

Vista Chemical Company

Houston, Texas



Proposal for Remediation of Drum Disposal Site in Aberdeen, Mississippi

ENSR Remediation & Construction

August 1991

Modified - November 1991

Document Number 217150

TO: Kenny Akins Sarah Terry

FROM: Frank G. Jeanson
DATE: November 26, 1991

Interoffice
Communication

SUBJ: ENSR DRUM REMOVAL PROPOSAL - LATEST REVISION

VISTA

Here is the updated ENSR drum remediation proposal for
your files.



Frank G. Jeanson

dlj





An American NuKEM Company

**ENSR Remediation &
Construction**

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Suite 200
Houston, Texas 77098
713-520-9030
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August 2, 1991

Mr. Frank Jeanson
Senior Environmental Specialist
Vista Chemical Company
900 Threadneedle
Houston, TX 77079

RE: Proposal for On-Site Remedial Services, Aberdeen, Mississippi
ENSR Proposal No. 217150

Dear Mr. Jeanson:

ENSR Remediation and Construction is pleased to provide this proposal for the remediation of a drum disposal site at your Aberdeen, Mississippi facility. Our proposal describes the technical approach that, based on our experience, will lead to the successful closure of the site. Also included are unit prices and personnel rates so that total costs for various project scenarios may be determined.

Drum disposal site remediation projects are unique since it is rarely possible to completely characterize the site prior to beginning remediation. For this reason it is important to select a firm with the experience to conduct the project in a manner which pays close attention to:

- Personnel health and safety
- Environmental compliance
- Minimization of off-site disposal costs
- Control of project scope, schedule, and cost

ENSR has successfully completed over 3,500 hazardous waste projects. Selected project summaries and resumes of key individuals have been included in the proposal appendices for your review.

We are confident that, by utilizing our expertise, Vista can obtain closure of this site and move on to other issues.

We look forward to your feedback. Although we intend for our proposal to speak for itself, we would like an opportunity to make a technical presentation covering our approach to this project. As we discussed we will arrange an appointment for the week of August 12, 1991. If you should have any questions in the meantime please feel free to call me at 713/520-9030.

Sincerely,

D. Kent Miller
Senior Account Representative

DKM/cjm/073
Enc.

This proposal or bid document was prepared by ENSR solely for your internal use in evaluating ENSR's business proposal and deciding whether or not to contract with ENSR to perform the services described in this document. ENSR considers the pricing, technical approach, and other business considerations set forth in this document to be the proprietary and confidential business information of ENSR. This document and the information contained herein shall not be used for any purpose other than as specifically stated above and shall not be disclosed to any other party without ENSR's prior written consent.

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Executive Summary

Vista Chemical is seeking proposals for the excavation and waste characterization of 70-100 buried 55-gallon drums at their plant in Aberdeen, Mississippi. Vista Chemical's objective is to remediate the drum disposal site and associated areas in an environmentally sound manner.

ENSR Remediation and Construction (ENSR), one of five operating divisions of American NuKEM Corporation, is fully qualified to meet all of the requirements of this project. We have executed many projects of this nature implementing proven excavation and waste handling techniques based on safe work practices and a solid understanding of waste management regulations -- the Toxic Substances Control Act, the Clean Air Act, and local regulations.

ENSR can call upon the resources of its four sister divisions within American NuKEM Corporation to meet all the requirements of this project. Our regulatory expertise and compliance records are exceptional, with the health and safety of all personnel involved with on-site activities being our highest priority. We are committed to smooth project execution, and we will work diligently with fully committed resources to ensure that all of Vista Chemical's requirements are met.

Our proposed scope of work consists of preparing pre-project plans to ensure the safety of plant personnel as well as all individuals involved with the remedial activities; air monitoring to detect potentially harmful vapors; removal of 70-100 buried drums; and sampling, classification bulking, and disposal of the removed waste materials. Following removal of waste materials, ENSR will sample the excavation to ensure removal of contaminated materials and backfill with clean material to restore the site. Our HAZCATTING procedures will ensure that Vista Chemical incurs the lowest possible waste disposal costs.

We propose to complete this project on a 12-day schedule, using a 5-man crew working 8-hour shifts. Our pricing for this project is based on our understanding of the site information supplied by Vista Chemical and the clarifications and assumptions set forth in this proposal. Our estimated cost for the project, exclusive of analytical and disposal-related costs, is \$58,900.

1.0 CORPORATE PROFILE, STAFF AND FINANCIAL STABILITY

1.1 Corporate Profile

ENSR Remediation and Construction is a part of American NuKEM Corporation. American NuKEM, founded in 1982, is a Delaware Corporation and maintains its headquarters at 1200 MacArthur Boulevard, Mahwah, New Jersey. American NuKEM is a wholly owned subsidiary of the Rhein-Westphalian Electric Company located in Essen, Germany. RWE had sales in 1990 of \$29 billion and a net worth of \$5.8 billion. RWE is active in the utility, oil and chemical, mining, construction, and environmental services industries in Germany. RWE has over 80,000 employees and is the sixth largest company in Germany.

American NuKEM is a fully integrated environmental services company committed to responsible environmental management. The integrated services are provided through five business units. Each unit focuses its expertise on client's specific requirements.

These five business units are:

- **ENSR Remediation and Construction.** Through ENSR Remediation and Construction, American NuKEM implements safe, cost effective cleanup of hazardous and nuclear wastes. ENSR performs regulatory-approved cleanups employing practical design-build solutions addressing all types of hazardous waste sites from surface impoundments, facility decontamination and decommissioning to underground storage tanks, sites with mixed waste, on and off site treatment and groundwater remediation.

Our project managers are experienced with implementing effective on-site treatment using physical, chemical, or biological systems, containment through vaulting, solidification, fixation, and vitrification as well as employing up-to-date project management systems to control scope, schedule and job tracking.

- **ENSR Consulting and Engineering.** This division specializes in providing environmental consulting services for industry in the areas of air quality and air toxics, hazardous waste assessment and remediation, property transfer assessments, environmental permitting, process engineering and design, occupational health, risk assessment and toxicology, pollution prevention, and environmental management.
- **AnalytiKEM Laboratories.** The AnalytiKEM division specializes in analysis and characterization of environmental samples in accordance with EPA protocols. Our labs are state-certified. AnalytiKEM's analytical services include priority pollutants, hazardous substances, pesticides and herbicides, RCRA wastes, air toxics, wastewater and groundwater monitoring, and aquatic toxicology. AnalytiKEM provides field sampling and testing of drums, spills, tanks, soils, air, groundwater, and the workplace environment.
- **Treatment and Recycling.** American NuKEM has four businesses providing hazardous treatment and recycling services: ThermalKEM of Rock Hill, South Carolina, specializing in destruction of hazardous wastes through incineration; ThermalKEM of North Carolina, which is designing and permitting an integrated hazardous waste recycling and management facility to be located in North Carolina; CyanoKEM of Detroit, Michigan, which provides cyanide and other inorganic materials destruction through chemical treatment; and ENSR Operations, which is the leading on-site PCB transformer reclassification company. Each of these businesses uses the best available technologies to obtain complete destruction of wastes in strict compliance with applicable regulations.
- **Technology Development.** The NuKEM Development division creates remediation and treatment processes to meet our clients' needs for cost-effective and permanent solutions to difficult waste management problems. For example, we developed a process for decontaminating and reclassifying electrical transformers containing PCB fluids. That process is currently being used to

resolve PCB problems for many commercial, industrial and utility clients of ENSR Operations. Our Nite/Denite™ coke plant wastewater treatment process provides an economic way to treat ammonia and organic contaminants in chemical process industry wastewaters. A number of other processes are currently under development.

The five business units of American NuKEM function as independent organizations to solve client problems. However, they can be combined as an integrated team if the client prefers.

1.2 Staff

The combined capabilities of American NuKEM result in a multidisciplinary staff of over 2,000 scientists, engineers, and support personnel in over 60 disciplines. Our staff expertise has been developed through 20 years of hands-on experience gained from assisting the nation's largest corporations. Offices and laboratories are maintained throughout North America to minimize client costs, provide local response to client needs, and ensure quality control.

1.3 Financial Stability

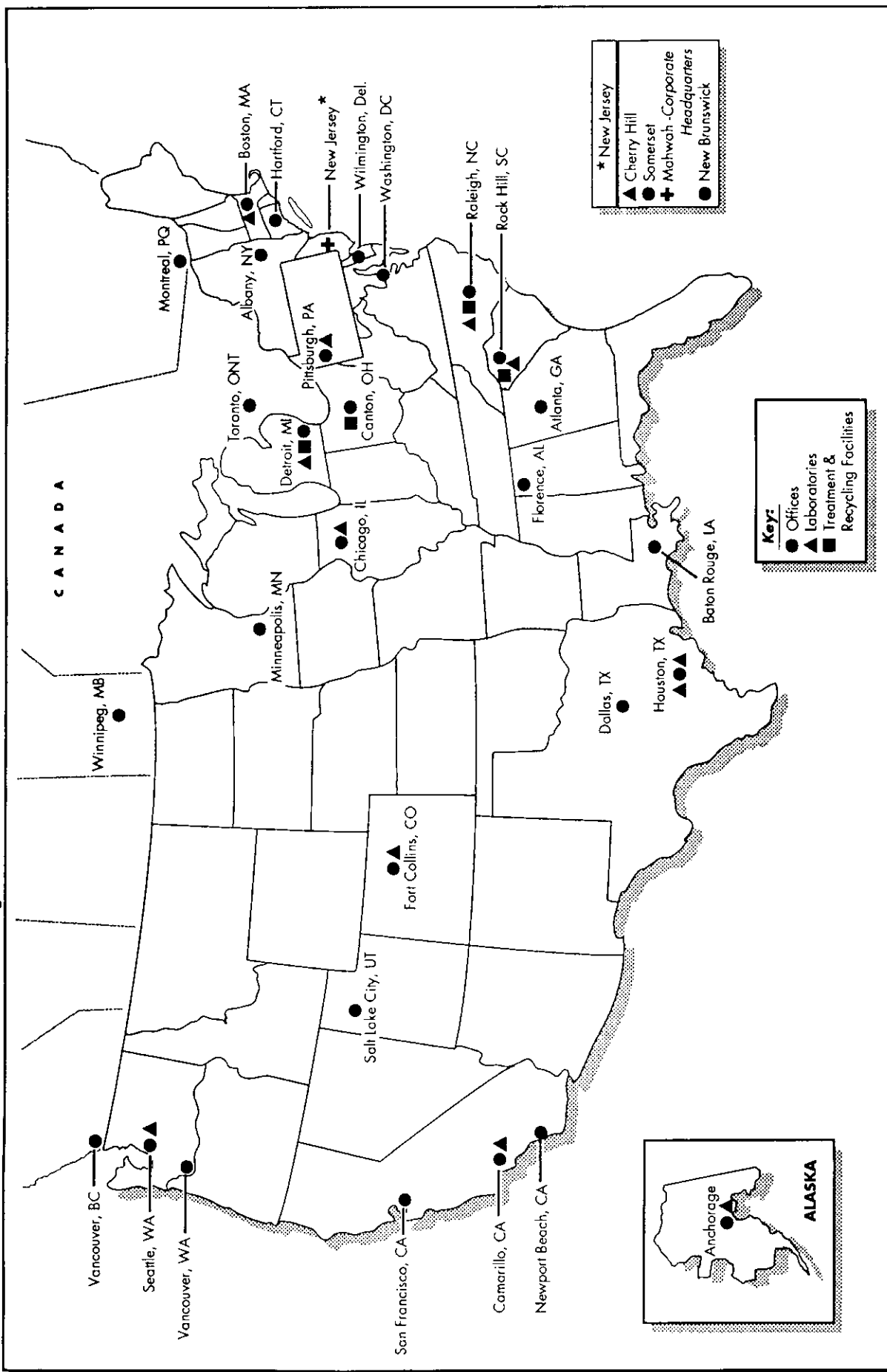
American NuKEM's sales have increased from \$850 thousand in 1983 to \$162 million in 1990. During this same period, the Company experienced solid profitability with earnings being retained to provide financial stability. American NuKEM's net worth grew from \$387 thousand in 1982 to \$157 million in 1990.

