CBA ENVIRONMENTAL

STATEMENT OF QUALIFICATIONS & EXPERIENCE

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CBA
STATEMENT OF QUALIFICATIONS
TABLE OF CONTENTS

TABLE OF CONTENTS (Continued)

LIST OF TABLES AND FIGURES

Tables:

Figures:

1.0 INTRODUCTION

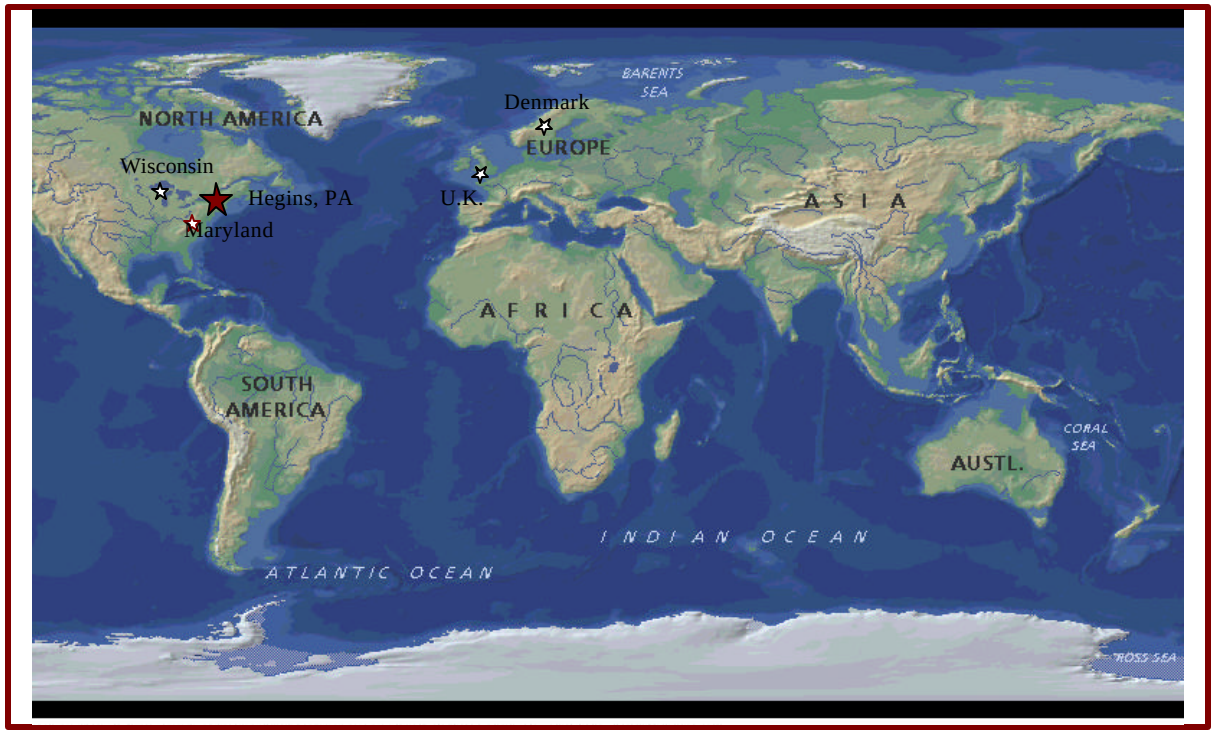
1.1 COMPANY OVERVIEW

CBA Environmental Services, Inc., is a Pennsylvania-based, privately owned company. CBA's mission is to solve some of the world's most difficult environmental problems through its leading edge technologies. The company, in conjunction with its founder, Bruce Bruso, has developed and commercialized a variety of patented process technologies for treatment of hazardous waste in contaminated soils.

Enclosed is CBA Environmental Services, Inc. (CBA) Statement of Qualifications (SOQ) describing our experience and capabilities in three service areas; soil & groundwater remediation, hazardous materials training / compliance services, and storage tank management. CBA can perform in these service areas as a general contractor, a specialty trade contractor, or a sub-contractor. CBA remains flexible to maintain the needs of our clients and has design capabilities through our affiliates worldwide.

CBA's corporate headquarters is in Hegins, Pennsylvania; a national sales office is located in Germantown, Maryland. Affiliated offices are located in Wisconsin, Denmark, and the United Kingdom. Since it's founding, CBA has successfully completed over 200 projects throughout the United States.

