are also discussed, but are subject to change based on the clean-up objectives that the WDNR will establish, the length of time required to achieve those objectives, and other hydrogeologic and engineering characteristics of the site that will be determined prior to installation of the complete remedial system. Some of those characteristics include air-permeability of the soils and improved estimates of the hydraulic properties of the aquifer, which will be determined through a series of tests to be conducted prior to finalizing the system design parameters.

Passive bioremediation (natural biodegradation) was not evaluated, as the WDNR does not consider the technology appropriate for remediation of the site for the following reasons:

- Passive bioremediation is not an applicable technology for remediation of ground water, particularly at this site, where ground water remediation is the main priority due to the proximity of the site to a municipal drinking-water source.

- The soil at the site is a continuing source of ground water contamination and will require active remediation to minimize the duration of the ground water remedial effort. Additionally, the thickness of the unsaturated soils, which may be amenable to passive bioremediation at the site is minimal due to the high ground water table.

In addition to the tasks that will be conducted prior to final system design (i.e., pumping test, soil-gas permeability test, etc.), several tasks will have to be conducted at the site during and following the remedial effort regardless of the alternative selected. These tasks include regular ground water monitoring, confirmation sampling and post-treatment monitoring.

Alternative 1 - Air Sparging/Bioventing

Description

Air sparging/bioventing addresses both soil and ground water *in-situ*. Bioventing is a process of moving air through contaminated soils in the unsaturated zone to increase soil oxygen concentrations, and stimulate the biodegradation of contaminants by indigenous microbial populations. Soil is treated by biodegradation of petroleum products aided by the circulation of warm, moist, nutrient-enriched air. The heat and moisture control, as well as oxygen and nutrient circulation, greatly enhances the microbial activity, which accelerates the desorption and biodegradation of petroleum products in the soil. Unlike soil vapor extraction and air sparging techniques, a low air flow is maintained to allow the microbes to degrade the contaminants in the soil before the contaminants are volatilized and become part of the off-gas stream.

Ground water impacts are addressed by the air sparging component of the system through *in-situ* air stripping and oxygenation. Using this technique, air is injected below the water table, where volatile contaminants are mobilized with the vapor stream into the unsaturated zone. Once in the unsaturated zone, the contaminants may be biodegraded and/or further mobilized for treatment. The system would be coupled with a shallow, low air-flow vacuum extraction system to capture fugitive emissions generated as a result of the air sparging and microbial activities. Additionally, a localized free-product recovery system would be installed to recover free product found in the area of the MW-3 well nest. Product recovery operations would be required prior to initiation of the full air sparging/bioventing system.

Major System Components and Operational Requirements

The free-product recovery system would include a treatment-system building, extraction wells, pumps, an oil-water separator, effluent treatment (consisting of an air stripper possibly followed by carbon adsorption), and associated plumbing. The air sparging system includes pumps and blowers for circulating the air, heat and moisture control, and associated plumbing. Fugitive emissions will be recovered and treated using a low flow-rate vacuum extraction system and a vapor-phase treatment system (if necessary). The air-handling systems would also require a set of injection and extraction wells and the pumping system. A slurry wall would be installed to maintain ground water gradient control.

Additionally, as naturally-occurring nutrients may not be sufficient to sustain the microbial populations needed to remediate the range of petroleum contaminants found at the site, additional nutrients may be added to the shallow soils using a shallow trench application system. An

impermeable cap would be installed to control short-circuiting of air within the shallow vacuum extraction system.

Prior to installation of the system, a bench-scale test would be conducted to determine the system/microbial parameters. The extraction/injection system would include one or more extraction and injection zones on the Property. The air-injection wells would be drilled to a treatment depth of approximately 30 feet. A slurry wall would be constructed to maintain ground water gradient control, as the sparging action may cause the ground water to "mound" in the treatment area, forcing ground water to flow away from the site.

The vacuum extraction system would be installed as a series of horizontal wells. The building slabs located at the property may have to be removed to facilitate addition of nutrients and operation of the vacuum extraction system in those areas.

Applicability

Air sparging/bioventing technology appears to be suited to remediation of the broad range of petroleum compounds in the concentrations identified at the Property and would allow the treatment of both the soil and ground water without substantial disposal or discharges of either medium. The physical effect of the sparge system on the ground water flow patterns at the site could be effectively controlled by use of slurry walls. The thin unsaturated zone will result in a lower air flow rate, and thus a smaller blower system than might be typically used in a larger soil vacuum extraction system.

Limitations

Limitations of the air sparging/bioventing system include the current WDNR stance on injection into the subsurface: the WDNR may not allow application of nutrients to the soil, which may limit the effectiveness of the bioventing part of the system, thus increasing the cost and time required for remediation. Additionally, the thin unsaturated zone at the Property, which may be reduced by ground water mounding during air sparging operations, may not allow sufficient contaminant-retention time for optimal biodegradation.

The slurry wall for ground water gradient control may need to be placed along the perimeter of several sides of the Property to ensure that the sparging system does not encourage additional off-site migration of contaminated ground water. Thus, the effects of the air sparging and bioventing system will be effectively limited to within the gradient controlled area and air sparging/bioventing will not address impacts that have already mobilized off site.

Costs

The costs for an air sparging/bioventing system include system optimization, capital expenses, operation and maintenance (O&M), demobilization and restoration, and post-treatment monitoring costs. System optimization may include pumping tests, soil-gas permeability tests, *in-situ* respiration tests and bench-scale tests, which will be required to prepare the final design of the remedial system.

Capital expenses include: 1) purchase or long-term rental of the pumps, blowers and vacuum system; and 2) installation of the system, including the infrastructure, slurry walls and nutrient application. Removal of the building slabs (if needed) would also be a capital expense.

O&M costs include monitoring, reporting and maintenance expenses. O&M costs are incurred during the life of the remediation program and are, therefore, dependent on the anticipated length of operation. Insufficient information is currently available to accurately estimate the expected duration of remediation, however, following establishment of clean-up criteria and after conducting system optimization tests of system components, an estimated duration can be more accurately developed. For the purpose of this evaluation, a five-year operation period is assumed.

Demobilization and restoration expenses are incurred at the end of the remediation activities and consist of decommissioning the remediation system and restoring the surface conditions (i.e., abandoning wells and removal of the treatment-system housing). Post-treatment monitoring consists of confirmation sampling and a ground water monitoring program aimed at assessment of the long-term effectiveness of the remedial program. For the purposes of this evaluation, post-treatment monitoring is assumed to consist of quarterly ground water monitoring for a period of two years. The estimated costs of the air sparging/bioventing system program are as follows:

Task	Consulting	Services & Commodities	Total
System optimization	\$76,655	\$43,140	\$119,795
Capital	\$62,600	\$285,700	\$348,300
O&M	\$259,600	\$400,000	\$659,600
Demobilization	\$14,310	\$36,125	\$50,435
Post-treatment	\$26,640	\$57,600	\$84,240
TOTAL	\$439,805	\$822,565	\$1,262,370

Alternative 2 - Solidification/Stabilization

Description

The stabilization and solidification process reduces the mobility of contaminants by encapsulating or incorporating the contaminants within a low-permeability matrix. With stabilization and solidification methods, the agent is introduced into the soil *in-situ*.

Various stabilization agents are used in the solidification process. The agents are categorized as cement-based, silicate-based, thermoplastic-based, or organic polymer-based. Examples of these

material include ferric chloride and aluminum sulfate, Portland cement and fly ash, and calcium aluminum silicates. To give the matrix specific characteristics, additive(s) will often be combined with the primary stabilizing agent. An example is the addition of silicate to cement that will stabilize a wider range of material than a cement-based stabilizing agent alone. Stabilization mechanisms may include precipitating chemicals to form relatively insoluble compounds, binding precipitated chemicals into a solidified matrix to decrease exposed surface area (and leachability), forming chemical complexes, or adsorbing contaminants on surfaces of fixation materials. When selecting the stabilizing agents and the additives, determination of the waste-to-additive ratio and mixing and curing conditions must be addressed, typically through bench-scale testing. This is to ensure that the integrity of the end product can be predicted. Free product may have to be recovered prior to solidification/stabilization if the product would interfere with the agents or potentially degrade the final matrix.

After the introduction of the stabilizing and solidifying compounds, the matrix is allowed to cure and solidify. Depending on the mixing agent and the physical properties of the matrix, the final product may take various forms ranging from a friable, soil-like material to a rigid solid.

Major System Components and Operational Requirements

The requirements for the solidification/stabilization technique include the solidification and stabilization agents and an injection/mixing system. Additionally, a monitoring system may be maintained to evaluate off-gas generation and temperature (if the mixture will react thermally during curing). Removal of the existing building slabs within the impacted area may be required.