American NuKEM has in place a \$50 million five-year credit facility with three participating banks. The Company's lead bank is Midlantic National Bank of Edison, New Jersey. In addition to this facility, American NuKEM has a \$100 million letter of credit with the Dresdner Bank of New York for the purpose of providing project bonding capacity.

American NuKEM carries Comprehensive General Liability, Worker's Compensation, Umbrella Coverage, and Site and Contractor's Pollution Liability insurance coverages. Certificates of Insurance can be provided upon request.



American NuKEM Corporation



Treatment/Recycling Facilities, Offices and Laboratories

2.0 SCOPE OF WORK

The scope of work to be completed at the Vista Chemical site includes the following tasks:

- Developing a site-specific health and safety plan.
- Developing a sampling and analytical plan.
- Developing and implementing a real-time air monitoring program for use during intrusive operations.
- Mobilizing all project personnel and equipment to the site.
- Conducting a pre-removal survey of the site with Vista Chemical representatives to determine and establish priority areas for removal.
- Performing site preparation activities for placement of personnel decontamination facilities, office trailer, and support facilities.
- Providing appropriate protective clothing and safety equipment for remediation personnel.
- Constructing a temporary staging, sampling, and bulk mixing area and containment system for the area.
- Constructing and establishing a personnel and equipment decontamination area and associated washwater collection systems.
- Sampling and analyzing drummed waste materials to determine the appropriate transportation and disposal methodology for the wastes in compliance with DOT, EPA, RCRA, TSCA, and other local and state regulations. Developing a disposal plan which minimizes generator liability and cost.

- Excavating, re-containerizing (as appropriate) and loading waste for transportation to an off-site treatment or disposal facility.
- Restoring work area after completion of removal activities as required by Vista Chemical.
- Demobilizing all project personnel and equipment.

2.1 Technical Approach

ENSR's approach for implementing the foregoing scope of work is presented in the following text.

2.1.1 Mobilization

ENSR will mobilize project personnel and equipment from its regional headquarters located in Houston, TX. Additional subcontracted items, materials, and supplies will be obtained locally, on an as-needed basis.

2.1.2 Site Control and Security

Before starting any physical on-site activities, ENSR will establish site control to incorporate all the necessary work areas or site zones.

Only authorized personnel will be allowed to enter the site area, and a list of authorized personnel will be maintained at the security entrance for this purpose. No visitor will be permitted to enter the work zone unless accompanied by authorized personnel and with the consent of Vista Chemical. Names and affiliations of each visitor will be recorded and maintained.

A brief, documented safety meeting detailing safety procedures must be held for visiting personnel before they can enter and observe site activities. A copy of the site-specific

Health and Safety Plan will be kept at the security entrance for reference purposes and must be reviewed by all visitors as well as assigned personnel. Written acknowledgement of having reviewed the plan will be required by all persons entering the site. *In addition, ENSR shall comply with the notification and reporting requirements contained in Vista's protocol pertaining to contractor safety and health performance.*

Additionally, a site map clearly delineating all work zones and all routes entering and exiting the site will be posted at the entrance. The primary and alternate site evacuation routes will be designated on the site map.

2.1.3 Site Preparation

When site zones have been established, ENSR will perform the following site preparation activities:

- Construction of the support zone by placing the temporary support facilities.
- Construction of temporary personnel and equipment decontamination facilities.
- An initial site survey will be conducted with Vista Chemical, ENSR's Project Manager, the Site Superintendent and ENSR's Health and Safety Officer. The purpose of this survey is to review the tentative work plan and make revisions as necessary to ensure efficient cost-effective clean-up operations. Revisions to the Health and Safety Plan may be made at this time, and all entrance and exit procedures for personnel and equipment will be verified.

2.1.4 Drum Removal and Staging

Upon completion of site preparation activities, drums will be excavated and "staged" in the area identified as the Drum Staging and Sampling Area.

During initial removal and staging activities, a field technician will be used to visually inspect and identify drums to allow separation, where possible. ENSR believes this approach will enhance subsequent removal and bulk mixing operations. Any obvious leaking drums will be placed in 85-gallon overpacks to prevent additional spillage before transfer to the staging area.

Because the process of staging drums is difficult, segregation and staging of the drums will require the use of the following procedures:

- Visual inspection of each of the drums for labels, codes, or other identification as to origin or contents. Solids and sludges are typically disposed of in open-top drums (i.e., with bolted rings). Closed head drums with a bung opening generally contain liquid.
- Visual inspection of the contents of the drum during handling and before transfer to the staging area in order to minimize additional handling in the staging area.
- Examination of drum historical data as provided by Vista Chemical.

Once the drums are transferred to the staging and sampling area, an ENSR chemist will assign each drum an inventory control number, record a description of the drum, its condition, any unusual markings, and its location on a drum log sheet. Additional information on the contents of the drums will be recorded during the sampling operation.

Once the drums have been categorized into compatible waste classes, the drums will then be physically segregated on the basis of compatible waste types and consolidation or volume reduction techniques. Following this procedure, compatible waste types can be efficiently combined for final treatment, storage, or disposal. In order to facilitate easy access to the drums, compatible waste types will be placed in groups of four or in long double rows. Adequate spacing between rows or groups will be provided to allow easy access to drums by drum handling equipment and also to allow rapid exiting in case of an emergency.

2.1.5 Drum Opening and Sampling

In order for ENSR to maximize the overall efficiency of manpower and equipment, the drums will be remotely opened with a brass drum punch. Drums will be sampled using 100 mm glass sampling tubes (liquids and sludges) or with stainless steel hand trowels (solids). Additional data such as volume of material in the drums, sample appearance, color, and etc., will be recorded on the drum log sheet during sampling.

All drums will be identified according to the previously described plan. ENSR will affix hazard class labels, as required, upon characterization of the waste(s) content.

Triplicate logs will be maintained by the ENSR project manager and the ENSR analytical services coordinator as well as by Vista Chemical.

All waste will be sampled according to the Sampling and Analysis Plan (*subject to final approval by Vista and Conoco*). A single one (1) liter sample will be collected from each drum. The sample will be used for characterization and compatibility testing. The sample will be maintained for possible retesting. Chain-of-custody procedure will be followed, as appropriate, according to the Sampling and Analysis Plan.

2.2 Waste Characterization

Concurrent with drum sampling, hazardous characterization (Hazcat) of each drum will be performed in the field or fixed laboratory facility. Hazcat testing will enable ENSR to categorize unknown compounds into general compatibility and consolidation groups. These groups include:

- Radioactive
- PCB Solid
- Flammable Solid
- Non-flammable solid
- Oxidizer

- Peroxide
- Reactive
- Water Reactive
- PCB Liquid
- Sulfide Liquid
- Cyanide Liquid
- Flammable Nonhalogenated Organic Liquid
- Nonflammable Nonhalogenated Organic Liquid
- Flammable Halogenated Organic Liquid
- Nonflammable Halogenated Organic Liquid
- Flammable Aqueous Acid
- Nonflammable Aqueous Acid
- Flammable Aqueous Neutral
- Nonflammable Aqueous Neutral
- Flammable Aqueous Base
- Nonflammable Aqueous Base

The following screening tests may be included in the waste characterization procedure:

- Radiation Screening
- pH (Corrosivity)
- Water Reactivity
- Redox Screening
- Water Solubility
- Hexane Solubility
- Specific Gravity
- Qualitative Test for Cyanide
- Qualitative Test for Sulfide
- Qualitative Test for Oxidizers/Peroxides
- Qualitative Test for Halogens
- PCB Screening (Halogen Positive Samples)
- Flammability/Combustibility

Details of the proposed methodology and sample report forms will be outlined in the Sampling and Analysis Plan (*which is subject to final approval by Vista and Conoco*).

The samples in each individual waste category will then be organized into compatibility groups and composited for compatibility testing. Waste compatibility will be determined using procedures detailed in A Method for Determining the Compatibility of Hazardous Wastes, EPA-600/2-80-076, April 1980 or an equivalent procedure of the Chemical Manufacturer's Association.

This method is used to determine the compatibility reactions of most binary combinations of commonly encountered hazardous wastes. The method is generally applicable to four categories of wastes based upon information available, namely: 1) compositions unknown, 2) compositions known specifically, 3) compositions known non-specifically by chemical classes or reactivities, and 4) compositions known non-specifically by common or generic names only. This method has been successfully used on many Superfund sites with a high degree of accuracy and success. The method starts with a compatibility analysis flow chart indicating the analysis pathways for the four categories of waste cited above, followed by the compatibility reaction criteria and the stepwise procedures for determining compatibility.

ENSR's primary objectives in utilizing this approach will be to identify drummed waste classes in order to:

- *Determine hazard classification (characteristic or listing) under state and federal laws and regulations.*
- Bulk, re-containerize, or pretreat to meet the requirements of the treatment or disposal facility and to provide more efficient and cost-effective disposal.
- Properly prepare for transportation to a permitted treatment/disposal facility.

A detailed analysis of each composite waste sample will be required prior to acceptance by a treatment or disposal facility. Each composite group of compatible waste will have a PCB analysis performed for disposal approval. Should a composite sample show significant PCB

concentration, (> 50 ppm) the subgroups (drums) will be analyzed individually. Once any PCB contaminated subgroups are removed, a final disposal analysis will be conducted in accordance with the disposal facility requirements and the approved work plan. The disposal analysis for each compatibility group will be dependent upon the disposal method (i.e. landfilling, waste energy recovery, incineration, or other treatment).

2.3 Contaminated Soils Removal

Once all drums have been removed from the site, contaminated surface soils requiring removal will be identified. Composite samples for visibly contaminated surface soils will be collected for analysis. Other areas to be removed can be most appropriately identified by collecting discrete samples on a 50-foot centered grid system. ENSR assumes that these soils are relatively impermeable and that analysis of samples from only the top 6 inches will be required.

Contaminated soils thus identified will be excavated and disposed as required. Depending upon the analytical results, soils may be disposed as hazardous or non-hazardous waste. *Soils which are deemed non-hazardous maybe managed on-site by ENSR, Conoco or a third party, at Conoco's and Vista's sole direction.*

2.4 Transportation and Disposal

After the drums have been categorized into compatible waste classes and disposal analysis and acceptance have been completed, repackaging or bulking will proceed. The drums will be segregated on the basis of compatible waste types during consolidation and bulk mixing. In this way, compatible waste types can be more efficiently combined for final treatment, storage, or disposal. *Soils which are deemed non-hazardous may be managed on-site by ENSR, Conoco or a third party, at Conoco's and Vista's sole direction.*

A site-specific waste disposal plan (*subject to final approval by Vista and Conoco*) will be developed based on the results of the hazard categorization, compatibility testing, and waste disposal analyses. As a rule, ENSR will seek to lower the cost of disposal by optimizing the

amount of compatible material consolidation before treatment or disposal. ENSR will remove non-hazardous waste from the site first in order to prevent commingling with hazardous waste.

Non-hazardous drums will not require cleaning prior to disposal. However, drums which contain a RCRA waste may require triple rinsing if they do not meet the definition of "empty" under RCRA after having the contents removed.

Drums of solid hazardous waste will be deheaded and the contents loaded into lined roll-off boxes or dump trailers. The roll-off boxes or dump trailers will be lined with polyethylene to prevent spillage. Containers will be tarped and secured by ENSR personnel prior to the driver receiving the manifest and being allowed to leave the site for final transport to the appropriate disposal facility.

ENSR will provide all labeling and placarding required for proper preparation of shipments for off-site transportation. Labeling and placarding will be completed in compliance with 49 CFR 172.101 prior to transportation off-site. All waste shipments will be carefully screened before they leave the site to ensure that all containers have been properly prepared for shipment and that no residue or spillage remains on the exteriors of containers.

Bulk loading into the transportation container (roll-off box, dump trailer, or tank) will be completed only after verification that no incompatible waste remains inside and that the truck is properly bonded and grounded, if required. A check of all valves on each tank truck will be conducted prior to loading the liquid waste(s). Likewise, a check of all open-end dump trucks will be performed to ensure that a rubber gasket is in place or a form seal has been applied prior to loading solid waste. No waste will be placed in a dump truck that is not properly lined or gasketed.

A master truck log for all waste shipments will be maintained. As a minimum, this log will provide the following information, as applicable:

- Transporter Name
- Truck Number

- License Number
- Empty Weight
- Loaded weight
- Net Weight
- Number of Drums
- Manifest Number
- Hazard Class

The master truck log and supporting documentation for the waste shipments will be provided to Vista Chemical as part of the final report.