CBA Regional and Affiliate Operations



2.0 OVERVIEW OF TECHNOLOGIES

CBA's staff members have extensive experience with environmental construction and remediation projects ranging from groundwater treatment/control to hazardous waste removal. Services that are available from CBA include:

I. Soil Treatment
   - A. MITU technology
   - A. Thermal treatment
   - B. Chemical oxidation
   - C. Natural oxidation
   - D. Stabilization
   - E. Enhanced Bioremediation
   - G. Special equipment

II. Groundwater Treatment and Control
   - A. Mobile groundwater treatment system
   - B. STI Technology

III. Training
   - A. "HAZWOPER" training
   - B. Table-top simulator training
   - C. OSHA subpart courses

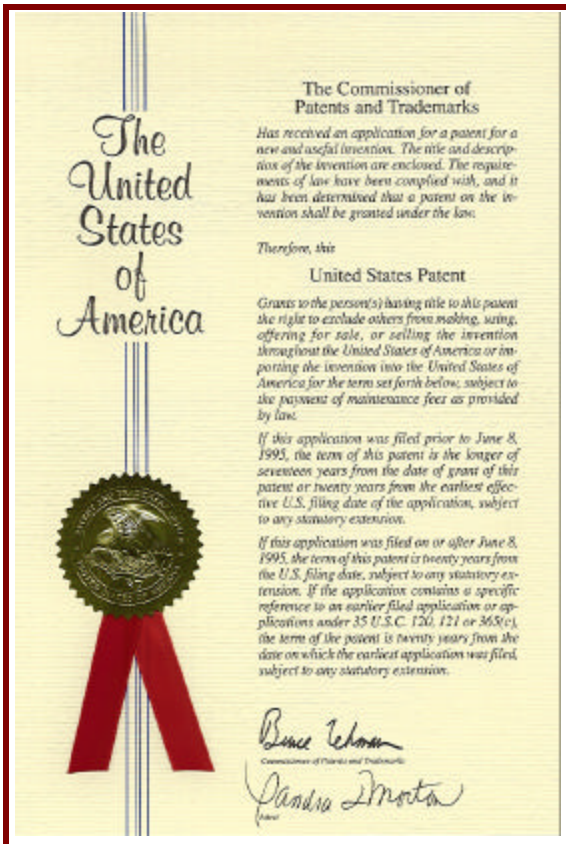
IV. Storage Tank Management
   - A. UST/AST removals
   - B. UST/AST installations

2.1 SOIL TREATMENT

CBA is an internationally recognized leader in soil treatment procedures and techniques by utilization of the patented Mobile Injection Treatment Unit (MITU) technology. CBA has successfully completed over 40 soil remediation projects ranging from ex-situ remediation at UST release sites to in-situ remediation at US EPA SUPERFUND sites. CBA's expertise has mainly been with thermal desorption of volatile organic compounds (VOCs) and chemical stabilization of heavy metals; however, new techniques to handle special and specific problems are continually being explored and developed.

CBA's on-site soil remediation techniques offer significant cost savings over the conventional "dig-and-haul" approach. The ability of the unique MITU technology to address mixed waste (VOC's and metals) sites also offers a clear advantage over other soil mixing technologies.

2.1.1 MITU Technology


The United States of America

The Commissioner of Patents and Trademarks

Has received an application for a patent for a new and useful invention. The title and description of the invention are enclosed. The requirements of law have been complied with, and it has been determined that a patent on the invention shall be granted under the law.

Therefore, this

United States Patent

Grants to the person(s) having title to this patent the right to exclude others from making, using, offering for sale, or selling the invention throughout the United States of America or importing the invention into the United States of America for the term set forth below, subject to the payment of maintenance fees as provided by law.

If this application was filed prior to June 8, 1995, the term of this patent is the longer of seventeen years from the date of grant of this patent or twenty years from the earliest effective U.S. filing date of the application, subject to any statutory extension.

If this application was filed on or after June 8, 1995, the term of this patent is twenty years from the U.S. filing date, subject to any statutory extension. If the application contains a specific reference to an earlier filed application or applications under 35 U.S.C. 120, 121 or 365(c), the term of the patent is twenty years from the date on which the earliest application was filed, subject to any statutory extension.