Long-term zoning control at solidified/stabilized sites is essential, as freeze-thaw cycles may potentially damage the compressive strength of the surface soils, possibly making them unsuitable for site development. Additionally, the incorporation of cement into saturated soils may cause the volume of treated soils to increase, causing about one inch rise in ground level per foot of treatment depth. Excavations for buildings, buried utilities or any other development may also damage the integrity of the final matrix. Additionally, the type of vegetation on a solidified/stabilized site must be monitored to ensure that roots do not damage the matrix integrity.

Applicability

The greatest advantage of solidification/stabilization is the expeditious manner in which the Property could be remediated. The actual process could likely be completed within less than three months. However, volatile compounds have not been extensively tested with respect to this technology. Off-gases generated during the curing and settling phases are likely to contain much of the volatile fraction found in the soil. If the curing process generates heat, the release of volatiles in the off-gases will likely occur. The feasibility and effectiveness of solidification/stabilization of the saturated zone cannot be adequately determined without bench-scale testing. Depending on the particular agent used, the site may need to be temporarily dewatered, adding associated dewatering equipment and water treatment costs.

Advantages of this approach for application to the Property include: 1) when remediated, the Property is intended to be used as a grass park area with limited development, and 2) most of the impacted soils and ground water are within the site boundaries, allowing for a limited area requiring solidification/stabilization and minimal risk for spreading contaminants.

Limitations

As stated above, volatile compounds have not been extensively tested with respect to this technology. Off-gases generated during the curing and settling phases are likely to contain much of the volatile fraction found in the soil, which may increase monitoring costs or result in the need for off-gas treatment. The long-term effects of the solidification are not known and are expected to vary according to site conditions. In the presence of leachable metals, the effectiveness of certain stabilization methods will vary. Additionally, the presence of soluble salts of manganese, tin, zinc, copper and lead will reduce the strength of the final product, cause variations in settling time and reduce the dimensional stability of the cured matrix, which could increase the leachability potential of the final product. Additionally, this technology will not address any contaminants that have mobilized off site south of the Property, if all solidification/stabilization is conducted on site.

Costs

The costs associated with this type of remedial approach can be divided into optimization, capital and post-treatment monitoring. For purposes of this analysis, optimization is assumed to include all preliminary testing, such as moisture content at saturation, density at varying degrees of consolidation, bulk specific gravity, aquifer parameters, mix identification and matrix testing. Capital costs are assumed to include costs associated with the injection of the stabilization material, including mobilization and demobilization of the necessary equipment. Also included as capital tasks are: 1) securing zoning restrictions; 2) installation of the monitoring network; and 3) monitoring the matrix curing, temperature, off-gases and other necessary parameters. Removal of the building slabs (if necessary) would also be considered a capital cost.

Post-treatment tasks include monitoring the stability of the treatment matrix and ground water monitoring. For the purposes of this evaluation, monitoring will be assumed to consist of quarterly sampling during a five-year period. The estimated costs are summarized below:

Task	Consulting	Services & Commodities	Total
System optimization	\$19,700	\$10,100	\$29,800
Capital	\$77,940	\$1,184,300	\$1,262,240
Post-treatment	\$19,240	\$28,800	\$48,040
TOTAL	\$116,880	\$1,223,200	\$1,340,080

Alternative 3 - Ground Water Recovery and Treatment/Vacuum Extraction

Description

Ground water at the Property would be recovered through a series of recovery wells and treated *ex-situ* using an air stripper for the volatile petroleum fractions, followed by liquid-phase carbon adsorption (if necessary) as a polish for the less volatile petroleum compounds found at the site. Air stripping is a mass transfer process in which volatile contaminants are evaporated into the air. In the air stripping process, recovered water is pumped into the system through the top of a stripping tower or system of trays at a controlled flow rate. Clean air is blown from the base of the system, counter-current to the water flow, to increase the area of contact and allow volatilization of organic compounds into the air stream. The air stream may then be passed through a de-mister to remove additional moisture.

Carbon adsorption treatment consists of passing contaminated air or water through a bed of granular activated carbon, allowing the contaminants to adsorb to sorption sites on the carbon surfaces. Carbon adsorption efficiency is controlled primarily by the number of sorption sites on the activated carbon and the affinity of the target molecule or compound for that media. The activated carbon will continue to adsorb treatable compounds as long as sorption sites are available to the contaminated media. Spent activated carbon must be regenerated or disposed in an appropriate manner. Carbon adsorption can be used to treat contaminants in ground water or the vapors generated during air stripping or vacuum extraction, as necessary.

During the first months of ground water recovery operations, pumping rates would be minimized to allow for recovery of the free product found in the area of the MW-3 well nest. Lower pumping rates would allow the product to be recovered with minimal vertical smearing of the product on the aquifer material. Following recovery of the free product, pumping rates could be increased to optimize drawdown and the extent of the ground water capture zone developed.

The saturated aquifer material would be treated by the flushing action of the flowing ground water, causing desorption of contaminants during the ground water recovery operations. The unsaturated soil, the thickness of which would be increased by the ground water recovery operations, would be treated using a shallow vacuum extraction system. Soil vacuum extraction (SVE) is the process by which a vacuum is applied to a well or wells to extract volatile compounds in the vapor phase. SVE technology is applicable to the removal of a wide variety of volatile compounds and is most effective in permeable soils, such as those found at the Property.

Major System Components and Operational Requirements

The requirements for the ground water recovery and treatment system include a treatment-system building, ground water extraction system, including extraction wells, pumps and appropriate plumbing; an air stripper sized to treat the design volume and flow rate of water pumped by the ground water recovery wells; and (if necessary) the carbon adsorption system, including properly-

sized carbon vessels and regeneration or staging and disposal facilities for spent carbon. The free-product recovery system would utilize much of the same extraction and plumbing system as the ground water recovery system but would require product recovery pumps and an oil-water separator system prior to processing the recovered water through the air stripper and carbon systems.

The vacuum extraction system would require extraction/injection wells and associated plumbing; vacuum pumps or blowers; a de-mister; and (if necessary) off-gas treatment. Liquids recovered by the system could be processed through the ground water treatment system. The existing building slabs within the impacts area may have to be removed to facilitate operation of the vacuum extraction system.

Applicability

The combination of air stripping for treatment of the ground water will effectively treat the petroleum compounds found at the Property. The volatile fraction will be effectively treated in the air stripper and (if necessary) semi-volatile petroleum compounds, which may not be readily removed by air stripping, could be recovered in a carbon adsorption system. The cost-effectiveness of the ground water treatment system will be dependent on several factors, including the ground water and contaminant recovery efficiency, treatment system efficiency and various operation and maintenance costs.

Vacuum extraction will effectively recover the volatile fractions from the unsaturated soil but will be less effective at recovering some of the semi-volatile compounds. Both ground water recovery and SVE technologies are well suited to the coarse soils found at the Property.

Limitations

Semi-volatile compounds will not be readily recovered by pumping ground water or treating the unsaturated soil using SVE technology. However, with the exception of naphthalene, semi-volatile compounds have only been detected in substantial concentrations in the ground water at MW-3S. Most of the semi-volatiles found in this area are believed to be the result of dissolution of asphalt or coal due to the presence of the free petroleum in this area. Therefore, recovery of the free product is anticipated to significantly reduce the concentration of semi-volatile compounds requiring recovery by use of the ground water pumping and SVE technologies.

Costs

The costs associated with the ground water recovery and treatment and SVE systems can be divided into system optimization, capital, O&M, demobilization and post-treatment costs. System optimization costs include conducting a pumping test to assess optimal ground water recovery rates and achievable drawdown/capture zone for use in sizing pumps, treatment systems and optimizing extraction well location; and soil-gas permeability testing.

Capital expenses include: 1) purchase or long-term rental of the pumps, air stripper, carbon treatment system (if necessary), blowers and vacuum system; 2) installation of the system, including the infrastructure; 3) system start-up and optimizing system performance; and 4) (if necessary) removal of the building slabs.

O&M costs include monitoring, report and maintenance expenses. O&M costs are incurred during the life of the remediation program and are, therefore, dependent on the anticipated length of operation. Insufficient data are currently available to accurately estimated the expected duration of remediation, however, following establishment of clean-up criteria and after conducting system optimization tests of system components, an estimated duration can be more accurately developed. For the purpose of this evaluation, a five-year operation period is assumed.