Before any shipment off-site, ENSR will conduct a final check and ensure that:

- Trucks are properly sealed and lined.
- Loads are covered with a secured tarpaulin.
- Proper DOT placards are in place.
- Proper and complete documentation is prepared.
- Any contamination outside the container is removed.

We understand Conoco and Vista reserve the right to use without limitation existing contracts and agreements for waste transportation and disposal.

2.5 Spill Control

The following procedure will be used to prevent or contain potential spills of drummed waste(s) at the Vista Chemical Site. Each drum will be visually inspected for structural integrity before handling with the drum grapppler. Drums with missing bungs will have new bungs installed to

prevent splashing of contents during staging and handling. Drums that are obvious leakers will be overpacked or the contents transferred to a new container before staging.

Drums will be placed in the staging area only after the necessary berms for containing spill have been constructed. The staging area will be constructed to incorporate (to the maximum possible extent) areas that are visibly contaminated or that have the highest potential for existing contamination. Consequently, any small releases that may occur will not result in further environmental impairment.

Emptied drums will be staged in a bermed area where visible surface contamination exists. These empty drums will be crushed or shredded in this area to allow storage until final disposal. Separate areas may be required for hazardous and non-hazardous containers.

Bulk solid wastes will be stockpiled or staged as appropriate in bermed area(s) to prevent contact with stormwater run-on and run-off. Such waste piles will also be covered with polyethylene to prevent contact with rainwater.

2.6 General Disposal Plan

Waste at this site will *be classified into four general categories under applicable federal and state laws and regulations:*

- Hazardous Liquids
- Non-Hazardous Liquids
- Hazardous Solids
- Non-hazardous Solids

ENSR will attempt to bulk compatible waste(s) to the greatest possible extent (see Section 2.2) to reduce both transportation and disposal costs.

Liquid materials suitable for recycle (i.e. solvents and oils) will be shipped to approved facilities for waste fuels blending and energy recovery or facilities which can recycle the waste(s) into a

reusable product. Aqueous waste will be treated either on-site or shipped off-site for treatment at a hazardous wastewater or industrial wastewater treatment/disposal facility.

Solid waste (hazardous or non-hazardous) will be disposed either at a hazardous waste disposal landfill or in an approved industrial landfill as appropriate. Some solid waste may be disposed in a local sanitary landfill if testing shows this to be an appropriate alternative. Certain solid waste may require pretreatment (i.e. stabilization or oxidation/reduction) prior to final disposition.

Only disposal/treatment/storage facilities approved by Vista and Conoco will be used by ENSR to provide specialized transportation treatment or disposal services. The key to reducing disposal cost is to obtain accurate data from the drummed waste characterization to allow selective blending of compatible waste into a lower cost disposal group. ENSR also has a thorough working knowledge of the *currently applicable local, state and federal disposal laws and regulations* and will actively seek to use these regulations to the advantage of Vista Chemical by managing waste disposal under the least expensive options.

3.0 SCHEDULE AND COSTS

3.1 Project Schedule

ENSR is prepared to begin this project within 15 working days following receipt of Vista Chemical's written order to proceed. ENSR anticipates a schedule of 12 days to complete site work, as outlined on the enclosed GANTT Chart.

Our schedule assumes Vista Chemical has obtained any necessary approvals, permits, or has provided notification to interested regulatory agencies as may be required.

3.2 Project Costs

ENSR's budgetary estimates for implementation of the proposed scope of work is indicated in tabular form below. All work will be performed on a time and materials basis, in accordance with the enclosed Rate Schedule.

SCHEDULE OF PRICES

Pre-removal Plans	\$ 4,200
Health and Safety Plan	
Air Monitoring Plan	
Sampling and Analytical Plan	
Mobilization	\$ 9,100
Drum Removal	\$44,500
Sub-Total for ENSR Services	\$57,800

Analytical, Transportation and Disposal Services

Analytical Services:

TCLP analyses (2-3 week turnaround)	\$2,150/sample
ThermalKEM Profile Fee	\$ 275/sample
Chemical Waste Management (CWM) Profile fee	\$ 800/sample

Transportation Services:

To Emelle, Alabama or Port Arthur, Texas	\$ 690/trip
To Rock Hill, South Carolina	\$1,480/trip

Disposal Services:

Bulk Solids:

CWM Landfill, Emelle, Alabama	\$ 267.50/ton
Stabilization Adder	\$ 240/ton
Incineration, Port Arthur, Texas	\$.55/pound

Drums:

ThermalKEM, Rock Hill, South Carolina	\$ 575/drum
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The foregoing estimates for Analytical, Transportation and Disposal Services are provided for budgetary purposes only. Actual costs will be based upon the characteristics of the removed materials and shall be billed in accordance with the enclosed rate schedule.

Analytical work shall be awarded after receiving three competitive bids from three laboratories. Only those laboratories acceptable to both Vista and Conoco shall be considered for work under this contract. Vista and Conoco shall supply a listing of approved laboratories prior to ENSRs solicitation for competitive bids.

Conoco/Vista shall have the right to contract for disposal services directly with parties with whom existing master contracts exist.

3.3 Estimated Personnel Hours

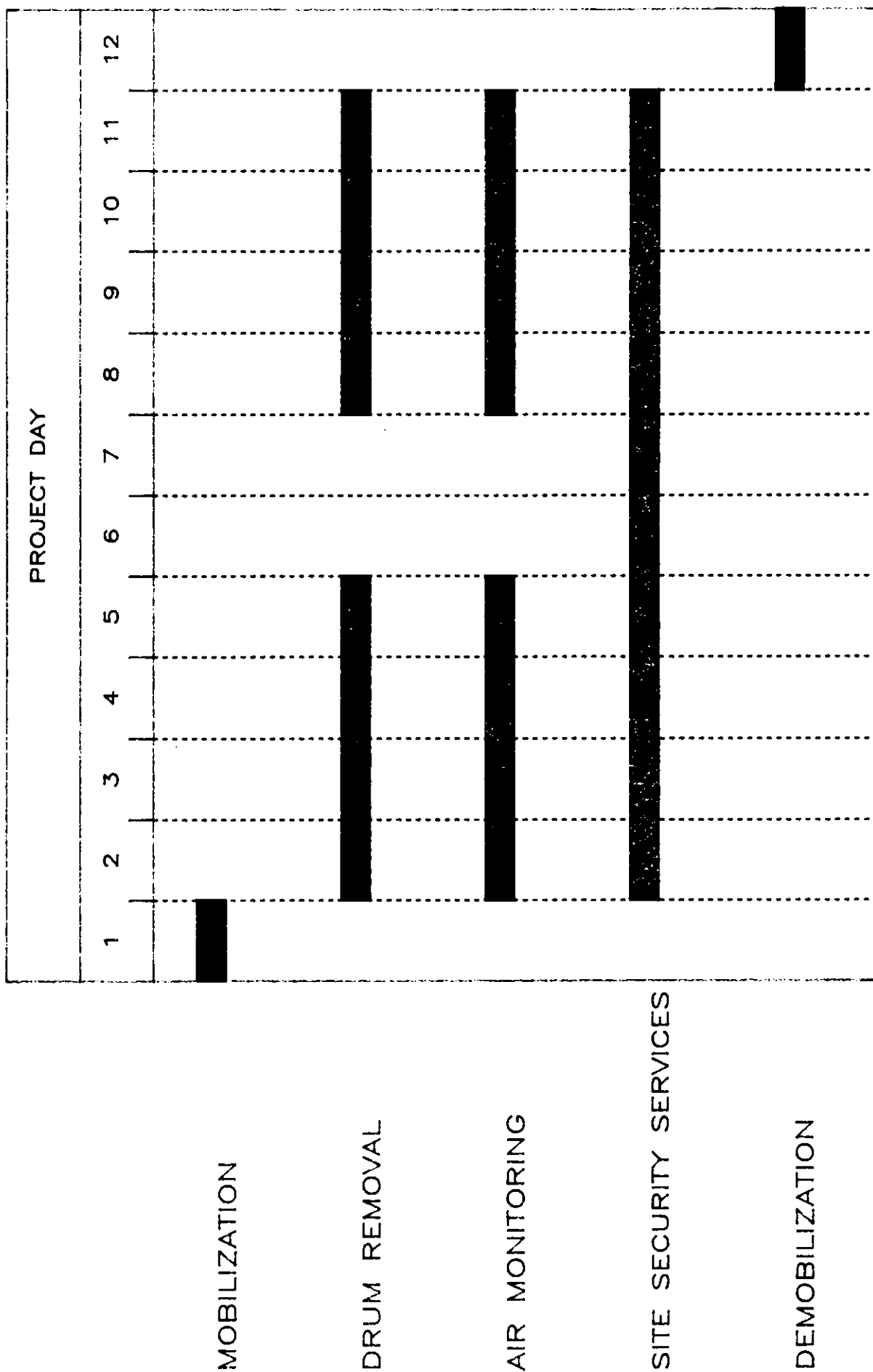
Following is an estimate of the personnel hours associated with each line item in the foregoing schedule of prices:

Pre-Removal Plans	60 Hours
Mobilization	96 Hours
Drum Removal	432 Hours
Security Services	104 Hours

3.4 Insurance

ENSR has included a copy of an insurance certificate in Appendix C. We shall supply coverage at these levels at no additional cost.

VISTA CHEMICAL CORPORATION
 ABERDEEN, MISSISSIPPI
 REMEDIATION OF A FORMER DISPOSAL SITE
 PROJECT SCHEDULE



RATE SCHEDULE



ENSR Remediation & Construction

**VISTA CHEMICAL COMPANY
Aberdeen, Mississippi
Rate Schedule**

ENSR shall be compensated by the payment of all personnel assigned to the project on the basis of the hourly rates together with payment for material, equipment and other charges provided in this rate catalogue.

LABOR

Position	Straight Time Hourly Rate	Overtime Hourly Rate
Principal	\$130.00	\$130.00
Senior Project Manager	\$ 95.00	\$ 95.00
Project Manager	\$ 80.00	\$ 80.00
Superintendent	\$ 60.00	\$ 60.00
Project Engineer	\$ 57.50	\$ 57.50
Equipment Operator	\$ 42.75	\$ 56.25
Foreman	\$ 33.75	\$ 45.00
Technician	\$ 31.00	\$ 41.00

Overtime rates apply to all hours after 8 hours per shift and after 40 hours per week. Holiday rates are double the straight time rates for personnel who receive overtime.

For hours worked in level A or level B protective clothing and equipment there will be a \$8.00/hr. labor surcharge in addition to the costs for labor and for personnel protective equipment and materials.

Per diem charges for lodging, food, car rental, and other incidental costs will be based on the Federal Government Joint Travel Regulations for the job site location plus 10%.

Labor rates are charged for portal to portal travel time plus any on-site or off-site time for loading, unloading, restocking, repairing, cleaning, and decontaminating.



ENSR Remediation & Construction

**VISTA CHEMICAL COMPANY
Aberdeen, Mississippi
Rate Schedule
(Continued)**

EQUIPMENT

Equipment required for the performance of the Services will *be charged at the cost plus 10%.*

MATERIALS, ANALYTICAL, SUBCONTRACTOR, AND OTHER DIRECT COSTS

All material, equipment, and subcontract services, including contract personnel and analytical services obtained from vendors or suppliers or affiliated companies, will be reimbursed at invoice cost plus ten percent.

OTHER

Labor and equipment are charged at a minimum of 4 hours per day for each day used.

Standby charges for personnel and equipment are full rate if on-site and half rate if off-site, *unless such standby is the result of Contractors, or it's subcontractors acts or omissions. In such an event, no standby charges shall be paid by Vista or Conoco.* Per diem charges continue at full rate.

The cost of containers required for the storage or transporting of waste together with cost of handling and maintenance shall be reimbursed by the Company.

Prior to ENSR starting any work, the Company *and ENSR* must have executed and delivered a signed contract for services.

The Company is responsible for all federal, state, and local taxes, fees, inspections, and permit costs associated with the project.

ENSR may request that certain dollar amounts be placed in escrow in order to guarantee payment for services provided.