CBA holds six US Patents and pending International Patents

CBA pioneered and developed the MITU soil treatment technology. CBA is the sole developer and user of this specialized technology which currently holds six United States Patents and has several pending International Patents. The patents include a broad spectrum of claims ranging from apparatus to a number of treatment processes performed by the technology on multiple contaminants. Clients who select CBA will benefit by contracting with the sole designers and users of the technology, which eliminates potential infringement issues of other treatment technologies.

The MITU was developed and patented by CBA, and has been successfully operated since 1993. The MITU technology has been adapted to several sizes of heavy equipment to meet various treatment objectives. Currently, several different models of the MITU are in operation; each model provides a different treatment depth and production rate.

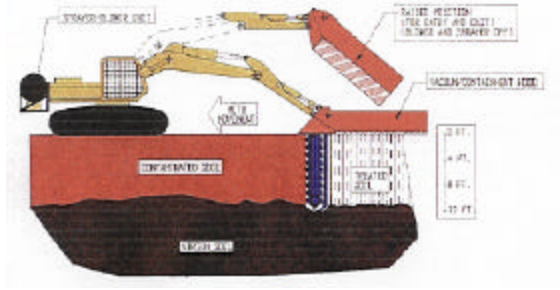
The appropriate MITU model is selected based upon site constraints, type of soil and subsurface conditions, volume of contaminated soil, and budgetary concerns.

The MITU units are very flexible in terms of performing soil treatment; various modifications and accessories can be added or eliminated to accommodate treatment goals and site constraints. The units primary functions are to conduct; single or multiple subsurface or surface injections of chemical reagents and/or hot air; soil mixing operations, off-gas emissions collection and treatment. The MITU utilizes a vacuum system to capture off-gases beneath a vapor collection hood; the gases can be conveyed for treatment by various methods, such as activated carbon or thermal oxidation.

The MITU technology is capable of performing in-situ treatment at depths of up to 30 feet below grade. All of the units utilize various modified trenching heads to perform soil treatment/mixing. This unique application and process offers several distinct advantages over conventional mechanical soil mixing devices. First, the MITU effectively breaks up the soil density, allowing the addition of chemical reagents in virtually any type of soil. Secondly, the medium and large MITU units are not significantly hampered by subsurface debris; the largest MITU can penetrate solid rock. Thirdly, the units are relatively easily mobilized to almost any location. Finally, as previously mentioned, the MITUs are capable of treating both organic and inorganic wastes through the simultaneous addition of chemical reagents and hot air.

2.1.1.1 MITU 12

On this model, the modified trenching head is mounted on a track excavator. This is the most widely used MITU unit, as it is capable of treating both in-situ, to a depth of 12 feet below grade, or ex-situ (stockpiles) as high as 8 feet. The MITU 12 is extremely versatile and can maneuver fairly easily given various site constraints.



MITU 12 In-Ground Application

MITU 12 In-Situ Metals Stabilization and VOC Removal - Arcade, NY

2.1.1.2 MITU-LVR

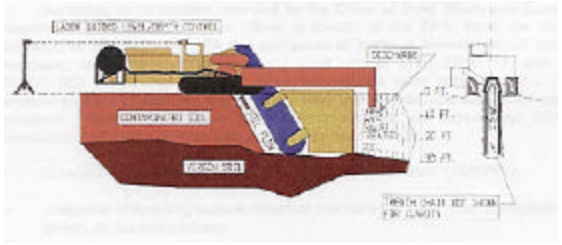
This model consists of a large track trencher outfitted with a specialized rotating drum attachment. This track trencher has the capability of cutting to a depth of 4 feet with a trench width of 11 feet. This machine is fairly compact when the trenching boom is in the ground; it is only approximately 20 feet long at this point. This unit is typically equipped with a vapor collection hood and auxiliary heat system.

MITU-LVR

The MITU Rotating Drum is fairly easily mobilized to most site locations. The unit is compact enough to allow for excellent maneuverability on projects which have very little operating space. This unit is ideal for soils requiring extensively high heat (up to 800 °F) and aggressive soil breakdown (i.e. hard clay). The unit also performs very well at chemical addition and mixing. The MITU Rotating Drum can achieve production rates well in excess of 1000 cubic yards per day.