Demobilization and restoration expenses are incurred at the end of the remediation activities and consist of decommissioning the remediation system and restoring the surface conditions (i.e., abandoning wells and removal of the treatment-system housing). Post-treatment monitoring consists of confirmation sampling and a ground water monitoring program aimed at assessment of the long-term effectiveness of the remedial program. For the purposes of this evaluation, post-treatment monitoring is assumed to consist of quarterly ground water monitoring for a period of two years. The estimated costs of the ground water recovery and treatment/SVE system program are as follows:

Task	Consulting	Services & Commodities	Total
System optimization	\$74,640	\$42,540	\$117,180
Capital	\$56,600	\$82,500	\$139,100
O&M	\$260,800	\$408,000	\$668,800
Demobilization	\$14,310	\$36,125	\$50,435
Post-treatment	\$27,040	\$57,600	\$84,640
TOTAL	\$433,390	\$626,765	\$1,060,155

Recommended Remedial Technology

Although all of the technologies evaluated are technically feasible and generally applicable to the remediation of the Borgerding Estate Property, the selected remedial action, based on cost-effectiveness, is Alternative 3 - Ground Water Recovery and Treatment Coupled with Soil Vacuum Extraction. Please note that this cost evaluation has been prepared to address only the contamination at the site that is eligible for some reimbursement under the current PECFA program. Additional remedial actions will be required to address the paint waste area located north and west

Ms. Frances B. Sheehy, Rep.
January 3, 1994
Page 12

of the eastern-most building on the Property and other tasks associated with the remediation that are not eligible for reimbursement under PECFA. A proposal to include complete remediation of the Property, both PECFA-eligible and non eligible contamination, will be prepared for your review following review and approval of this remedial alternatives evaluation by WDNR and DILHR.

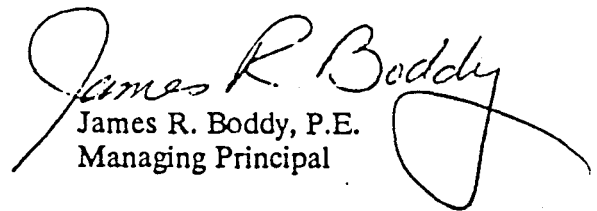
Thank you for the opportunity to present this evaluation. If you have any questions, please contact either of the undersigned.

Sincerely,

DAMES & MOORE, Inc.



Kristine M. Casper
Project Manager/Hydrogeologist



James R. Boddy, P.E.
Managing Principal

Attachment

cc: Mr. Robert Consigny
Mr. Thomas McElligott
Mr. Michael Schmoller, WDNR
Mr. Russell Haupt, DILHR

Ursula Borgerding Estate
Beloit, Wisconsin
Remedial Technology Cost Evaluation
Option 3 - Ground Water Recovery/Vacuum Extraction

TASK	AMOUNT
System Optimization	\$117,180.00
Pumping Test (ground water)	\$65,530.00
Consulting	\$31,490.00
Plan preparation	\$3,160.00
Permits and notifications	\$1,400.00
Personnel field prep time	\$3,000.00
Bid preparation, contractor selection, contracting	\$3,400.00
Personnel field time	\$7,200.00
Expenses	\$2,935.00
Field equipment	\$1,975.00
Office analysis/report preparation	\$5,040.00
Project management and office support	\$3,380.00
Services & Commodities	\$34,040.00
Drilling/well installation	\$6,500.00
Water/soil containers (incl. transportation and cleaning)	\$2,000.00
Electrical installation/electrician	\$3,000.00
Water discharge installation	\$2,500.00
Pump	\$1,000.00
Oil-water separator	\$5,940.00
Carbon (incl. disposal)	\$7,800.00
Carbon disposal analyses	\$750.00
Treatment housing	\$2,000.00
Plumber	\$750.00
Laboratory analyses	\$1,800.00
SVE Testing	\$20,420.00
Consulting	\$11,920.00
Personnel field prep	\$1,120.00
Personnel field labor	\$4,950.00
Expenses	\$1,780.00
Office analysis/report preparation	\$1,580.00
Field equipment	\$1,220.00
Project management and office support	\$1,270.00
Services & Commodities	\$8,500.00
Drilling/well installation	\$2,000.00
Manifold installation	\$1,500.00
Blower, demister, canisters, silencers, vapor-phase carbon	\$5,000.00
Final System Design	\$31,230.00
Consulting	\$31,230.00
Design preparation	\$23,270.00
Health & safety plan	\$1,220.00
Bidding, contracting	\$3,400.00
Project Management and office support	\$3,340.00

Ursula Borgerding Estate
 Beloit, Wisconsin
 Remedial Technology Cost Evaluation
 Option 3 - Ground Water Recovery/Vacuum Extraction

TASK	AMOUNT
Capital Expenses	\$139,100.00
System Installation	\$128,100.00
Consulting	\$45,600.00
Oversight	\$32,000.00
Expenses	\$12,200.00
Field equipment	\$1,400.00
Services & Commodities	\$82,500.00
Pumps	\$10,000.00
SVE manifold installation	\$2,500.00
Ground water conveyance	\$4,000.00
Treatment housing and appurtenances	\$17,000.00
SVE system/vapor treatment system	\$19,000.00
Telemetry and instrumentation	\$10,000.00
Air stripper	\$20,000.00
System Start-Up	\$11,000.00
Consulting	\$11,000.00
Personnel field time	\$8,000.00
Expenses	\$2,850.00
Field equipment	\$150.00
Operations and Maintenance (est. 5 years operation)	\$668,800.00
Quarterly ground water sampling (cost*60 months estimated operation)	\$346,300.00
Consulting (cost per month average)	\$971.67
Personnel field prep time	\$200.00
Personnel field time	\$1,420.00
Expenses (included in system monitoring)	\$0.00
Field equipment	\$280.00
Reporting	\$705.00
Project management and office support	\$310.00
Services & Commodities (cost per month)	\$4,800.00
Electricity	\$1,200.00
Laboratory analytical services	\$3,600.00
System Monitoring (cost*60 months estimated operation)	\$322,500.00
Consulting (cost per month)	\$3,375.00
Water/air sampling	\$1,240.00
Expenses	\$440.00
Field equipment	\$220.00
Office analyses/reporting	\$1,115.00
Project management and office support	\$360.00
Services & Commodities (cost per month)	\$2,000.00
Laboratory analyses (air)	\$1,200.00
Laboratory analyses (water)	\$600.00
Carbon change-out (vapor; incl. disposal)	\$200.00

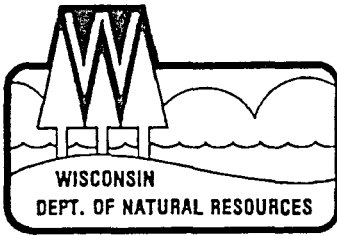
Ursula Borgerding Estate
Beloit, Wisconsin
Remedial Technology Cost Evaluation
Option 3 - Ground Water Recovery/Vacuum Extraction

TASK	AMOUNT
<u>Demobilization</u>	<u>\$50,435.00</u>
Consulting	\$14,310.00
Personnel field prep time	\$1,120.00
Field personnel time	\$4,000.00
Office analyses/reporting	\$7,650.00
Project management and office support	\$1,540.00
Services & Commodities	\$36,125.00
Excavation and demolition contractors	\$30,000.00
Well abandonment	\$2,000.00
Constructon debris disposal	\$4,125.00
<u>Post-Treatment Monitoring (2 year program)</u>	<u>\$84,640.00</u>
Consulting (cost*8 sampling events)	\$27,040.00
Personnel field prep time	\$200.00
Personnel field time	\$1,420.00
Expenses	\$410.00
Equipment	\$255.00
Reporting	\$735.00
Project management and office support	\$360.00
Services & Commodities (cost*8 sampling events)	\$57,600.00
Laboratory analytical services	\$7,200.00
ESTIMATED TOTAL	<u><u>\$1,060,155.00</u></u>

Assumptions:

5 year operation time, 2 year post-treatment program
 no liquid-phase vapor carbon will be required
 SVE requires 400 lineal feet well network
 visqueen/soil surface cover
 unsaturated treatment area = 150' x 150' x 5'
 depth to ground water average = 5'
 ground water contaminated to a depth of 30'
 K = 10E-2 cm/sec (sand and gravel with layer of organic muck at 5-7)

JYE



State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Southern District Headquarters
3911 Fish Hatchery Road
Fitchburg, Wisconsin 53711
TELEPHONE 608-275-3266
TELEFAX 608-275-3338

George E. Meyer
Secretary

March 11, 1994

Ms. Jane Klokey
Quarles and Brady
411 East Wisconsin Avenue
Milwaukee, WI 53202

SUBJECT: Borgerding Site

Dear Ms. Klokey:

This is just a quick note to confirm the results of our March 10, 1994, phone call. As I understand, you will be negotiating with the City of Beloit and one or more banks to secure financing to complete remediation of the Borgerding site. The negotiations will be completed by the end of March and at that time, you will be able to tell the Department whether or not your client can continue with site clean up.