On time and material work, we will provide a bi-weekly estimate of funds expended to date. When we reach between 70% and 80% of the value of any initial budgeted expenditure authorization, we will present notification of the estimate at completion and state if any extension of the expenditure authorization is necessary. If we have not received any necessary extensions, ENSR may, at its sole discretion, stop work and demobilize at 90% of the previous expenditure authorization. When we have received any necessary extension to cover the remaining estimated cost to complete we will re-mobilize and complete the work. Extra mobilization and demobilization will be at the same rates as above.



ENSR Remediation & Construction

**VISTA CHEMICAL COMPANY
Aberdeen, Mississippi
Rate Schedule
(Continued)**

Invoices based upon estimated labor hours and material, equipment, and other reimbursable charges committed to the Services will be submitted every 2 weeks and will be payable within 30 days of submission. A final Invoice will be issued at job completion and will include any adjustments for estimated invoices previously submitted. Invoices not paid within thirty (30) days are subject to interest from the 31st day at the rate of 1-1/2% per month (18% per annum). In addition ENSR may, after giving seven (7) days written notice to Company, suspend Services without liability until the Company has paid in full all amounts due ENSR on account of Services rendered and expenses incurred including interest on past due invoices or terminate Services without liability. If there is a disputed amount on an invoice, Company agrees to pay all undisputed amounts in the thirty (30) day period. In the event that ENSR places Company's account in the hands of an attorney for collection, Company agrees to pay ENSR all fees and expenses, including attorneys' fees and expert fees, necessitated thereby.

ENSR's estimates of costs and schedules are for Company's budget and planning assistance only *except where otherwise noted*. Cost and schedule estimates are based on our best judgement of the requirements known at the time of the proposal and can be influenced favorably or adversely by Company needs and other circumstances. ENSR will endeavor to perform the Services and accomplish the objectives within the estimated costs and schedule, but in no event shall ENSR's estimate be interpreted as a not-to exceed or fixed price.

In the event project conditions change significantly, we are prepared to discuss contractual changes and the development of lump sum or unit pricing to complete the project. *ENSR shall notify Vista in writing of any changed condition which may affect the estimated project costs by more than 10%.*

When obligations for payment by Vista/Conoco exceed 75% of the estimated project cost, ENSR shall provide to Vista/Conoco a written estimate of the cost to complete the work. Should this evaluation indicate the actual project cost will exceed the original estimate by more than 10%, Conoco/Vista shall provide written authorization to ENSR allowing expenditure of the additional costs. If written authorization is not received by ENSR prior to expenditure of costs equivalent to 90% of the original estimate, ENSR shall demobilize its forces until such time as written authorization to proceed is granted by Vista/Conoco.



4.0 REGULATORY COMPLIANCE

4.1 Record

The U.S. EPA acknowledges that complying with its regulations 100% of the time is almost impossible. Yet, the ENSR Remediation and Construction Division is part of a company, American NuKEM Corporation, that has never been found in violation of an environmental regulation in its history.

This record of environmental compliances has recently been termed by a leading industry publication, Environmental Digest, as "remarkable". Considering that this record embraces substantial field remediation activities and fixed based RCRA permitted treatment operations, we are inclined to agree.

4.2 Guiding Policies

The key elements of our regulatory compliance program are:

- An independent regulatory compliance organization
- Management systems which
 - encourage communication between our compliance group and operating personnel
 - reward compliant performance
- Effective monitoring and analytical equipment

Together these elements produce an approach to environmental remediation programs which ensure full compliance.

4.2.1 Independent Regulatory Compliance Organization

ENSR Remediation and Construction has established an independent regulatory compliance organization which monitors field remediation projects independent of field operations. This compliance group reports independently to the Division President. It

has the authority to curtail field operations it identifies as potentially unsafe or non-compliant.

In practice, this co-equality of the compliance and operations functions results in a harmonious team effort in which compliance goals are viewed as important as production goals.

4.2.2 Management Systems

ENSR Remediation and Construction has established processes for communication of regulatory compliance goals and performance. At the start of every project, a compliance plan is established. That plan lists all applicable regulations, identifies those operations which involve the greatest regulatory risk, and establishes a specific action plan for executing remedial work in those areas of regulatory risk. Prior to each day's on-site activities, the scheduled work is examined in relation to the compliance plan. Daily field activities are then continuously monitored against that compliance plan.

ENSR Remediation and Construction has incorporated these compliance goals into its personnel incentive compensation program. In addition, every employee's annual performance review includes an assessment of his/her compliance attitude and contributions to achievement of our continuing goal of full regulatory compliance.

4.2.3 Monitoring and Analytical Equipment

Regulatory compliance in a field remediation program requires an awareness of hazards. ENSR Remediation and Construction uses modern monitoring and analytical equipment to identify the existence of hazards. This equipment is employed at the start of a project to map the job site for existing hazards. The site is then continuously monitored during project execution to ensure that site activities have not altered the location and intensity of identified hazards.

4.3 Compliance is Part of the Project Deliverables

Regulatory compliance is an integral part of ENSR's remediation services package. You, as our prospective client, want to solve an environmental problem, not cause one. We owe you full compliance as one of our project deliverables.

5.0 SAFETY

5.1 Complement to Our Regulatory Compliance Program

The safety program at ENSR Remediation and Construction operates in partnership with our regulatory compliance program. It is administered by the same organization, with the same intensity.

5.2 Guiding Policies

There are eight key elements to our safety program:

- Employee training
 - Comprehensive internal programs
 - Certified external programs
- Proper safety equipment and apparel
- Proven operating procedures
- Experienced and certified management
 - Certified safety personnel
 - Certified EMTS
 - Certified hazardous materials management personnel
 - Certified geotechnical personnel
 - Certified wastewater treatment operators
 - Licensed engineering personnel
 - Certified training manager
- Full-time safety staff monitoring operations
- Safety audits
- Medical examinations
 - Pre-employment
 - Annual
- Incentive programs for safe performance

5.3 Integration with Client Safety Record

When ENSR Remediation and Construction undertakes a remediation program on your plant site, we need to integrate our safety program with yours. This integration process has two underlying bases.

- You have the greatest experience in dealing with the inherent risks of the materials and equipment found on your site. Hence, we want to build on your experience.
- You have employees on-site. You want to ensure that their continued safety is not jeopardized by the conduct of an on-site remedial program.

We therefore appreciate your keen interest in our safety program and will endeavor to maintain the high standards of safety which normally exist at your plant site.

5.4 Civil Record

As a reflection of its excellent safety and regulatory compliance record, American NuKEM Corporation, and the ENSR Remediation and Construction Division as a part of that Company, has never been the defendant in any civil suits or claims by third parties for any personal injury, property damage, or environmental damage. Nor have we ever been the object of any criminal proceedings regarding environmental laws or regulations. Furthermore, no proceedings have ever been initiated by any regulatory or governmental body seeking a revocation, suspension, or modification of any permit.

5.5 Project Safety Organization

The health and safety of all personnel performing on-site activities is ENSR's highest priority. Consequently, stringent health and safety procedures are implemented and monitored through a precise chain-of-command. ENSR's health and safety programs are developed by the Director of Health, Safety and Compliance who reports to the President of Remediation and Construction.

Project Managers are responsible for the preparation of Work Plans (WP) and Health and Safety Plans (HASP) for their assigned projects and the Director of Health, Safety, and Compliance is responsible for review and approval of these site-specific plans prior to commencement of field activities. The stages of preparation of these documents are tracked by ENSR management on a weekly basis to assure that adequate time is given to the preparation and approval process. Status reports on each WP and HASP, indicating the responsible project manager, target completion date, and degree of completion are also prepared on a weekly basis.

These plans are implemented during the performance of on-site activities by the designated Site Safety Officer and the Site Supervisor. The Site Safety Officer and the Director of Health, Safety, and Compliance have the authority and responsibility to curtail any operations believed to threaten human health or the environment. Unannounced, periodic audits are made on individual projects to ensure that activities are being conducted in the safest manner possible.

ENSR's upper management meets weekly to review project activities to assure that company standards are being met. All employees, regardless of job title, share the responsibility for safe operations. Favorable as well as unfavorable safety reports and audits are maintained in employee files and are an important consideration in salary reviews and promotion evaluations.

5.6 Health and Safety Training

All ENSR personnel expected to participate in hazardous waste site activities receive extensive health and safety training as mandated under OSHA 29CFR 1910.120. ENSR requires all subcontractor personnel to meet the applicable training requirements of 29CFR 1910.120, and the Site Safety Supervisor is responsible for verifying the compliance of subcontractor personnel with applicable training requirements, including those imposed by the client.

ENSR's basic 40-hour training course includes, but is not limited to, the following topics:

- Chemical Hazards
- Physical Hazards

- Protective Equipment and Clothing (including respiratory protection)
- Air Monitoring Instrumentation
- Hazardous Waste Site Control Procedures
- Decontamination Procedures
- Emergency Response Procedures

This 40-hour course is concluded with a practical field exercise representing activities to be performed on a typical hazardous waste site. This basic training is supplemented with an 8-hour refresher course given to all site personnel on an annual basis. Additionally, any personnel who may be called upon to oversee site activities receives an 8-hour supervisor training course designed to inform supervisory personnel of the special requirements of sites containing hazardous wastes.

Prior to beginning project activities, site employees are required to attend training specific to the individual project. This training consists of a review of the HASP and WP including Hazard Communication Provisions. Each employee is required to review and indicate in writing their understanding of the hazards present at the site and the requirements of the HASP. Additionally, a copy of the HASP is maintained at the job site and is accessible to all employees as well as visitors to the site.

This project training focuses on the engineering controls to reduce exposures, personal protective equipment practices and the symptoms of over-exposure. Daily project-specific safety training sessions (often called "tailgate safety meetings") are conducted at the beginning of each shift to review the safety procedures applicable to the specific operations at the site and to inform the employees of the project's current status. All safety training is documented in a site safety log, including the topics addressed and the names of the attending personnel.

6.0 UNIQUE ASPECTS OF ENVIRONMENTAL REMEDIAL CONSTRUCTION

ENSR recognizes and understands the differences between conventional construction and environmental remediation construction projects. Briefly stated, the fundamental differences are as follows:

- **Conventional Construction** involves a well defined scope and cost which is developed based upon decades of experience using engineered products and technologies.
- **Environmental Remedial Construction** involves a defined scope and cost which are determined upon the basis of regulations which are subject to change and regulatory approvals, and upon remedial investigations which are by their nature only accurate for specific sampling points.

The goal of effective remedial project management is, therefore, to control project scope and cost. This control is established through careful pre-project planning. During pre-project planning, a thorough definition of the requirements of the remedial action plan are developed with clear and concise methods identified for determining successful completion of each phase of work. Additionally, because the nature and distribution of the waste products cannot be precisely determined, work plans for addressing project variances are based on accurate regulatory interpretations and financial projections.

In the field, the *Construction Manager* has control the execution of the project, constantly evaluating changing field conditions relative to the remedial action plan. Quite often, changing field conditions may have significant regulatory implications which, if over-looked, can result in serious violations and financial liabilities. A thorough understanding of the environmental regulations is provided to prevent project delays due to obtaining necessary permits and approvals as site conditions change.

Environmental restoration projects rarely result in construction of capital assets, but rather, implement the requirements of an order or closure plan approved by a government agency; consequently, documentation is the key to successful closure of a hazardous waste site or facility. The appropriate level of quality assurance/quality control documentation is developed to ensure that the requirements of the remedial action plan can be certified to have been met.

Failure to recognize the unique requirements of environmental remediation programs may result in serious violation of regulations and/or fines in addition to excessive cost and schedule overruns.



7.0 PROJECT MANAGEMENT

7.1 Project Management Goals

ENSR's broad base of experience demonstrates a number of critical project management qualifications.

- Deployment of staff and resources from multiple locations.
- Management and control of schedule and budget at both the program and project levels.
- Preparation and submittal of deliverables, technical reports, and cost-control information on a timely basis.
- Management of safety programs.
- Maintenance of project documents, personnel medical monitoring, and mandated training programs in a regulatory compliant fashion.

These results are achieved through a project management system which is based on the following elements:

- Experienced personnel
- Proven management control tools

These elements are described in detail in the following sections.