2.1.1.3 MITU 30

This model consists of a large track trencher equivalent or similar to the TRENCOR® 1860HD track trenching machine which has been specially modified for in-situ soil remediation projects. This unit is capable of reaching depths of 30 feet below grade while performing immediate backfill or transfer of soils to a dump truck for removal/staging. The MITU 30 is an extremely large powerful machine capable of very high production rates.



MITU 30 Features

TRENCOR® 1860HD

2.1.2 Thermal Treatment

Thermal treatment utilizing the MITU is very similar to Low Temperature Thermal Desorption (LTTD) technologies; however, the MITU offers some distinct advantages over LTTD and other volatilization technologies that will be discussed later. The MITU's thermal treatment process is designed to operate on the same principles as LTTD; that is to heat the soils to a sufficient temperature to cause constituents to volatilize and desorb from the soil.

VOC contamination in vadose zone soils is distributed among three phases of the soil matrix. The distribution of the contamination depends on the soil characteristics as well as the specific contaminants of concern. The movement of contaminants through the soil media is either by advection, movement with bulk air flow, or by diffusion, movement via concentration gradient. Volatile compounds desorb from the soil particle surface, transfer to the soil water, and volatilize to the soil gas. In low to medium permeable soils (sand and gravel), diffusion is the limiting factor in the movement and re-movement of contaminants

Thermal treatment with the MITU does not require excavation of contaminated soils; the thermal treatment can be performed in-place or on excavated soils. The underlying feature of successful thermal treatment with the MITU is its ability to break down soil density. The shearing action of the trencher pulverizes the soil into very fine particles, effectively increasing the

surface area to volume ratio. In turn, the constituents are more readily volatilized by virtue of increased contact with air flow and heat.

Thermal Treatment with MITU 12 Protective/Vapor Recovery Hood

The MITU utilizes an electrically powered heat generation system to heat forced air to temperatures in excess of 800°F (425°C). The forced air is then conveyed into the trench and across the soil particles. The final soil temperature depends on the soil characteristics and on retention time.

The vaporized constituents are captured beneath a enclosed shroud, that is subjected to negative pressure, and are treated in a secondary treatment unit prior to discharge to the atmosphere. Secondary treatment of the vaporized constituents may consist of condenser units, catalytic or thermal oxidation, and carbon adsorption units.

The trenching head, heat generation system, and vapor collection system are all operated through an integrated control panel mounted in the equipment's cab. Several of the system's parameters can be monitored during operation to maintain operational control and optimize treatment effectiveness. (see Figures 2.1 and 2.2)

View of Power Unit & Heat Generation System on MITU 12

The temperature of the forced air stream utilized for thermal treatment is monitored and can be adjusted if necessary. Organic vapors are monitored prior to and after secondary treatment of the vapor stream in order to monitor and adjust treatment as necessary. Explosive atmosphere (% LEL) is also monitored within the vapor collection shroud in order to detect potentially dangerous conditions.

Soil heating technologies have proven to remove over 98% of volatile and semivolatile aliphatic and aromatic compounds by achieving soil temperatures of 150° C. The MITU heat generation system operates at continuous temperatures in excess of 400° C. The technology has had very favorable results in the field displaying consistency with the 98% removal efficiency accomplished by soil heating technologies. The process has also been demonstrated to be equally successful at removing chlorinated solvents, specifically PCE and its daughter products. Some typical contaminant removal results achieved through thermal treatment with the MITU are displayed in Table 2.1.

Table 2.1: Typical Thermal Remediation Results

Contaminant	Pre-Treatment (mg/kg)	Post Treatment (mg/kg)	% Reduction
Benzene	5.6	0.005	99.9%
Toluene	270	0.05	99.9%
Ethyl Benzene	54.5	0.97	98.2%
Xylene	324	4.5	98.6%
PCE	369	18.1	95%
TCE	25	.5	98%

Data is compiled from 1998 project completed for HSI Geotrans in Arcade, NY

Some advantages of thermal treatment with the MITU technology over LTTD and various in-situ volatilization technologies are as follows:

- The equipment is readily available
- The MITU is easily mobilized to most sites
- Can be used to treat "hot spot" source areas with minimal site disturbance
- The MITU is effective in most soil types
- Excavation of soils is not required for treatment
- Pre-treatment of soils is not required
- The MITU is easily and readily combined with other remedial technologies
- Eliminates the need for procurement and placement of backfill material