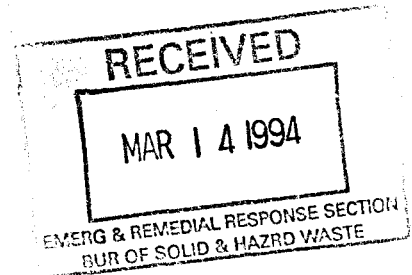
Based on that information, the Department can then decide what course of action we will need to follow.

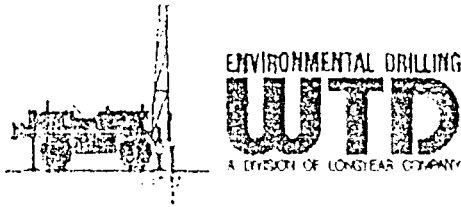
Sincerely,

Michael R. Schmoller
Hydrogeologist
Telephone: (608) 275-3303

MRS:ps
9404\swlbrger.mrs

cc: ~~Bob Strous~~ - SW/3
Joe Renville - LE/5





101 ALDERSON
 P. O. BOX 109
 SCHOFIELD, WISCONSIN 54476-0109
 (715) 359 7090
 FAX (715) 355-5715

11/10/92

Proposal No. 000306

ROTH & VAN DYKE AND ASSOCIATES
 1737 S. RIDGE ROAD
 P.O. BOX 19012
 GREEN BAY, WI 54307-9012

ATTN: Lanette Altenbach
 RE: Horgardeng Site
 Beloit, WI

LADIES / GENTLEMEN:

IN ACCORDANCE WITH YOUR RECENT REQUEST, WE ARE PLEASED TO SUBMIT OUR PROPOSAL FOR THE DESIRED TECHNICAL AND PROFESSIONAL SERVICES REQUIRED FOR THE ABOVE REFERENCED PROJECT.

IT IS OUR UNDERSTANDING THAT:

Two 50 foot test borings with Hydro-Punch sampling, one 15 foot monitoring well, one 25 foot monitoring well, and three 50 foot wells will be installed for this project. The test borings and deep wells will have to be drilled with the mud-rotary method because of the hydrostatic pressure, and the shallow wells will be drilled with hollow-stem-augers. All work will be done in accordance with NR-141 and your specifications. We have assumed that this site is truck accessible. If you have any questions regarding this proposal please give me a call.

SERVICE	U.O.M.	\$ RATE	QNTY	\$EST. COST
Mobilization	Lump Sum	500.00	1	500.00
Per Diem	Day	135.00	5+1	675.00 +135
Project Coord. & Report	Lump Sum	150.00	1	150.00
Drill & Sample 4 1/4" HSA	Ft. (0-20)	13.00	35+20	455.00 + 260
Drill & Sample 4 1/4" HSA	Ft. (20-40)	15.00	5+20	75.00 + 300
Drill & Sample 0-20	Foot	15.00	100	1,500.00
Drill & Sample 20-40	Foot	17.00	100	1,700.00 "
Drill & Sample 40-80	Foot	19.00	50+10	950.00 +190
Hydro Punch Rental	Day	100.00	2	200.00
Hydro Punch Sampling	Hour	75.00	10	750.00
Boring Abandonment	Ft.	4.00	100	400.00
Monitoring Well Constr.	Ft.	13.00	190+50	2,470.00 +650
Protective Tops	Ea.	145.00	5+1	725.00 +145
Steam Cleaner	Day	100.00	5+1	500.00 +100
Decontamination	Hour	105.00	8+1	840.00 +105

WE ASSUME NORMAL DRILLING CONDITIONS, i.e. BPF <50. IF EXCESSIVE BLOW COUNTS OF 50 OR MORE ARE ENCOUNTERED, A SURCHARGE OF \$3.00/FT. WILL BE ADDED IF BLOW COUNTS OF 100 OR MORE ARE ENCOUNTERED, A SURCHARGE OF \$5.00/FT WILL BE ADDED. 13775

BASED UPON THE SCOPE OF WORK AS SUMMARIZED ABOVE, THE COST FOR THIS PROJECT WOULD BE APPROXIMATELY \$11,890.00 DEPENDING ON ACTUAL WORK PERFORMED.

WE APPRECIATE YOUR CONSIDERATION ON THIS MATTER AND LOOK FORWARD TO WORKING WITH YOU ON THIS AND FUTURE PROJECTS.

revised
8/25/93

Foth & Van Dyke

Engineers

Architects

Planners

Scientists

August 25, 1993

2737 S. Ridge Road
P. O. Box 19012
Green Bay, WI 54307-9012
414/497-2500
FAX: 414/497-8516

Mr. Mike Schmoller
Wisconsin Department of Natural Resources
Southern District Headquarters
3911 Fish Hatchery Road
Madison, WI 53711

Dear Mr. Schmoller:

RE: Request for Change Order No. 2
Additional Drilling Expenses for the Borgerding Site
Beloit, Wisconsin

As we have discussed over the phone, additional costs incurred during the field work included well development, drums for containerization of drilling mud and wet soil cuttings, sidewalk removal, and placement of safety signs for work that could not be performed completely out of the way of traffic on the highway.

I have tabulated both the estimated costs and the actual incurred costs on the attached table. I have included a copy of the original drilling quote and the current drilling invoice. Note that the original drilling quote was revised by myself, after your request for an additional monitoring well. I had checked with the drilling firm about the additional well and I was told to use the same unit prices and add the additional amount required for one more well. This is shown on the copy of the original quote by the handwritten prices.

The placement of the off site wells was originally planned for an area not requiring special safety precautions, but because the wells were located in the sidewalk south of the site, the drill rig could not completely be off of the highway. This required that signs be placed at the far end of the bridge so that the right lane of the highway could be temporarily closed.

The off site wells could not be installed in the grass south of the sidewalk because that area was the location of an eight-inch high pressure gas main. That left the only area for the placement of the off site wells south of the site in the sidewalk. The sidewalk was constructed so that saw cutting of an area for each well was not feasible, but instead several slabs of sidewalk were removed to accommodate one soil boring for hydropunch sampling of the groundwater and the placement of three monitoring wells.

The attached table breaks down the cost of the work and the markup applied according to our rate schedule attached in the original proposal. We are requesting the following increase in cost for the drilling subcontractor.

Well Development	11 hours at \$75/hour	\$825.00
Drums	59 at \$45/each	\$2,655.00
Road Signage	6 hours at \$75/hour	\$450.00
Concrete Removal	2.5 hours at \$95/hour	\$237.50
	Subtotal	\$4,167.50
	Markup	\$416.75
	Total	\$4,584.25

Mr. Mike Schmoller
Wisconsin Department of Natural Resources
August 25, 1993
Page 2

Please contact me if you have any questions about this request.

Sincerely,

Foth & Van Dyke



Lanette L. Altenbach, C.P.G.
Senior Hydrogeologist

LLA:jef

Enclosure

cc: Gary Sikich, Foth & Van Dyke (w/encl.)

Table 1
Cost Comparison
Drilling Quote Versus Actual Billing

Service	Unit of Measure	Quote Unit x \$/Unit	Cost (\$)	Actual Invoice Unit x \$/Unit	Cost (\$)
Included in Original WTD Quote					
MOB	Lump	1 x \$500	500	1 x \$500	500
Per Diem	Day	6d x \$135/d	810	7d x \$135/d	945
Proj. Coord. and Report	Lump	1 x \$150	150	1 x \$150	150
Drill & Sample 4 1/4" HSA (0-20 ft)	Feet	55 ft x \$13/ft	715	66.9 ft x \$13/ft	869.70
Drill & Sample 4 1/4" HSA (20-40 ft)	Feet	25 ft x \$15/ft	375	--	--
Drill & Sample 0-20 (Rotary)	Feet	100 ft x \$15/ft	1,500	--	--
Drill & Sample 20-40 (Rotary)	Feet	100 ft x \$17/ft	1,700	22 ft x \$17/ft	374
Drill & Sample 40-80 (Rotary)	Feet	60 ft x \$19/ft	1,140	13 ft x \$19/ft	247
Earth Drill 0-20'	Feet	--	--	140 ft x \$12/ft	1,680
Earth Drill 20-40'	Feet	--	--	105 ft x \$14/ft	1,470
Earth Drill 40-80'	Feet	--	--	56 ft x \$17/ft	952
Hydropunch Rental	Day	2d x \$100/d	200	2d x \$100/d	200
Hydropunch Sampling	Hour	10 hr x \$75/hr	750	6 hr x \$75/hr	450
Boring Abandonment	Feet	100 ft x \$4/ft	400	970 ft x \$4/ft	388
Monitoring Well Construction	Feet	240 ft x \$13/ft	3,120	238.5 ft x \$13/ft	3,100.50
Protective Tops/Flush Mounts	Each	6 x \$145/ea	870	6 x \$150/ea*	900
Steam Cleaner	Day	6d x \$100/d	600	5d x \$100/d	500
Decon	Hour	9 hr x \$105/hr	945	11 hr x \$105/hr	1,155
Subtotal			13,775		13,881.20
Markup			2,025		1,388.12
Total			15,800		15,269.32
Included in Change Order No. 1					
Replace Protops w/Flush Mounts	Each	6 x 195	1,755	9 x \$195/ea*	1,755
Replace Sidewalk	Lump	350	350	1 x 175**	175
Subtotal			2,105		1,930
Markup			0		193
Total			2,105		2,123
Not Included in Original WTD Bid					
Well Development	Hour	--	--	11 hr x \$75/hr	825
Drums	Each	--	--	59 @ \$45/ea	2,655
Set up Road Signs	Hour	--	--	6 hr x \$75/hr	450
Bust Out Concrete	Hour	--	--	2.5 hr x \$95/hr	237.50
Subtotal			0		4,167.50
Markup					416.75
Total					4,584.25
GRAND TOTAL			17,905		21,976.57