7.2 ENSR Personnel

ENSR's successful project management system is based upon a team of experienced project managers led by senior personnel with a long history of success within the industry. ENSR's General Managers are experts within their area of expertise and work closely with project personnel to ensure a uniformly high level of project performance. Represented within our senior staff are personnel with vast experience in dewatering and stabilization of sludges; product recovery and recycling; landfill and impoundment construction; wastewater treatment; waste treatment and recycling; dismantling and decontamination of facilities; vapor extraction; and groundwater recovery and treatment. Resumes of key personnel are presented in Appendix B.

7.3 Project Management Systems

ENSR employs a single proven project management system to control cost and schedule. This system is flexible, allowing project management personnel to select soft-ware which meet the specific needs of a given project--whether that project is large or small, complex or simple. However, regardless of the software selected, the management control information produced is always the same.

ENSR employs PRIMAVERA as its software system for complex projects. PRIMAVERA is a critical-path based scheduling program that employs data base technology to provide schedule-driven project management information. ENSR's version of PRIMAVERA includes Finest Hour (Performance Measurement Software) and Expedition (Construction Contract and Control Software).

Standard reports by early/late start/finish, responsibility code, and float are available from PRIMAVERA. Cost reports, at activity, project and contract levels are available as are reports on earned revenue and commitment status. A variety of other, customized reports are available using the Expedition feature, including submittal reports, meeting minutes, material reports, procurement logs, subcontract logs, etc.

ENSR recently completed a schedule-sensitive project at the French Limited Superfund Site in Crosby, Texas. PRIMAVERA was used as a scheduling tool which enabled completion of the project on-time, even though the quantities of materials requiring removal exceeded earlier estimates by a factor of three. By efficiently adjusting schedules and resource allocation, ENSR completed the project on-time and received a performance bonus from the Owner.

Projects not requiring the extensive reporting or scheduling capabilities of PRIMAVERA are managed with a variety of other systems involving one or more of the following systems:

- Harvard Project Manager
- Timeline
- Symphony
- Lotus 123

ENSR has developed several custom spreadsheets for project monitoring and control that are capable of developing daily project status information. On one project for a confidential client, the excavation, backfill, transportation, and disposal of petroleum contaminated soils was tracked on a daily basis. The projected costs to complete, as developed from graphical representations of the project status, illustrated a potential over-run exceeding 150% of the plan. Identifying this very early permitted us to suspend the activities for a very short period of time and make plans to treat the material on-site in a significantly more cost efficient manner. The on-site treatment was not feasible under the original scope; however, with the changes on-site, it became the most effective manner to solve the client's problem.

7.3.1 Project Monitoring

ENSR employs critical path method (CPM) scheduling on all projects. This approach is particularly well suited to the high-intensity, short duration projects typical of our industry. ENSR's project management systems can monitor an unlimited number of activities, resources per activity, out-of-plant costs, subcontractors, etc. Actual costs are monitored as the project proceeds and compared against the progress to date in terms of percent complete. ENSR can calculate the budgeted cost of the work scheduled, budgeted cost

of the work performed, and the actual cost of the work performed as a measure of the schedule/cost variance. Estimates at completion are maintained using the most up-to-date estimates of the resources and timeframes required to complete each task. This information is then "rolled up" to summarize at the project or program level.

7.3.1.1 Scheduling and Cost Estimating

Scheduling is based upon identification of all of the activities required to complete the requirements of the remedial action plan and their logical interrelationships.

Estimating timeframes for each activity is critical to the successful completion of the project. ENSR has successfully executed many projects (on-schedule and within budget) by carefully identifying, analyzing and implementing plan requirements through the use of cost/schedule estimating.

Cost estimating involves assignment of in-house resources and other direct costs (ODC's) to each of the above steps, as appropriate to the step involved. These include estimating, for example, the labor categories and hours involved, the associated labor rates, subcontractor costs, equipment required and associated equipment rates, materials/supplies required and their costs as well as other ODC's. Using these inputs ENSR can develop a schedule for and calculate the cost of each activity.

7.3.1.2 Budgeting

Through identification of responsibility by functional area within ENSR, budgets, in the form of labor dollars, labor hours, equipment resources and ODC's, are prepared for each department. ENSR prepares and furnishes these budgets to each department manager in order that they may schedule, budget, monitor and control the work within their department.

7.3.1.3 Tracking

The schedule and financial status of the project is continuously monitored/controlled as the project proceeds.

From the schedule standpoint, particular attention is focused on the critical path elements to assure the project is completed on or ahead of schedule. Sensitivity analyses are employed to provide advance warning of possible changes within the critical path to assure that those elements remain on-schedule and do not impact the project completion date in the event they become part of the critical path as the project proceeds.

Financial status/performance is monitored and controlled using the earned value approach, even in cost plus projects. Earned value, i.e., the worth of work in-place, is computed for each activity and summed at the total project level. Comparison of the earned value to the original plan provides a measure of the schedule and budget status. ENSR employs objectively verifiable measures of work in-place when determining earned value. Using objectively verifiable measures (i.e., cubic yards excavated, tanks removed, tons disposed) of the work performed greatly reduces the errors associated with "off the top of the head" estimates of percent complete. These estimates are often overly optimistic and result in a distorted estimation of the project status.

In summary, ENSR estimates and budgets its projects for reasons other than simply satisfying the requirements of the bidding process. Of primary importance is the process of monitoring and controlled field execution. ENSR's implementation of critical path method scheduling and the earned value method for determining performance to date allow us to consistently complete projects on-schedule and within budget.

7.3.1.4 Project Reporting

Client and Contractor communication is a critical element of successful project execution. ENSR personnel interface consistently with clients regarding project scope, schedule, budgets, and variances to any of these elements. In this way, clients are routinely informed of project progress and are therefore not presented with last minute "surprises".

This client interface is established at the "kick-off" meeting prior to commencement of on-site work. At this time, contact personnel for project status reporting are established. This line of communication is maintained throughout the project. ENSR establishes its Project Manager as the focal point through which all information is disseminated to the client.

The frequency and method of project status reporting is also established at the "kick-off" meeting, and this reporting schedule is maintained throughout the project. All project activities are thoroughly documented and are presented in a final report to the client and appropriate agencies, as necessary.

APPENDIX

APPENDIX A
REPRESENTATIVE PROJECT EXPERIENCE

REMEDIATION OF CONTAMINATED PIT**Confidential Client****Texas**

ENSR was retained by client to perform remediation and closure of a pit containing high concentrations of reactive sulfides, hydrocarbons, and 200 drums of varied contents at a site in Brownsville, Texas.

ENSR:

- Performed site characterization to determine nature and extent of contamination.
- Performed excavation and sampling of pit area.
- Placed sulfide-contaminated waste in 884 drums for disposal by incineration.
- Disposed of hydrocarbon-contaminated waste in an off-site landfill.
- Excavated and sampled 200 drums; identified 12 having hazardous contents.
- Disposed of hazardous drum contents by incineration, and disposed non-hazardous contents in nearby landfill.
- Backfilled excavated area on-site fill material.

SITE CHARACTERIZATION AND WASTE PILE DECONTAMINATION**Confidential Metallurgical Co.****Ohio**

The client owned an operating facility in Ohio and desired decontamination of several waste piles located on the site, which contained high concentrations of heavy metals and low-level radiation.

ENSR:

- Performed site characterization to determine the exact location and extent of contamination.
- Excavated approximately 100,000 cubic yards of contaminated soil, and disposed of the soil in an on-site waste repository.
- Performed on-site fixation of contaminated soils and slags.
- Placed contaminated wastes into specially constructed cells.
- Covered cells with a protective clay cap.
- Issued final report documenting site closure.

REMEDICATION OF ARSENIC-CONTAMINATED SOILS
ATOCHEM North America (formerly Pennwalt Corporation)
Texas

The client operates an agricultural chemical manufacturing facility in Bryan, Texas. Material handling operations, over a period of years, had resulted in soils contaminated with arsenic trioxide. ENSR was initially contracted to excavate and remove the contaminated soils; however, ENSR provided additional remediation services through a series of change orders.

ENSR:

- Prepared a site-specific health and safety plan detailing procedures for all activity phases called for in the scope of work.
- Performed waste characterization in accordance with all applicable state and federal regulations.
- Excavated the top six inches of soil and prepared approximately 1,800 c.y. of contaminated soils for off-site transport and disposal.
- Removal activities required the dismantling of a railroad spur and the removal, disposal, and replacement of soil near a railroad main line and on a neighboring property. Excavation of the spur line required extensive rework of the subbase material and realignment of the drainage pattern on both sides of the right-of-way to avoid erosion of the compacted backfill.

TRACK SCALE AREA CLOSURE**Confidential Client****Texas**

This client contracted ENSR to remediate and close a former tetraethyl lead (TEL) shipping area. The facility was used to produce TEL and ethylene glycol products. The production of TEL was initiated in approximately 1960 and production was ended in 1983. A three-year program was begun to decommission and dismantle the TEL units and associated equipment.

ENSR:

- Constructed an environmental enclosure for an area approximately 425 feet long, 60 feet wide, and 75 feet high. The enclosure is supplied with a negative air machine equipped with carbon adsorption/scrubber to remove any organic vapors encountered during soil treatment operations.
- Performed treatment of an estimated 875 cubic yards of TEL-contaminated soils using a 5% potassium permanganate solution and dewatered treated soils.
- Conducted on-site soil sampling and analysis.
- Loaded treated soils and debris for transport and disposal at an approved disposal facility.
- Backfilled the excavated areas with an estimated 900 cubic yards of low-strength concrete.
- Placed a hot-mix asphaltic concrete (HMAC) cap on the removal area.

EQUALIZATION BASIN CLOSURE
Gulf Coast Chemical Company
Texas

This client contracted ENSR to remediate and close an equalization basin located in it's facility in Texas. Contaminants included benzene, ethylbenzene, toluene, and xylene. A total of 8,000 cubic yards of contaminated soil was excavated at this site. ENSR emplemented a multi-phased approach to execute an environmentally sound closure.

ENSR:

- Supervised the removal of supernate from the basin.
- Utilized a boom pumping system to transfer approximately 6,500 cubic yards of sludge from the equalization basin through an existing pipeline into reactor vaults. The sludge was mixed with dry soil to form a consistency suitable for placement in the reactor vaults.
- Constructed an entry ramp into the basin to facilitate the use of heavy earth-moving and transport equipment.
- Removed approximately 1,555 cubic yards of contaminated clay from the basin and transported to reactor vaults.
- Conducted soil sampling and analysis.
- Prepared final closure report documenting all site activities for client review and submittal to the Texas Water Commission.

REMEDICATION OF HAZARDOUS WASTE AREA AT AN INACTIVE REFINERY
Texaco Refining and Marketing, Inc.
Illinois

This project involved closure of 10 RCRA facilities that consisted of stabilizing and transporting lead and TPH-contaminated wastes from nine satellite landfarms to the largest site where ENSR constructed a RCRA landfill having a total capacity of 750,000 cubic yards and covering 28 acres. Approximately 200,000 cubic yards of material were transferred.

ENSR:

- Excavated and stacked contaminated materials to allow for gravity dewatering prior to solidification. This action reduced the amount of solidification agent required. Various agents were used in the solidification process to achieve a bearing capacity of 2,000 psf in the landfill.
- Utilized mass excavation techniques to transfer waste materials, with up to 10,000 cubic yards per day being transferred to the landfill. Clean haul roads were constructed as waste materials were excavated to avoid having to decontaminate the transport equipment. These haul roads then served as backfill material.
- Constructed a grout curtain to a depth of 43 feet and a clay cutoff wall to prevent migration of contaminants. A 6-inch thick grout cap was poured over the grout curtain, followed by a 1/2-foot deep layer of clay. Approximately 110,000 cubic yards of clay was placed during the construction of the clay cap.
- Supervised the installation of over 1 million square feet of 60 Mil HDPE liner material over the landfill. A drainage network with a geotextile filter fabric was placed over the liner. Approximately 75,000 cubic yards of soil was placed over the synthetic lining system to serve as a buffer.

EXCAVATION AND REMEDIATION OF NORTH PIT
French Limited Superfund Site
Texas

In July of 1989, ENSR was retained by the French Limited Task Group to perform excavation and remediation of the North Pit area at the French Ltd. Superfund site in Crosby, Texas.