Figure 2.1
Mobile Injection Treatment Unit – Large Volume Remediator (MITU-LVR)
Thermal Treatment Process Flow Diagram

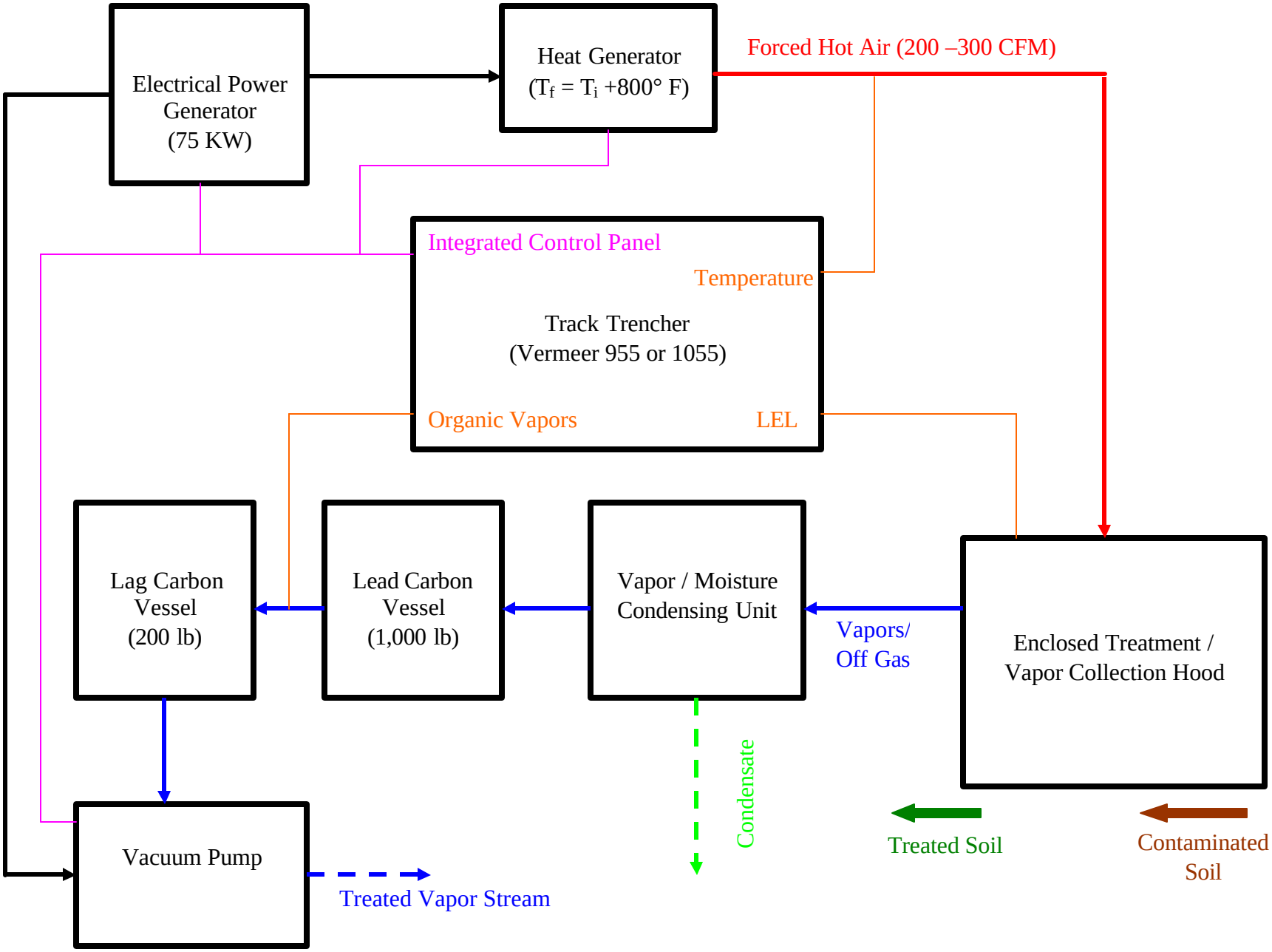
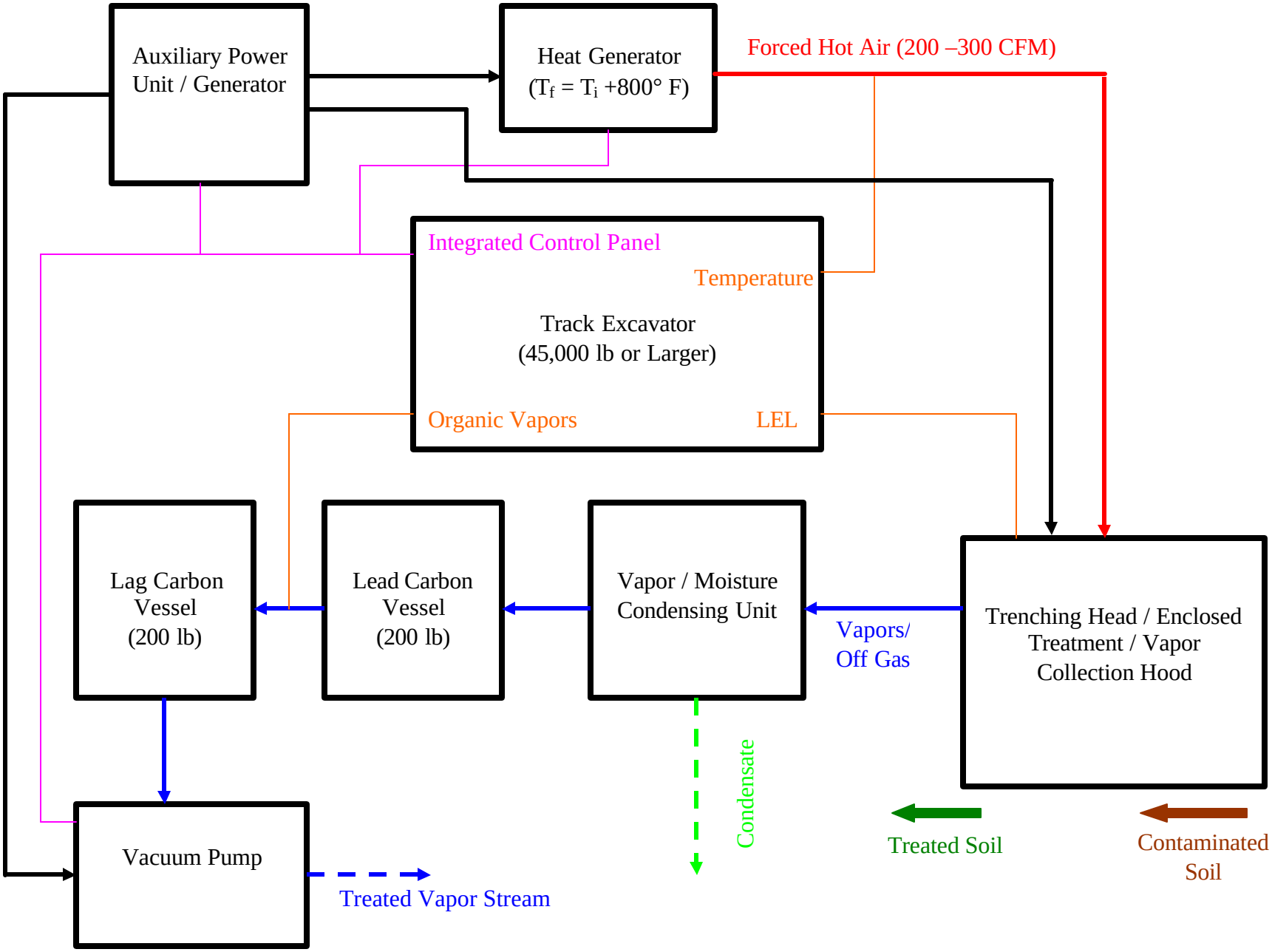