*\$5 increase covered in Change Order No. 1, nine retrofit flush-mounts included in Change Order No. 1.

**Change Order No. 1 included \$350 for sidewalk replacement actual cost was less.

August 10, 1993

received 8/16/93 ms
Foth & Van Dyke

Engineers

Architects

Planners

Scientists

Mr. Mike Schmoller
Wisconsin Department of Natural Resources
Southern District Headquarters
3911 Fish Hatchery Road
Madison, WI 53711

2737 S. Ridge Road
P. O. Box 19012
Green Bay, WI 54307-9012
414/497-2500
FAX: 414/497-8516

Dear Mike:

RE: Drilling Costs for the Borgerding Site

Per your request, this letter provides an explanation of the change in the total cost of drilling based on the actual work performed in the field. For your review I am including a copy of the original quote I received from WTD Environmental Drilling for the work proposed at the Borgerding site. The original quote had the cost for one additional well added to the price. In addition to a copy of the original quote, I have prepared Table 1, which compares the quoted cost to the actual charged cost.

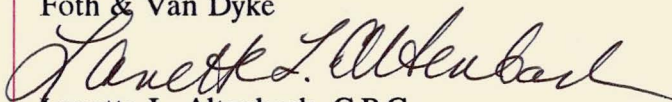
While preparing Table 1, two omissions from the original quote were noted. These omissions include the cost and number of drums required for containerization of the waste generated during drilling and the cost for well development. Additionally, two other unanticipated costs were incurred due to the relocation of the MW-11 well nest from inside the WPS property to the highway right-of-way. These two costs were for placing safety warning signs along the highway (since the drill rig partially blocked the rightmost lane during drilling) and for removal of two sections of concrete sidewalk. Originally, the plan was to place the wells beyond the sidewalk into the grassy part of the right-of-way. However, an eight-inch natural gas line prevented placement of the wells in the grass.

Table 1 provides several different totals for comparison. Based on the initial WTD quote, the drilling costs were approximately \$600 less than originally estimated. The roughly \$4,000.00 increase in the drilling costs were for the above mentioned reasons. These additional costs are also shown on Table 1.

We feel that the work performed by the drilling subcontractor was efficiently performed in a professional manner. We believe that the amount requested for compensation is justified. Please contact me if you have any questions or comments.

Sincerely,

Foth & Van Dyke



Lanette L. Altenbach, C.P.G.
Project Hydrogeologist

LLA/lb

Enclosure

cc: Gary Sikich (w/encl.)
Rick Panosh (w/encl.)
File-5000 (w/encl.)



State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Carroll D. Besadny
Secretary

BUREAU OF FINANCE
101 S. Webster St., Box 7921
Madison, Wisconsin 53707
TELEPHONE 608-266-2115
TELEFAX 608-264-6277
TDD 608-267-6897

October 02, 1992

RECEIVED

OCT 02 1992

BUREAU OF SOLID -
HAZARDOUS WASTE MANAGEMENT

Mr. Gary Sikich
Foth & Van Dyke
2737 S. Ridge Road
Green Bay, WI 54307-9012

Dear Mr. Sikich:

Your firm has been selected by our Environmental Repair Fund Consultant Selection Committee to be the primary consultant for the Borgerding ERP project.

Enclosed is the Scope of Work, our standard contract, and groundwater quality monitoring data instructions. Please note that article 6 of the standard contract requires approval by the Department for any work subcontracted. A statement of the potential subcontractor's qualifications must be submitted to the Department prior to entering into any subcontract.

Please submit a proposal to the Department of Natural Resources for this project no later than October 30, 1992. Please contact Jonathan Young Eagle at 608/264-6014 to answer your questions on the scope of work.

The proposal should be sent to the following address:

Department of Natural Resources
Attn: David Behn, Purchasing Section
101 S. Webster Street
P.O. Box 7921
Madison, WI 53707

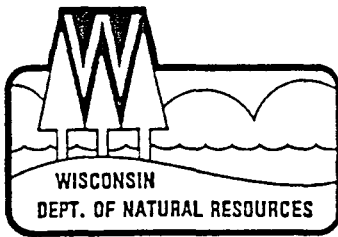
Thank you for your interest in serving the Department's needs.

Sincerely,

David R. Behn
Purchasing Agent

enclosures

cc: Jonathan Young Eagle - SW



George E. Meyer
Secretary

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Southern District Headquarters
3911 Fish Hatchery Road
Fitchburg, Wisconsin 53711
TELEPHONE 608-275-3266
TELEFAX 608-275-3338

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

June 3, 1993

Mrs. Frances Sheehy
10711 N. Delaware circle 15W
Mequon, WI 53092

SUBJECT: Borgerding Estate Investigation

Dear Mrs. Sheeny:

Based on our meeting of June 2, 1993 the Department is allowing you, as the personal representative of the Borgerding Estate, to complete the current ongoing phase of environmental investigation. However, in return, the Department is requesting that you provide in writing the following commitments:

1. That the estate will hire a qualified consultant to finish the current investigation. Dames and Moore has already provided the Department with a written commitment to finish the study as planned:
2. That the investigation will comply with the existing workplan and timeline for the site.

At the completion of this investigation the Department expects the design and implementation of a cleanup action to begin immediately. If at that time the estate does not have the resources to do the cleanup the state will once again take control of the project and conduct the remedial actions necessary. Any state funds expended to design and implement the cleanup will be cost recoverable against the estate.

Please provide the written response requested within 7 days of the receipt of this letter.

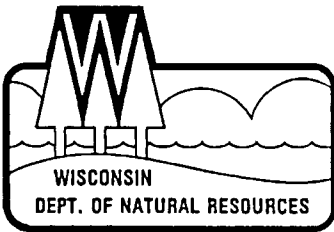
If you have any question please call me directly.

Sincerely,

Michael R. Schmoller
Hydrogeologist
Telephone: (608) 275-3303

MRS:lh

c:\data\wp51\9307\sw1sheeh.mrs



George E. Meyer
Secretary

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

101 South Webster Street
Box 7921
Madison, Wisconsin 53707
TELEPHONE 608-266-2621
TELEFAX 608-267-3579
TDD 608-267-6897

May 27, 1993

Mr. Gary Sikich
Foth & Van Dyke
2737 S. Ridge Road
Green Bay, Wi

SUBJECT: BORGERDING SITE INVESTIGATION

Dear Mr. Sikich:

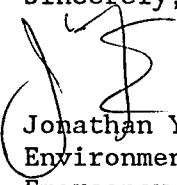
I have enclosed three copies of the DNR Invoice For Professional Services.

Please use these forms whenever your company requests reimbursement for payment on Borgerding. Feel free to copy them as needed.

I want to remind you that the form should be complete as possible and that it is signed and dated. The support documentation should include a cost breakdown and a monthly progress report in order to avoid a delay in payment.

This information should be submitted to Mike Schmoller, the Project Manager, for his approval. Good luck with the project.

Sincerely,


Jonathan Young Eagle, Program Coordinator
Environmental Repair Program
Emergency & Remedial Response Section
Bureau of Solid & Hazardous Waste Management

JYE:jye

State of Wisconsin
 DEPARTMENT OF NATURAL RESOURCES
 Box 7921
 Madison, Wisconsin 53707

INVOICE FOR PROFESSIONAL SERVICES

PROJECT Bogerding Site Investigation

REQUEST NO.