ENSR:

- Performed dewatering of the North Pit.
- Cleared the area of trees and underbrush.
- Performed excavation of 6-inch depths, until clean soil was reached.
- Performed sampling of underlying soil.
- Placed excavated material into waste lagoon.
- Capped excavated area with 2 to 4 feet of imported clay.
- Re-sampled soil beneath clay cap during the following month.
- Backfilled excavated area to ground level with imported clay.

APPENDIX B
RESUMES OF KEY PERSONNEL

TOBIAS W. EDINGER, P.E.**PROFESSIONAL HISTORY**

ENSR Remediation and Construction
O. H. Materials Co.

EDUCATION

B.S. (Civil Engineering) University of Toledo

PROFESSIONAL REGISTRATION

P.E. (Civil Engineering) California

AFFILIATIONS

Society of American Military Engineers

TECHNICAL SPECIALTIES

10 years of experience in:

- Project and Construction Management
- Underground Storage Tank Management
- Site Remediation and Closure
- Site Stabilization and Solidification
- Landfill Design and Construction
- Groundwater Treatment and Recovery

REPRESENTATIVE PROJECT EXPERIENCE

- Texaco Refining and Marketing - Landfill Solidification and Closure. Managed closure of a 26-acre landfill at a closed refinery near Lockport, Illinois. Completed solidification of over 750,000 cubic yards of oily wastes and sludges. Constructed and installed a double-lined cap consisting of a geomembrane and impermeable clay barrier. A grout curtain and active leachate collection system were utilized to control groundwater beneath the landfill.
- Major Chemical Manufacturer - Drum Removal and Site Closure. Project Manager for closure of a 10-acre solvent-contaminated site. Scope of work also involved regrading and removal of buried drums, and construction of a 50,000 cubic yard clay cap with materials removed from an on-site borrow source.

TOBIAS W. EDINGER, P.E.

EXPERIENCE (Continued)

- Confidential Manufacturer - Closure of Waste Lagoon. Managed closure of lagoon which contained 8,000 cubic yards of metal-contaminated waste. Project work activities included stabilization, excavation and off-site disposal of plating sludges.
- Confidential Industrial Co. - PCB Remediation. Managed a multi-year PCB decontamination project in north-central Indiana involving sludge stabilization, excavation of stream beds in active watercourses, facility decontamination, decontamination of an active waste water treatment facility, operation of biodegradation systems, and on-site water recovery and treatment systems.
- Major Chemical Manufacturer - Vault Construction and Lagoon Stabilization. Managed construction of a 40,000 cubic yard RCRA Vault involving soil/bentonite lining systems constructed in three phases. Four lagoons containing phenolic sludges were stabilized and staged to permit construction of the vault in the former location of the lagoons.
- O. H. Materials Co. - Numerous Environmental Construction Projects. Successfully completed more than 40 projects ranging from facility decontamination to mass excavation/landfill construction.

JOHN C. ELLIOTT**PROFESSIONAL HISTORY**

ENSR Remediation and Construction
ARCHON Environmental Services, Inc.
Chemical Waste Management, Inc.
Allied Analytical and Research Laboratories

EDUCATION

B.A. (Biology) Miami University

TECHNICAL SPECIALTIES

7 years of experience in:

- Hazardous Waste Management
- Project and Construction Management
- Facility Decontamination/Demolition
- Underground Storage Tank Remediation
- Health and Safety Procedure Development and Implementation
- Industrial Hygiene
- Groundwater Monitoring
- Chemical Analysis
- Asbestos Abatement

REPRESENTATIVE PROJECT EXPERIENCE

- Confidential Client - UST Remediation. Project Manager for the remediation of 11 underground storage tanks containing jet fuel, gasoline, diesel fuel, and waste oil. Remediated 3,000 cubic yards of contaminated soil and 100 drums of waste sludge.
- ARCHON Environmental Services - Operations Manager. Project Manager for various projects including: decontamination/demolition/disposal of pesticide storage buildings; remediation of numerous aboveground and underground storage tank systems ranging up to 60,000 gallons; design and construction of a mobile reactive treatment unit for the dilution and/or neutralization of highly corrosive, reactive, and/or toxic compounds; dilution/disposal of unsymmetrical dimethyl hydrazine and inhibited red fuming nitric acid; remediation of pesticide, solvent and hydrocarbon contaminated soil; design/construction of HDPE aeration chambers for the volatilization of hydrocarbon contaminated soil, decontamination of a cyanide contaminated elevator shaft, and disposal of numerous "lab pack" chemicals.

JOHN C. ELLIOTT

EXPERIENCE (Continued)

- Chemical Waste Management, Inc. - Environmental Remedial Action Division. Project Manager responsible for organization and execution of hazardous waste remediation projects in compliance with all federal, state, and local regulations. Served as Health and Safety Consultant/Site Superintendent at the Pine Bluff Arsenal in Pine Bluff, Arkansas, responsible for the development and implementation of site-specific health and safety plans for the remediation of 23 hazardous waste sites. Also responsible for the remediation of 25,000 cubic yards of military munitions and chemical warfare agents. Served as Site Safety Officer/Site Chemist at the U.S. EPA Superfund cleanup of the Highlands Acid Pit in Highlands, Texas.
- Allied Analytical and Research Laboratories - Division of Waste Management, Inc. Served as Analytical Chemist responsible for the preparation, analysis, and quality control of soil, water and chemical samples for trace elements by inductively coupled plasma emission spectroscopy. Supervised oil and fuel analyses, as well as all aspects of inorganic ("wet") chemical analyses. Analysis techniques included gas chromatography, atomic absorption, and infra-red and ultra-violet spectrophotometry. Supervised organization and execution of environmental sampling projects, including ground water monitoring wells, hazardous waste, industrial waste water, soil and air.

MICHAEL R. STRAYER**PROFESSIONAL HISTORY**

ENSR Remediation and Construction
ThermalKEM, Inc.
Haztech, Inc.
O.H. Materials Company
State of Florida, Dept. of Environmental Regulations

EDUCATION

B.S., A.C.S., (Chemistry) Florida Atlantic University
W.P.B., Everglades Laboratory

AFFILIATIONS

American Chemical Society

TECHNICAL SPECIALTIES

10 years of experience in:

- Project management (field and laboratory)
- PCB remediation and analysis
- Chemical analysis of volatiles, phenolics, and base-neutral-acids
- Water analysis and treatment
- Health & Safety procedure implementation
- Emergency Response Treatment Services
- Graphite furnaces, Perkin-Elmer; Gas Chromatographs and Computer Interfacing, Perkin-Elmer

REPRESENTATIVE PROJECT EXPERIENCE

- ThermalKEM South Carolina. Established field services group for lab packing and sampling of unknown drums. Coordinated Emergency Response Treatment Services for EPA Superfund waste for incineration at facility in Rock Hill, South Carolina and treatment of wastes at CyanoKEM facility in Detroit.
- Haztech, Inc. - Project Chemist. Managed and provided technical support for water treatment, lab packs, PCB-soil and PCB-water-treatment projects for six branch operations within the same number of states. Coordinated on-site recovery and disposal operations; provided safety and related training to field personnel; interfaced with state and federal EPA agencies; and developed estimates and proposals for client submittals. Developed Emergency Response for The Drug Enforcement Agency (DEA).

MICHAEL R. STRAYER**EXPERIENCE (Continued)**

- O. H. Materials Company - Project Chemist. Managed operations of 12 field mobile laboratories using gas chromatography equipment for water/gas pollutants as well as ICP metal analysis. Provided training to new chemists in EPA protocols, functioned as Site Safety Officer, and responded to customer requests for proposals. Oversaw extensive recovery and disposal operations for hazardous chemicals. Additionally, functioned as Lead Chemist with the Emergency Response Team.
 - Functioned as Safety Officer for excavation of ten 5,000- to 12,000-gallon underground storage tanks containing various explosive solvents for Ford Motor Division Plastics Plant, Ionia, Michigan.
 - Supervised mobile analytical laboratory for discharge analysis of PCB's for a carbon electrode manufacturing facility, a division of Reynolds Aluminum.
 - Supervised mobile analytical laboratory on-site at a major river contaminated with coal tar deposits in Ottawa, Canada. Conducted discharge analysis of over 25 million gallons of river water contaminated with naphthalene and benzopyrene for the Canadian Ministry of the Environment.
 - Supervised segregation and lab packing of over 35,000 containers, lecture bottles, and gas cylinders housed in a warehouse in Mt. Vernon, New York.

JON B. QUICK**PROFESSIONAL HISTORY**

ENSR Remediation and Construction
EXTEC Contracting, Inc.

EDUCATION

B.S. (Math/Physics) Southwest Texas
(Concrete Design) ACI/Rice University

TECHNICAL SPECIALTIES

18 years of experience in:

- Project and Construction Management
- Site Remediation and Closure
- Site Stabilization and Solidification
- Landfill Construction
- Contaminated Soil Encapsulation and Disposal
- Petro Chem and Nuclear Power Plant Construction

REPRESENTATIVE PROJECT EXPERIENCE

- Moyer Landfill EPA Superfund Site - Landfill Closure. Estimator and Project Manager for 65-acre landfill located in Montgomery County, Pennsylvania. Constructed and installed a multi-layered cap system consisting of a geomembrane liner and a one million cubic yard impermeable clay barrier. A slurry wall and active leachate collection system were utilized to control groundwater.
- Helen Cramer EPA Superfund Site - Landfill Closure. Estimator and Project Manager for 58-acre landfill located in New Jersey. Constructed and installed a multi-layer cap system consisting of a geomembrane liner and a 350,000 cubic yard impermeable clay cap. Scope of work also involved batching and placement of 25,000 cubic yards of roller compacted concrete.
- Montgomery County Resource and Recovery - Trash to Steam Generating Power Plant. Estimator and Project Manager for grass roots construction of trash to Steam Power Generating Plant. Scope of Work included on-site borrowing of 150,000 cubic yards of rock, crushing and producing project requirements of crushed rock. Excavation and placement of 15,000 cubic yards of structural concrete as part of foundation.

JON B. QUICK

EXPERIENCE (Continued)

- Gulf Olefins-Plant Expansion. Managed project expansion at Gulf's Cedar Bayou Plant which included removal of 450,000 cubic yards of unsuitable soil, site stabilization and geotextile barrier. The scope of work also include placement of 750,000 tons of crushed stone base material.
- Houston Lighting and Power Company - South Texas Project. Commodity Coordinator for HL&P's first grass roots Nuclear Power Plant. The scope of work for this project included construction of cooling water reservoir, lagoons and excavation and structural concrete placement for the reactor foundations, plant roads and piping.
- Commanchee Peaks Nuclear Power Plant - New Plant Construction. Commodity Manager involved in construction of reservoir impoundment dam for plant cooling water and lagoons directing water in and out of the plant. Earth movement for this project was in excess of one million cubic yards with 50% of this yardage consisting of rock; this rock was crushed to specific sizes and reused on-site.
- Goddard Space Flight Center - NASA Building Expansion. Project Manager for Building 29, the largest clean room in the world located in Greenbelt, Md. This project included a complete site package of earth work, utilities and paving. This project included vast amounts of limed soil stabilization.

HOWELL G. PONTON**PROFESSIONAL HISTORY**

ENSR Remediation and Construction
OSCA/ENCOR
Scalliet Technologies, Inc.
Rollins Environmental Corporation
Inwood Energy Corporation
Mallard Resources Refining, Inc.
Ruston Gas Turbines, Inc.

EDUCATION

B.S. (Mechanical Engineering) Southwest Texas, 1967

TECHNICAL SPECIALTIES

23 Years of Experience in:

- Project and Construction Management
- High Tech Treatment of Oily Refinement Waste
- Oily Sludge Separation and Recovery
- High Pressure Filtration and Volume Reduction
- Soil Washing, Venting, and Drying
- Ground Water Control, Treatment and Recovery

REPRESENTATIVE PROJECT EXPERIENCE

- Major Wood Preserving Company - Clean Closure of Six Impoundments. Managed closure of six impoundments. Scope of work included removal and dewatering of more than 120,000 cubic yards of creosote sludge for offsite disposal. Testing and certification of decontaminated areas prior to backfill and placement of a clay cap.
- Confidential Gulf Coast Refinery - Separation and Treatment of Oily Waste. Managed treatment of 750,000 BBLS of oily refinery waste. Designed process for three phase separation of waste to produce clean water for discharge, recovered oil returned to process and deoiled solids suitable for landfill.
- Major Chemical Manufacturing Company - Closure of 12-acre Hazardous Waste Landfill. Managed in place closure of 12-acre contaminated with EDB. A RCRA cap consisting of compacted clay, drainage net, LDPE Liner, gas venting system and leachate collection system was placed on the landfill site. Plume migration was contained with French drains and synthetic barrier walls.

Howell G. Ponton

EXPERIENCE (Continued)

- Numerous Environmental Construction Projects and High Tech Treatment Systems. Solidification, fixation, filtration, distillation, soil washing, and biodegradation as well as dewatering and deoiling equipment and procedures have been utilized in successful completion of more than 50 environmental projects. .

MARK ZIMMERMAN**PROFESSIONAL HISTORY**

ENSR Remediation and Construction
Waste Abatement Technology, Inc.
OHM Corporation

EDUCATION

B. S. (Natural Resources) Ohio State University

TECHNICAL SPECIALTIES

7 years of experience in:

- Wastewater Treatment Processes
- Project and Construction Management
- Site and Facility Decontamination and Closure
- Closure of Hazardous Waste Surface Impoundments
- Waste Stabilization and Solidification
- Health and Safety Procedures

REPRESENTATIVE PROJECT EXPERIENCE

- Confidential Client - Track Scale Area Closure Project. Project manager for closure of a former Tetraethyl Lead (TEL) shipping area. The project included dewatering; chemically treating TEL-contaminated soils with potassium permanganate; transportation and disposal; placement of approximately 1,100 cubic yards of low-strength concrete; and placement of an asphalt cap. The entire project was completed under a temporary enclosure (75' x 400') with negative air machines and effluent treatment units to control air emissions. All work was performed in EPA Level B personal protective equipment.
- E. I. du Pont de Nemours & Co. - Closure of Hazardous Waste Surface Impoundment. Project manager for closure of a hazardous waste surface impoundment involving treatment of approximately 4,000,000 gallons of free water; dewatering and stabilization of approximately 2,000,000 gallons of metal hydroxide sludge; excavation and placement of 45,000 cubic yards of contaminated soils; and construction of low permeability basin cap.
- AMPEX Corp. - Groundwater Recovery and Biotreatment. Project manager for installation of a groundwater recovery and biotreatment system in Opelika, Alabama. The system was operated over a two-year period with operations and maintenance training being provided to the client.
- Florida Steel Corp. - Mobile Incineration Project. Project manager for a mobile incineration project in Indianton, Florida to destroy PCB-contaminated soil.

MARK ZIMMERMAN**EXPERIENCE (Continued)**

- Florida Steel Corp. - Mobile Incineration Project. Project manager for a mobile incineration project in Indianton, Florida to destroy PCB-contaminated soil. Approximately 20,000 tons of contaminated soils were treated over the duration of the project. Contaminated soils were excavated, and an aboveground vault was constructed to store the materials while the incineration system was being built.
- Major Insurance Company - Evaluation Studies for UST Assessment. Coordinated and conducted surveys/evaluation studies for the assessment of underground storage tanks at petrochemical and chemical facilities throughout the United States and Canada.
- Confidential Client - Facility Decontamination. Project manager for decontamination of six pesticide-contaminated warehouses. Upon removal of gross contamination, inventory was removed from the warehouses for subsequent staging, material separation, and disposal. Final decontamination involved high pressure washing of all interior surfaces.
- Successfully completed numerous projects ranging from emergency response actions to facility decontamination.

DENNIS P. GIUSTRA**PROFESSIONAL HISTORY**

ENSR Remediation and Construction
Roy F. Weston, Inc.
Versar Inc.

EDUCATION

M.S. (Chemical Engineering) Arizona State University
B.S. (Chemistry) University of Maine

AFFILIATIONS

American Institute of Chemical Engineers (AIChE)
American Chemical Society (ACS)

PROFESSIONAL REGISTRATION

Engineer-in-Training (Massachusetts)

TECHNICAL SPECIALTIES

4 years of experience in:

- Hazardous Waste Site Assessments
- Emergency Hazardous Material Spill Response
- CERCLA Removal Actions
- Sampling and Analysis

REPRESENTATIVE PROJECT EXPERIENCE

- Railroad Sites, Vermont and Maine - Soil and Water Sampling. Coordinated field sampling activities which involved the on-site screening of soil, water, and waste samples for volatile organics and PCBs using portable gas chromatography and field test kits. Screening results enabled sampling team to define areas of contamination and select optimum sampling locations for laboratory analyses, providing a more focused and cost effective approach for the purpose of completing individual site assessments.
- NPL Landfill Site, New Hampshire - Drum Remediation. Provided technical support to the U.S. EPA during the excavation and removal of over 350 buried drums from distinct areas of the landfill. Work also involved monitoring contractor performance, maintaining daily site logs, and conducting ambient air monitoring.

DENNIS P. GIUSTRA

EXPERIENCE (Continued)

- Metal Reclamation Facility, Montana - Emergency Spill Response. Responded to the scene of a fire which resulted in the spill of a cyanide solution and contamination of soils and groundwater. Provided U.S. EPA with scope of work and cost estimate to abate the threat posed by the release. Assisted with on-site removal activities, which involved groundwater monitoring well installations, soil removal and disposal, and site stabilization.
- Former Naval Training Center, Maryland - UST Site Contamination Study. Managed the underground storage tank phase of a site contamination study for the U.S. Navy. Work involved the identification of more than 600 USTs using magnetic detection, classification of each individual tank and contents, and the preparation of a work plan and cost model for the closure in-place and/or removal of each tank.
- Textile Mill, Rhode Island - Fuel Oil Storage Tank Removal. Provided technical support to the U.S. EPA during the removal of two 20,000-gallon underground storage tanks containing fuel oil and sludge. Worked closely with contractor to ensure the timely completion of the project.
- Refinery, Missouri - Facility Assessment. Performed a facility assessment at a refinery involving the evaluation of 17 solid waste management units for actual or potential releases to the environment. Final report included recommendations for further action and lead to the implementation of corrective measures at the facility.
- Abandoned Site, Utah - Development of Drum Remediation Plan. Evaluated disposal and treatment option for the removal of four 55-gallon drums believed to contain sodium cyanide. Presented options to U.S. EPA which represented an innovative approach to conducting the removal as an alternative to disposal.
- NPL Landfill Site, Colorado - Surface Water Treatment Design. Designed a surface water treatment system for organic contamination utilizing air stripping and carbon adsorption to control seeps at the landfill. The system was similar to a groundwater treatment unit already in place and was entirely consistent with the remedial action plan for the site.
- Denver Radium Site, Colorado - Vent System Design. Assisted in the selection of a remedial consultant to prepare specifications for the installation of a plenum wall-stack vent system to abate the threat posed by radon contamination. Provided technical support to the U.S. EPA during the construction of the system. Also designed a low-level radioactive waste storage facility for the disposal of radium-contaminated soil at the collective sites, in compliance with CERCLA, RCRA, and UMTRCA regulations.
- Smelter, Montana - Soil Sampling and Analysis. Conducted sampling and analysis of soil samples using x-ray fluorescence screening which provided a quick turnaround and defined the extent of contamination over a large area of the site, thus permitting timely response actions and cost savings.

TOMMY BREAUX**PROFESSIONAL HISTORY**

ENSR Remediation and Construction
Chemical Waste Management, Inc.
OSCA/ENCOR
Scalliet Technologies, Inc.
Rollins Environmental Services (FS) Inc.
Spiral, Inc.

EDUCATION

A.A. (Business Management) Louisiana State University

AFFILIATIONS

National Registry of Environmental Professionals

TECHNICAL SPECIALTIES

10 years experience in:

- Project Management and Supervision
- Oily Sludge Separation and Recovery
- High-Pressure Filtration and Dewatering
- Liquid/Solid Treatment Systems
- Surface Impoundment Remediation

REPRESENTATIVE PROJECT EXPERIENCE

- Confidential South Texas Refinery - Volume Reduction of Three Surface Impoundments. Project Manager for removal and dewatering of over 15,000 cubic yards of primary refinery sludge for off-site disposal. Responsible for overall project administration and ensured compliance with health, safety and environmental regulations.
- Major Chemical Manufacturing Company - Mercury Cell Cleanout. Managed the removal and volume reduction of 1,800 cubic yards of mercury-contaminated sludge. Coordinated the recovery of free mercury and the disposal of 180 cubic yards of dewatered sludge. Implemented site-specific health and safety plan.
- Confidential Gulf Coast Refinery - Separation and Treatment of Oily Waste. Superintendent for the treatment of over 500,000 bbls of oily refinery waste. Directed the operation of high-tech, three-phase separation process system utilized to recover oil, discharge clean water, and produce solids suitable for landfill disposal.

TOMMY BREAUX

EXPERIENCE (Continued)

- Confidential East Texas Refinery - Remediation of Various Waste Streams. Managed remedial activities of numerous refinery waste streams including API separator, DAF float, unleaded tank bottom and equalization basin sludges. Employed assorted technologies including centrifugation, high-pressure filtration, chemical and thermal treatment, and ultrafiltration.
- Spiral Inc. - General Manager. Directed the construction, maintenance, service and leasing of liquid/solid separation equipment. Provided services and equipment employing centrifuges, high-speed shakers, centrifugal and positive displacement pumps, desilters/desanders and closed-loop solids handling systems.

APPENDIX C

VISTA HEALTH & SAFETY DOCUMENTATION

CONTRACTOR SAFETY DATA

Issue Date: / / Contractor Name: ENSR Remediation and ConstructionContractor Representative: Kent Miller

Conoco request that you fill in the data below as completely as possible. Consideration is given to safety records and programs when awarding contracts.

1. List your firm's insurance interstate experience modification rate (EMR) for the three most recent years.
(Use your intrastate EMR if not interstate rated)

1988	<u>1.0</u>
1989	<u>1.0</u>
1990	<u>.98</u>

2. Using your OSHA No. 200 Logs, Please provide the following data for the three most recent years.

2.1 Injuries involving time away from work (Column 3; OSHA 200 Log)

2.1.1 Number Lost Work Day Cases: (not total number days lost)

2.1.2 Incidence rate of Lost Workday, Cases = 200,000/manhours worked

2.2 Medical and First-Aid Cases (Column 6; OSHA 200 Log)

2.2.1 Number Medical & First-aid Cases.

2.2.2 Incidence rate of Medical & First-Aid, Cases = 200,000/manhours worked

2.3 Number of Fatalities (if any)

1988	1989	1990
0	0	1
0	0	2.64
0	0	1
0	0	2.64
0	0	0

3. Do you hold site safety meetings for:

Field Supervisors?

Yes X No Frequency Daily

Employees?

Yes X No Frequency Daily

New Hires?

Yes X No Frequency Daily

Subcontractors?

Yes X No Frequency Daily

4. Do you conduct on site safety inspections?

Yes X No Frequency Daily

5. Do you have a written safety program?

Yes X No

6. Will you supply Conoco with a copy of your safety program on request?

Yes X No

APPENDIX (D)**SUBSTANCE ABUSE POLICY
OF
VISTA CHEMICAL COMPANY
ABERDEEN PLANT****CONTRACTOR AGREEMENT**

The Contractor agrees to advise its employees and the employees of its subcontractors and/or agents that they must comply with Vista's policy prohibiting the possession, sale or use of alcohol or other, prohibited substances on Vista property. Suspected violators will be immediately escorted off the company's premises and if appropriate reported to law enforcement authorities. All persons on Vista's premises (including parking areas) are subject to inspection of their persons, vehicles and personal effects at any time, at the discretion of Vista. Any contract employee who is found to be in violation of this agreement or refuses to permit inspection may be removed and barred from Vista property.

The Contractor agrees to not assign or reassign any employee to the Vista site unless the employee has successfully completed a drug screen with negative results to each drug identified in the Testing Guidelines. Unless otherwise specified in this agreement, a drug screen is considered valid for a period of 12 months.

The Contractor agrees to provide an annual drug screen on each employee who has worked on the Vista site. Employees will be selected for testing by the Contractor at random without notification and the test results will be reported to Vista on

a quarterly basis. Contract employees will be identified by name, date of test, test results and employee consent forms.