PROJECT NO. 93 LU110

LOCATION Beloit, Wisconsin

CONTRACT NO. 3783

	Total Fee Due To Date	Previously Submitted	Payment Due This Invoice
If "lump sum" contract: Original Contract Sum _____ Change Orders (List Separately) _____ _____ Total Contract To Date _____			
If "hourly basis" contract: Maximum contract amount _____ Change Orders (List Separately) _____ (Attach itemized listing)			
Other Charges to contract: Additional Services: (Attach itemized listing) _____ Reimbursable Expenses (Attach itemized listing) _____			
TOTALS			

THIS IS TO CERTIFY THAT The Firm named herein is entitled to a payment of \$ _____

 Foth & Van Dyke
 Firm Name

 2737 S. Ridge Road, Green Bay, Wisconsin
 Address

By _____
 Firm Representative Date

 Project Manager Approval Date

 Program Coordinator Approval Date

DATE: May 12, 1993 FILE REF: ERR

TO: John Burczyk - Chief Legal Counsel, 115 East State Capitol

FROM: Robert Strous Jr. - DNR, SW/3 Environmental Repair

SUBJECT: Borgerding Groundwater Investigation
#93 LU110

On April 14, 1993, the State of Wisconsin entered into an agreement with Foth & Van Dyke to complete a groundwater contamination study of the Borgerding Site. The contract is for \$100,000, including contingency, and is to run approximately 28 weeks. A final report should be ready by November 1, 1993. The Borgerding Estate agreed with this approach in a meeting held on April 13, 1993.

The Borgerding Site is a 1 acre parcel along the Rock River in downtown Beloit. The site has a long history of petroleum storage, painting and solvent use.

Previous investigations by the responsible party have confirmed the presence of extensive soil and groundwater contamination. The State investigation is to determine the extent of the groundwater contamination and evaluate the potential for remedial options, including bioremediation of the site.

The site is a concern because it is within several hundred feet of municipal well #4. The well is part of the city water supply system. The Borgerding Site is within the field of influence of the well and a drawdown of the well would likely be impacted by contaminants from the Borgerding site. This has the potential to pose a serious risk to the public water supply. The present levels of contamination represent an unacceptable risk to public health, safety, and the environment and requires prompt attention with a commitment to follow through on the remedy in a timely manner.

The Borgerding Estate has proposed to "cycle" their limited fund through the PECFA program to clean up the site. DILHR administers the PECFA program. They have a standing policy to process reimbursement claims on a first in first out basis. Currently these reviews take 6 to 7 months.

The Borgerding Estate has limited funds available. The Department believes the delays currently experienced in the PECFA reimbursement program would result in a poorly orchestrated remedial response and would not provide a satisfactory cleanup in a timely manner.

The DNR intends to investigate, and remediate the site using the Environmental Fund. Cost recovery will include pursuit of the estate to the extent of their available resources and possibly a lien on the property.

cc: Paul Didier - SW/3 Mike Schmoller - SOD
Jay Hochmuth - AD/5 Deborah Johnson - LE/5

DATE: January 14, 1993
TO: File
FROM: Jonathan Young Eagle
SUBJECT: Borgerding Site

FILE REF: 4400

This package contains the necessary documents for the state to enter into an agreement with Foth & Van Dyke to perform an investigation in order to determine the nature and extent of groundwater contamination at the Borgerding Site in Beloit, Wisconsin.

The site has a long history of petroleum storage, painting and solvent use. The responsible party originally hired a consultant who performed three phases of investigation that confirmed the presence of extensive soil and groundwater contamination. The actual extent and depth of groundwater contamination has not been determined and will be the subject of this phase of the contract with Foth & Van Dyke.

The Environmental Repair Program has budgeted \$200,000 for investigation. The contamination study will use \$100,000 which includes approximately 15% for contingency. The remaining money will be used to fund the selection and design of the appropriate remedial action.

The Project Manager is Mike Schmoller of the Southern District.

Foth & Van Dyke

2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307-9012
414/497-2500
Fax: 414/497-8516

RECEIVED

DEC -7 92

BUREAU OF SOLID-HAZARDOUS
WASTE MANAGEMENT

Engineers
Architects
Planners
Scientists

December 2, 1992

Jonathan Young Eagle
Wisconsin Department of Natural Resources
101 S. Webster
P.O. Box 7921
Madison, WI 53707

Dear Mr. Young Eagle:

RE: Clarification to the November 11, 1992 proposal for the Borgerding site in Beloit,
with modified costs

The purpose of this letter is to provide clarification of some of the investigative procedures proposed for the Borgerding site in Beloit and to update the cost proposal in response to the changes caused by the clarification of investigative procedures. The changes to the proposed investigative procedures are in response to phone conversations with Mike Schmoller, the Department project manager. Mike requested primarily procedural changes which do not affect the project cost except for the analysis of the groundwater samples from the Hydropunch® sampling effort. Originally we had proposed to provide on-site screening of samples. For better data quality, Mike has requested regular laboratory analysis of the samples. The price quote is reproduced in total with this letter for ease of review. In addition, the type of analysis and the number of samples proposed for each task is listed with its respective cost element.

Clarification of Investigative Procedures

Hydropunch® sampling will be performed in two soil borings (which may or may not be converted into monitoring wells depending upon the condition of the borehole). The planned locations for Hydropunch® borings is adjacent to the MW-3S and 3D well nest, and at the off-site location south of the site (probably on WP&L property). Hydropunch® sampling will begin at a depth of 25 feet below grade. This depth is the same depth as the deepest wells on-site, so vertical groundwater sampling will use that depth as a starting point. Hydropunch® samples will be collected every five feet to a maximum depth of 50 feet. A vertical profile of the groundwater contamination will be evaluated for each of the two borings sampled in this manner. The results of the Hydropunch® samples will also be used to determine the depth for screen placement of the additional three deep wells planned for this investigation.

Five of the six wells planned for this investigation will be installed by the mud rotary drilling method and completed as piezometers. Mud rotary drilling will be used to overcome the increased hydrostatic pressures encountered during previous investigative efforts at the site. The drilling mud will hold the borehole open during placement of the wells screen, the filter pack, the filter pack seal, and the bentonite seal for the piezometers. The one shallow water-table well planned for off-site will be drilled and installed with a hollow stem auger drilling method.

The well locations for the deep wells (wells labeled with DD) will be adjacent to MW1, MW2S and 2D, MW3S and 3D, and the off site well nest to the south. If the area adjacent to MW1 cannot be accessed due to the site layout or overhead power lines, the deep well will be placed south of MW1 and in the parking lot adjacent to the building closest to MW1. In no case will any well be closer than five feet from the other wells in the well nests.

Groundwater sampling will be performed on all wells at the site including the new wells installed for this investigation as well as the wells previously installed at the site. Groundwater sampling will include the following wells and quality control samples:

Existing Wells	MW1	MW6
	MW2S	MW7
	MW2D	MW8
	MW3S	MW9
	MW3D	MW10S
	MW4	MW10D
	MW5	
New Wells	MW1DD	
	MW2DD	
	MW3DD	
	MW11S	
	MW11D	
	MW11DD	
Field Duplicates	MW2SA	(taken from MW2S)
	MW3DA	(taken from MW3D)
Field Blanks	FB1	
	FB2	
Trip Blanks	TB	(one with each round of samples)

The parameters for analysis for each of two rounds of groundwater sampling are:

Volatile organics	Method 8021, Wisconsin LUST list
PAH	Method 8270
Lead	Method 3050/7421
Barium	Method 3050/7080

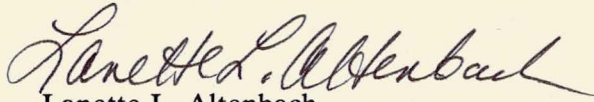
Jonathan Young Eagle
Wisconsin Department of Natural Resources
December 2, 1992
Page 3

The revised costs for each task as described in the proposal are provided on the attachment to this letter. The parameters for laboratory analysis are included with the cost for each task.

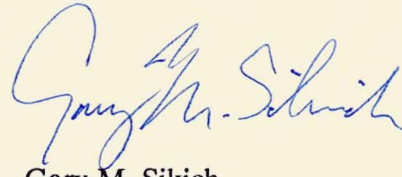
Please contact us if you have any questions or comments.

Sincerely,

Foth & Van Dyke



Lanette L. Altenbach
Senior Project Manager/Hydrogeologist



Gary M. Sikich
Senior Account Executive

lla

Attachment

cc: David Behn, WDNR-Purchasing
Mike Schmoller, WDNR-Southern District

Reimbursement for Services

Foth & Van Dyke proposes reimbursement based on a time and materials basis. Cost estimates for the various tasks are provided below. The attached tables provide the ranges of labor rates and other standard charges for comparison to the invoices provided on the project. We believe that this is the most cost effective approach for the Department. Cost expenditures above the estimated amount will not occur without written approval of the Department project manager.

Task 1 Data Review/Waste Characterization

Foth & Van Dyke Services	
Labor	\$2,250
Material & Supplies	\$ 250
ORTEK	\$4,900
4 Soil Samples for:	
TCLP volatiles	
TCLP semivolatiles	
TCLP RCRA metals	
TCLP pesticides	
TCLP herbicides	

Task 2 & Hydropunch® Sampling & Monitoring Well Task 3 Installation

Foth & Van Dyke Services	
Labor	\$8,000
Material & Supplies	\$1,350
Lodging & Meals	\$1,500
WTD Environmental Drilling Inc.	\$15,800
ORTEK	\$ 2,500
10 Groundwater Samples obtained by Hydropunch® for: Benzene, Ethylbenzene, Toluene, Xylenes (Method 8020)	

Task 4 Collect Soil Samples for Microbiology * in conjunction with Task 2 and 3

Foth & Van Dyke Services	
Labor	\$ 575
Material & Supplies	\$ 200
Lodging & Meals	\$ 100
BioRenewal Technologies	\$ 1,500
10 Soil Samples for: comparative enumeration assay (assessment of micro biological populations)	

Task 5 & Investigative Waste Characterization
Task 6 *in conjunction with Task 2 and 3

Foth & Van Dyke Services	
Labor	\$ 1,600
Material & Supplies	\$ 350
Lodging & Meals	\$ 100

ORTEK	\$ 2,250
-------	----------

Two Soil Samples for:
diesel range organics (WI method)
volatile organic compounds (8021)
PCBs (SW 846 methods)
flashpoint (SW 846 methods)
reactive cyanide & sulfide (SW 846 methods)
TCLP volatiles
TCLP RCRA metals
one trip blank for VOCs

One Groundwater Sample for:
Benzene, Ethylbenzene, Toluene, Xylenes
oil & grease
flashpoint

Task 7 Two Rounds of Groundwater Sampling

Foth & Van Dyke Services	
Labor	\$ 2,850
Material & Supplies	\$ 1,500
Lodging & Meals	\$ 200

ORTEK	\$27,000
-------	----------

2 rounds of groundwater samples
19 wells, 2 field blanks, 2 duplicates and
a trip blank for each round. Samples will be
analyzed for:
volatile organics (8021 WI LUST list)
PAH (8270)
lead (3050/7421)
barium (5050/7080)

Trip blanks will only be analyzed for volatile organics

Task 8	Final Site Investigation Report	
	Foth & Van Dyke Services	
	Labor	\$ 8,000
	Material & Supplies	\$ 1,200
Task 9	Project Administration and Meetings	
	Foth & Van Dyke Services	
	Labor	\$ 2,800
	Material & Supplies	\$ 300

87,075

DATE: September 3, 1992

FILE REF: 4400

TO: Dave Behn - FN/1

FROM: Jonathan Young Eagle - SW/3

SUBJECT: Borgerding Groundwater Investigation

Please prepare the necessary documents for Foth & Van Dyke. The proposal language should specify that the project is for two phases.

The design will be awarded to Foth & Van Dyke pending successful completion of the phase 1 investigation.

If you have any questions please call me at 264-6014. Thank you for your assistance.

Name	City	St	Soil Invest	GW Invest	Remedi Invest	Feasib Study	RA Design	Soil Borings	Drilling	Install Mon Wells	GW Sampl	Free Prod. Rec.	Invest DNAPL	Invest Petro	Invest Inorg.
ABC SERVICES INC.	KENOSHA	WI	2	2	2	3	2	2	2	2	2	0	4	4	4
ACG ENVIRONMENTAL, INC.	ONALASKA	WI	4	4	4	1	1	4	1	4	4	3	0	4	0
ADVENT ENVIRONMENTAL SERVICES	PORT WASHINGTON	WI	4	4	4	4	4	1	1	1	4	4	4	4	4
ALESSIO & SONS COMPANY	ROCKDALE	IL	4	4	4	2	2	4	4	4	4	3	2	2	2
APPLIED TECHNOLOGIES, INC	BROOKFIELD	WI	4	4	4	4	4	0	0	0	4	1	0	4	4
AYRES ASSOCIATES	EAU CLAIRE	WI	1	1	1	1	1	2	2	2	1	3	1	1	1
BARR ENGINEERING CO.	BLOOMINGTON	MN	4	4	4	4	4	2	2	2	4	3	4	4	4
BAY WEST, INC.	ST. PAUL	MN	4	4	4	4	4	4	4	4	4	4	4	4	4
BEST ENVIRONMENTAL, INC.	CHANNAHON	IL	1	1	1	2	1	1	1	1	3	3	0	1	1
BRAUN ENVIRONMENTAL LABS, INC.	NEW BERLIN	WI	1	1	1	1	1	3	3	3	1	0	1	1	1
BT SQUARED (BT2)	MADISON	WI	3	3	3	1	4	2	2	2	4	3	1	4	1
CAMP DRESSER & MCKEE INC.	MILWAUKEE	WI	1	1	1	1	1	3	2	2	3	3	1	1	1
CLEAN HARBORS	CHICAGO	IL	4	4	4	4	4	4	4	4	4	3	4	4	4
COLEMAN ENGINEERING COMPANY	IRON MOUNTAIN	MI	4	4	4	0	0	4	4	4	4	1	1	1	4
COOPER ENVIRONMENTAL RESOURCES	WEST BEND	WI	4	4	4	4	4	3	3	4	4	3	4	4	4
DAHL & ASSOCIATES, INC.	ST. PAUL	MN	4	4	4	4	4	0	0	0	0	3	0	4	0
DAMES & MOORE	MADISON	WI	4	4	4	4	4	2	2	2	2	3	4	4	4
DAMES AND MOORE	MILWAUKEE	WI	1	1	1	1	1	1	3	3	1	3	0	1	1
DELTA ENVIRONMENTAL CONSULTANT	ST. PAUL	MN	1	1	1	1	1	1	2	2	1	3	1	1	1
DELTA ENVIRONMENTAL CONSULTANT	NEW BERLIN	WI	1	1	1	1	1	1	2	2	1	3	1	1	1
DONOHUE & ASSOCIATES, INC	SHEBOYGAN	WI	1	1	1	1	1	2	2	2	1	3	1	1	1
DRAKE ENVIR. INC.	MENOMONEE FALLS	WI	4	4	4	4	4	3	2	3	3	3	1	4	1
E&K HAZ. WASTE SERVICES, INC.	SHEBOYGAN	WI	4	3	2	2	4	2	2	2	4	0	0	0	0
EARTH TECHNOLOGY CORP.	BROOKFIELD	WI	4	4	4	4	4	4	2	4	4	4	4	4	4
EDER ASSOCIATES CONSULTING ENG	MADISON	WI	1	1	1	1	1	2	2	2	1	3	1	1	1
EICHLAY ENGINEERS INC.	CHICAGO	IL	4	4	4	4	4	2	2	2	4	0	4	4	4
ENECOTECH MIDWEST, INC.	BLOOMINGTON	MN	4	4	4	4	4	4	4	4	4	3	3	4	4
ENGINEERING & TESTING SERV. INC	INDIANAPOLIS	IN	4	4	4	3	4	4	4	4	4	0	4	4	4
ENPRO PLUS	CHILTON	WI	4	4	4	4	4	4	4	4	4	3	0	4	0
ENVIRON. ASSESS. INC.	APPLETON.	WI	1	1	1	1	1	3	3	1	1	3	0	1	3
ENVIRONMENTAL CONST & REMED	MIDDLETON	WI	4	4	4	4	3	2	2	2	4	2	1	1	1
ENVIRONMENTAL MANAG. RESOURCES	LAWRENCE	KS	4	4	4	4	4	4	4	4	4	3	4	1	2
ENVIRONMENTAL SCIENCE&ENG. INC	PEORIA	IL	4	4	4	4	4	4	4	4	4	3	4	4	4
ENVIROSCAN CORP.	ROTHSCHILD	WI	4	4	0	0	0	4	2	2	4	0	0	4	1
EOG ENVIRONMENTAL	MILWAUKEE	WI	2	2	2	2	2	2	2	2	2	0	0	0	0

KEY: 1 = Company says they can provide this service
 2 = Company subcontracts this service
 3 = Service provided; sometimes by company, sometimes by subcontractor
 4 = Company experience performing this type of work