The Contractor agrees to not assign or reassign an employee at the Vista site for a period of 90 days, who has tested positive for any prohibited substance. The contractor employee must successfully complete a drug screen with negative results to each drug identified in the Testing Guidelines before being assigned or reassigned to the Vista site.

The Contractor agrees not to assign or reassign an employee who has been arrested for any offense involving the possession, sale or distribution of prohibited substances outside the Vista site without completing a drug screen on the employee.

Contractor agrees to implement a policy with reasonable suspicion testing procedures for its employees at Vista. Contractor agrees to implement such policy with respect to its employees upon acceptance of any contract work or prior to performing any work at Vista. Contractor may use guidelines established in Vista's Substance Abuse Policy or develop a policy which will initiate screenings for poor job performance, safety or productivity.

Vista reserves the right to review the assignment, reassignment of any contractor employee for any purpose to determine whether an individual will be permitted to enter or work at the Vista site.

This agreement is effective June 1, 1991, and is understood
and accepted by:

Richard E. Hill

Contractor

8/2/91

Date

Contractor Agreement 6/1/91

EXHIBIT "X"
January 23, 1986

The Contractor and his employees must attend a safety orientation class prior to the start of any in plant work. This class is MANDANTORY, there will be no exceptions.

The training consists of a three hour (approximately) classroom session and the issuing of identification badges.

The Contractor or his employees will not be allowed to enter the plant without the identification badge.

AGREED TO:

Richard E. Kelly

By: _____

Date: 8/2/91

EXHIBIT B

PROOF OF AGE REQUIREMENT

I hereby certify that all employees of ENSR Remediation & Construction are of minimum legal age (18 years) and proof of age has been verified by a birth certificate or other legal document.

I further certify that any new employees brought on to this job site will be of minimum legal age and verified as indicated above.

Richard E. Hill
Signature
VP Health & Safety
Position
ENSR Remediation
Company
8/2/91
Date

EXPOSURE NOTIFICATION

Gentlemen:

Contractor has agreed to perform certain work on behalf of Vista Chemical company ("Vista") in its plant at Aberdeen, Mississippi. As you are aware from your discussions with Vista, your work at this plant is subject to and governed by the terms and provisions of the following indicated Occupational Safety & Health Act regulatory programs relating to your employees' potential for exposures at this plant:

<u>X</u>	29 CFR 1910.120	Hazardous Waste Operations and Emergency Response
<u>X</u>	29 CFR 1910.134	Respiratory Protection
<u>X</u>	29 CFR 1910.1000	Air Contaminants
<u>X</u>	29 CFR 1910.1017	Vinyl Chloride
<u>X</u>	29 CFR 1910.1025	Lead
<u> </u>	29 CFR 1910.1028	Benzene
<u> </u>	29 CFR 1910.1047	Ethylene Oxide
<u>X</u>	29 CFR 1910.1101	Asbestos
	29 CFR 1910.1001	
	29 CFR 1926.58	
<u>X</u>	29 CFR 1910.1200	Hazard Communication

Material Safety Data Sheets covering the above exposure risks are available for review upon request by contacting the local Vista Safety Department representative.

Please acknowledge receipt and understanding of this notification by signing below.

UNDERSTAND AND ACCEPTED this the 2ND day of August, 1989.

By

Richard E. Hill
Title: VP Health & Safety

FROM: VISTA 1

EXHIBIT "N"

CONTRACTOR SUPPLIED CHEMICALS

The various COMPANY plant's Compliance Plan for the OSHA Hazard Communication Rule requires all CONTRACTORS or prospective CONTRACTORS to obtain approval from the plant prior to bringing any chemical into the plant (regardless of volume).

In order to secure the required approval, the CONTRACTOR must submit a Material Safety Data Sheets (MSDS) for each chemical the CONTRACTOR plans to bring to the plant. The plant Safety Department will evaluate each Material Safety Data Sheet and take the following actions:

- Approve or disapprove use of the chemical in the plant.
- Inform plant personnel of the hazards and measures necessary to prevent exposure.

Chemicals that are classified as hazardous using the OSHA system of classification must be clearly labeled. Each label must contain:

- the chemical identity,
- appropriate hazard warnings, and
- the name and address of the manufacturer, importer or other responsible party.

Chemicals that are classified as hazardous present a physical or health related hazard (or both). A partial listing of major items in each category is shown below for information purposes only.

Physical Hazards

Combustible Liquid
Compressed Gas
Explosive
Flammable Material
Oxidizer
Unstable
Others

Health Hazards

Carcinogenic (causes Cancer)
Corrosive
Highly Toxic
Irritant
Sensitizer
Toxic

Any questions regarding the contents of this letter should be referred to _____.

ENSR Remediation
CONTRACTOR
By Richard E. H. H.
Date 8/2/91

VISTA CHEMICAL COMPANY

VISTA

Certificate of Insurance

This certificate is to be used to list such coverages as provided by the policies described below, and does not reflect Vista's insurance requirements. This certificate is issued as a matter of information only, confers no rights upon Vista Chemical, and does not amend, extend or alter the coverage afforded by the policies listed unless specifically so stated.

These policies, issued by _____ of _____
 (Insurance Company) (Home Office Address)

_____ of _____
 (Insurance Company) (Home Office Address)

_____ of _____
 (Insurance Company) (Home Office Address)

_____ of _____
 (Insurance Company) (Home Office Address)

_____ of _____
 (Insurance Company) (Home Office Address)

are in full force and effect, have been issued to the insured named and for the policy period indicated, notwithstanding any requirement, term or condition of any contract or other document with respect to which this certificate may be issued or may pertain. The insurance afforded by the policies described herein is subject to all the terms, exclusions and conditions of such policies. Limits shown may have been reduced by paid claims.

In the event that any changes are made in the policies which affect the interest of Vista Chemical Company and/or subsidiary and/or affiliated companies, or should any of the described policies be cancelled before the expiration date thereof, the issuing company shall mail written notice ten days prior to the effective date thereof to Vista Chemical Company at _____

(CONTRACTING OFFICE) _____, but failure to mail such notice shall impose no obligation or liability of any kind upon the company, its agents or representatives.

Name of Insured CONTRACTOR'S NAME Address _____
 Contract No. CONTRACT NUMBER

INSURANCE POLICIES IN FORCE

COVERAGES	Policy Number	Date		Limits of Liability or Amount of Coverage
		Effective	Expiration	
A. Worker's Compensation	XXXXXXXX	XXXXXX	XXXXXX	Statutory
Employer's Liability	XXXXXXXX	XXXXXX	XXXXXX	\$ <u>100,000</u> each accident
B. General Public Liability				
Combined Single Limit	XXXXXXXX	XXXXXX	XXXXXX	\$ <u>1,000,000</u> CSL
Bodily Injury				\$ _____ each occurrence
Property Damage				\$ _____ each occurrence
C. Automobile Liability				
Bodily Injury	XXXXXXXX	XXXXXX	XXXXXX	\$ <u>1,000,000</u> each person \$ <u>1,000,000</u> each accident
Property Damage	XXXXXXXX	XXXXXX	XXXXXX	\$ <u>1,000,000</u> each accident
D. Aircraft Liability				
Bodily Injury (Other than Passengers)				\$ _____ each person \$ _____ each accident
Passenger Liability				\$ _____ each person \$ _____ each accident
Property Damage				\$ _____ each accident
E. Excess Liability	XXXXXXXX	XXXXXX	XXXXXX	\$ _____
F. Builder's All Risk	XXXXXXXX	XXXXXX	XXXXXX	CONTRACT AMOUNT PLUS \$ <u>COMPANY FURNISHED MATERIAL</u>

(Over)

ENSR SAMPLE CERTIFICATE OF INSURANCE

ACORD. CERTIFICATE OF INSURANCE

ISSUE DATE (MM/DD/YY)

10/29/90

PRODUCER

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

FRENKEL & CO., INC. 1430
123 WILLIAM STREET
NEW YORK, N.Y. 10038

COMPANIES AFFORDING COVERAGE

CODE

SUB-CODE

COMPANY
LETTER A

ALLIANZ INSURANCE COMPANY

COMPANY
LETTER B

ALLIANZ UNDERWRITERS INS. CO.

COMPANY
LETTER CCOMPANY
LETTER DCOMPANY
LETTER E

AMERICAN NUKEM CORP./ENSR
CORP. AND THEIR SUBSIDIARIES
1200 MAC ARTHUR BOULEVARD
MAHWAH,
NJ 07430

VERAGES

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

CO TR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	ALL LIMITS IN THOUSANDS
	GENERAL LIABILITY				GENERAL AGGREGATE \$ 1,000
X	COMMERCIAL GENERAL LIABILITY	CLP1008056	10/01/90	10/01/91	PRODUCTS-COMP/OPS AGGREGATE \$ 1,000
	CLAIMS MADE X OCCUR.				PERSONAL & ADVERTISING INJURY \$ 1,000
	OWNER'S & CONTRACTOR'S PROT.				EACH OCCURRENCE \$ 1,000
					FIRE DAMAGE (Any one fire) \$ 50
					MEDICAL EXPENSE (Any one person) \$ 5
	AUTOMOBILE LIABILITY				COMBINED SINGLE LIMIT \$ 1,000
X	ANY AUTO	3A588145	10/01/90	10/01/91	BODILY INJURY (Per person) \$ N/A
	ALL OWNED AUTOS	TEXAS			BODILY INJURY (Per accident) \$ N/A
	SCHEDULED AUTOS				PROPERTY DAMAGE \$ N/A
	HIRED AUTOS	CLP1003503			
	NON-OWNED AUTOS				
	GARAGE LIABILITY				
	ALL OTHERS				
	EXCESS LIABILITY				EACH OCCURRENCE \$ 2,000
X	OTHER THAN UMBRELLA FORM	AU7L5103022	10/01/90	10/01/91	AGGREGATE \$ 2,000
	WORKER'S COMPENSATION				STATUTORY \$ 1,000 (EACH ACCIDENT)
	AND				\$ 1,000 (DISEASE-POLICY LIMIT)
	EMPLOYERS' LIABILITY	WCP338288	10/01/90	10/01/91	\$ 1,000 (DISEASE-EACH EMPLOYEE)
	OTHER				

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/RESTRICTIONS/SPECIAL ITEMS

EQUIPMENT RENTAL-EXCAVATOR EQUIPMENT-P.O. #11502966

CERTIFICATE HOLDER

C N WOOD COMPANY, INC.
226 COMMERCIAL STREET
MALDEN, MA 02148

CANCELLATION

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

AUTHORIZED REPRESENTATIVE

Sandra Myles

01363

CONTRACTOR SAFETY DATA

Issue Date: / / Contractor Name: ENSR Remediation and ConstructionContractor Representative: Kent Miller

Conoco request that you fill in the data below as completely as possible. Consideration is given to safety records and programs when awarding contracts.

1. List your firm's insurance interstate experience modification rate (EMR) for the three most recent years. (Use your intrastate EMR if not interstate rated)

19 <u>88</u>	<u>1.0</u>
19 <u>89</u>	<u>1.0</u>
19 <u>90</u>	<u>.98</u>

2. Using your OSHA No. 200 Logs, Please provide the following data for the three most recent years.

- 2.1 Injuries involving time away from work (Column 3; OSHA 200 Log)

2.1.1 Number Lost Work Day Cases: (not total number days lost)

2.1.2 Incidence rate of Lost Workday, Cases * 200,000/manhours worked

- 2.2 Medical and First-Aid Cases (Column 6; OSHA 200 Log)

2.2.1 Number Medical & First-aid Cases.

2.2.2 Incidence rate of Medical & First-Aid, Cases * 200,000/manhours worked

- 2.3 Number of Fatalities (if any)

19 <u>88</u>	19 <u>89</u>	19 <u>90</u>
0	0	1
0	0	2.64
0	0	1
0	0	2.64
0	0	0

3. Do you hold site safety meetings for:

Field Supervisors?

Yes X No Frequency Daily

Employees?

Yes X No Frequency "

New Hires?

Yes X No Frequency "

Subcontractors?

Yes X No Frequency "

4. Do you conduct on site safety inspections?

Yes X No Frequency Daily

5. Do you have a written safety program?

Yes X No

6. Will you supply Conoco with a copy of your safety program on request?

Yes X No