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Name	City	St	Soil Invest	GW Invest	Remedi Invest	Feasib Study	RA Design	Soil Borings	Drilling	Install Mon Wells	GW Sampl	Free Prod. Rec.	Invest DNAPL	Invest Petro	Invest Inorg.
EXPLORATION TECHNOLOGY INC.	MADISON	WI	1	1	0	0	0	1	1	1	0	0	0	0	0
FOTH & VAN DYKE	GREEN BAY	WI	4	4	4	4	4	4	2	4	4	3	4	4	4
GCM, INC.	WYOMING	MI	2	2	2	2	1	1	1	1		3			
GERAGHTY & MILLER, INC.	MILWAUKEE	WI	1	1	1	1	1	1	2	2	1	3	1	1	1
GILES ENGINEERING ASSOCIATES	WAUKESHA	WI	1	1	1	1	1	1	1	1	1	3	1	1	1
GRIFFIN REMEDIATION SERVICES	CROWN POINT	IN	1	1	1	2	1	1	1	1	3	3	1	1	1
HERITAGE REMEDIATION	ROMEIOVILLE	IL	4	4	4	4	4	4	4	4	4	3	4	4	4
IEP ENVIRONMENTAL CONSULT.	WESTCHESTER	IL	4	4	4	4	4	4	2	2	4	3	4	4	4
IT CORPORATION	ST. PAUL	MN	1	1	1	1	1	1	1	1	1	3	4	4	4
JAVCO INC.	DE PERE	WI	2	2	2	2	2	1	1	1	2	0	0	0	0
JOHN MATHES & ASSOCIATES, INC.	COLUMBIAS	WI	4	4	4	4	4	4	4	4	4	3	4	4	4
K. SINGH & ASSOC.	ELM GROVE	WI	1	1	1	1	1	3	3	3	1	3	0	1	0
KEIL ENVIRONMENTAL ENGINEERING	MADISON	WI	4	4	4	2	3	4	2	2	4	3	0	4	4
LAIDLAW ENVIRON. SERVICES	PECATONICA	IL	1	1	1	1	1	1	1	1	1	3	1	1	1
LAYNE GEOSCIENCES, INC.	PEWAUKEE	WI	4	4	4	4	4	4	3	4	4	3	1	1	0
MAECORP INCORPORATED	GLENWOOD	IL	1	1	1	1	1	1	1	1	1	3	1	1	1
MARS ENVIRONMENTAL SOLUTIONS	TINLEY PARK	IL	1	4	4	4	4	4	2	2	2	1	2	2	2
MC DONALD MAAS ASSOC. LTD.	GREEN BAY	WI	4	4	4	4	4	4	2	2	4	3	0	4	4
MICHAELS ENGINEERING, INC.	LA CROSSE	WI	4	4	4	4	1	2	2	3	4	0	3	3	3
MID-STATE ASSOCIATES INC.	BARABOO	WI	4	4	4	4	4	2	2	2	4	3	4	4	4
MIDWEST ENGINEERING SERVICES	WAUKESHA	WI	0	1	1	1	2	1	1	1	2	0	0	1	0
MILLER ENGINEERS	SHEBOYGAN	WI	4	4	4	4	4	4	4	4	4	4	4	4	4
NORTH AMERICAN AQUA, INC.	VANDALIA	MI	4	4	4	3	0	2	2	2	2	0	0	0	0
NORTH SHORE EXCAVATION INC.	MEQUON	WI	1	3	1	2	2	2	2	2	2	0	0	4	0
NORTHERN ENVIRONMENTAL	MEQUON	WI	4	4	4	4	4	2	2	2	4	4	4	4	4
NORTHERN LAKE SERVICE, INC.	CRANDON	WI	2	2	2	0	0	4	0	0	4	0	0	0	0
OHM REMEDIATION SERVICES CORP.	NEW HOPE	MN	4	4	4	4	4	4	2	4	4	3	2	4	4
OMNI ENGINEERS, INC.	APPLETON	WI	1	1	1	1	1	1	2	2	1	3	1	1	1
PACE, INC.	MINNEAPOLIS	MN	4	4	4	4	4	2	2	2	4	3	4	4	4
PATRICK ENGINEERING INC.	GLEN ELLYN	IL	1	1	1	1	1	1	1	1	1		1	1	1
PETROLEUM EQUIPMENT, INC.	MIL.	WI	4	4	4	0	0	0	0	0	0	0	0	4	0
PRC ENVIRONMENTAL MANAGEMENT	BROOKFIELD	WI	4	4	4	4	4	4	2	2	4	4	4	4	4
REMEDIAL ENGINEERING, INC.	WAUSAU	WI	4	4	4	1	2	3	3	3	3	2	0	1	1
RMT INC.	MADISON	WI	4	4	4	4	4	4	2	4	4	3	4	4	4
SCIENCE CONSULTANTS INC.	WAUKESHA	WI	4	4	4	1	0	0	0	0	0	0	1	1	1

KEY: 1 = Company says they can provide this service
 2 = Company subcontracts this service
 3 = Service provided; sometimes by company, sometimes by subcontractor
 4 = Company experience performing this type of work

Name	City	St	Soil Invest	GW Invest	Remedi Invest	Feasib Study	RA Design	Soil Borings	Drilling	Install Mon Wells	GW Sampl	Free Prod. Rec.	Invest DNAPL	Invest Petro	Invest Inorg.	
SHORT ELLIOTT HENDRICKSON, INC	CHIPPEWA FALLS	WI	4	4	4	4	4	3	3	3	4	0	0	4	0	7
SIGMA ENVIRONMENTAL SERVICES	OAK CREEK	WI	4	4	4	0	4	4	2	4	4	3	4	4	1	9
SIMON HYDRO-SEARCH, INC.	BROOKFIELD	WI	4	4	4	4	4	1	3	3	3	3	1	1	1	5
STRAND ASSOCIATES	MADISON	WI	1	1	1	1	1	2	2	2	1	3	1	1	1	
STS CONSULTANTS LTD.	GREEN BAY	WI	1	1	1	1	1	1	1	1	1	3	1	1	1	
STS CONSULTANTS LTD.	GREEN BAY	WI	1	1	1	1	1	1	1	1	1	3	1	1	1	
SWANSON ENVIRONMENTAL, INC.	MILWAUKEE	WI	4	4	4	4	4	2	2	2	4	0	0	4	4	8
T.J. ENVIRONMENTAL CONTRAC.	THIENSVILLE	WI	2	2	2	2	2	2	2	2	2	0	2	2	0	
T.J. RAMAKER & ASSOCIATES	SAUK CITY	WI	1	1	1	1	1	1	3	2	1	0	0	1	0	
TERRACON ENVIRONMENTAL	WHITE BEAR LAKE	MN	4	4	4	1	4	4	1	1	4	3	1	1	1	6
THE TRAVERSE GROUP, INC.	TRAVERSE CITY	MI	4	4	4	4	4	4	4	4	4	3	4	4	4	12
TWIN CITY TESTING CORPORATION	WAUSAU	WI	1	1	1	1	1	1	1	1	1	3	1	1	1	
USPCI	BOULDER	CO	4	4	4	4	4	4	4	4	4	3		4	4	11
VIERBICHER ASSOCIATES	REEDSBURG	WI	1	1	1	1	1	3	3	3	3	0	0	1	0	
VIJAY ENVIRONMENTAL INC.	MIL.	WI	1	1	1	1	1	2	2	2	3	2	2	1	3	
WARZYN, INC.	MADISON	WI	4	4	4	4	4	4	4	4	4	3	4	4	4	12
WOODWARD-CLYDE	MIDDLETON	WI	4	4	4	4	4	3	3	3	4	3	4	4	4	
WW ENGINEERING & SCIENCE	MILWAKEE	WI	4	4	4	4	4	4	4	4	4	3	1	1	1	7
WW OPERATIONS SERVICES	BROOKFIELD	WI	4	4	4	4	4	4	2	4	4	3	4	4	4	11

15 High Scores
8 out of state firms

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Regarding Estate

Direct discussion on Tax & Attorney by Attorney for the estate

Dick Johnson discussed the reasons for the estate interest (eg impact on the will and how and the need to act quickly

Mike mentioned the fact that work had begun as of yesterday. The estate would concern that the state had begun work without permission from the court. Mike stated there was no need to get on the site as of the meeting held last month. Dick agreed that both the state and Mike had an understanding that the lawyer had the power to agree to allow us to proceed.

We did not send anything in writing to the state as of tomorrow. State would like to proceed with the investigation

James Morris up states FECPA paperwork is ready for approval. The discussed timeline