Figure 2.2
Mobile Injection Treatment Unit (MITU-12)
Thermal Treatment Process Flow Diagram



2.1.3 Chemical Oxidation

In-situ chemical oxidation is a relatively new technology used to treat organic contaminants in soil and groundwater. There are three viable oxidants that are currently commercially available – Permanganate (Potassium and Sodium forms – $KmnO_4$, $NaMnO_4$), Hydrogen Peroxide (H_2O_2), and Ozone (O_3).

The attractiveness of in-situ chemical oxidation is that it is a relatively fast process. For those contaminants that are amenable to oxidation, treatment can be done in relatively short order. Generally the oxidation products are CO_2, water and chloride ion (if the contaminant contains chlorine). The end products for the oxidants are generally innocuous. Ozone and peroxide generate oxygen and water; permanganate generates Manganese Dioxide (MnO_2), an insoluble mineral. The permanganate also will leave the corresponding cation – potassium or sodium.

CBA has had tremendous success at using potassium permanganate for oxidation of chlorinated solvents, particularly trichloroethylene (TCE) and tetrachloroethylene (PCE). Other organics that are susceptible to oxidation by permanganate include Phenols, PAHs, and alkenes. Permanganate has been preferred as an oxidant over ozone and peroxide due to its resistance to auto decomposition and its effectiveness over a larger pH range. The stoichiometric reactions for the complete destruction of PCE and TCE utilizing potassium permanganate are as follows:

PCE: $4KMnO_4^- + 3C_2Cl_4 + 4H_2O = 6CO_2 + 4MnO_2 + 12Cl^- + 4K^+ + 8H^+$

TCE: $2KMnO_4^- + C_2Cl_3 = 2CO_2 + 2MnO_2 + 3Cl^- + 2K^+ + H^+$

The stoichiometry indicates that approximately 1.3 pounds of permanganate is required to completely oxidize one pound of PCE. The equation, however, ignores oxygen demand inherent in the site soils due to natural organic material (NOM) and other reductants. Therefore, using a factor of three to ten times the weight ratio noted above is not uncommon.

Although the reaction mechanisms involved with oxidizing organic compounds sorbed to soils are not fully understood, the key to successful application is ensuring the contact between the oxidant and the contaminant. Typically the rate of contaminant degradation in heterogeneous matrices is controlled by the concentration of the oxidant, and any surface or subsurface structures as well as lithological changes can impede the success of in-situ chemical oxidation.

However, CBA's patented MITU process is ideal for ensuring contaminant/reagent contact within vadose zone soils equating to appreciable contaminant degradation rates at lower than expected oxidant dosage rates. At a Wisconsin Hazardous Waste Site containing soils contaminated with chlorinated solvents, CBA used a combination of thermal treatment and chemical oxidation with potassium permanganate to achieve the required treatment objectives.

MITU-LVR mixing $KMnO_4$ with COC contaminated soil in Milwaukee, WI

Typically, permanganate is applied to contaminated media as a solution or as a slurry; however, CBA applied potassium permanganate in its dry crystalline form. This method has proven to be successful in vadose zone soils having an adequate moisture content (>17%) and also in saturated soil conditions. In this application, the MITU is utilized to mix the $KMnO_4$ directly into the soils. A water spray is typically used for dust control and to aid in the kinetics of the chemical oxidation.

Applying $KMnO_4$ in dry crystalline form Milwaukee, WI

MITU-12 mixing $KMnO_4$ with COC contaminated soil in Milwaukee, WI

Carus Chemical is the largest manufacturer of permanganate in the United States, and CBA has worked very closely with their research and development division to optimize the effectiveness of applying $KMnO_4$ with the MITU technology.

The MITU technology is ideal for introducing oxidizing agents or oxygen release compounds into vadose zone soils. The trenching action increases the available soil surface area and promotes the reagent-contaminant contact that is required for successful degradation of the contaminants.

2.1.4 Stabilization

Stabilization is a process of employing additives (reagents) to reduce the hazardous nature of wastes by minimizing the rate of contaminant migration into the environment (reducing leachability), or by reducing the level of toxicity (Cr^{+6} ? Cr^{+3}). These processes render the material nonhazardous and typically enable on-site disposal or off-site disposal as nonhazardous waste. Either alternative offers a significant cost savings over disposing the material as hazardous waste.

Hexavalent chrome stabilization
Hagerstown, IN

The application of the MITU technology is rapidly growing within the stabilization sector of the remediation industry. Both providers and end users, of stabilization technologies and chemistries, are realizing that a thorough homogeneous mix is required throughout the soil column to ensure "one-pass" treatment operations. The MITU's effective breakdown of soil particle size assures uniform distribution of chemical reagents from top to bottom of the contaminated zone.

The addition of chemical reagents for stabilization is becoming more and more popular. CBA has utilized various chemical reagents and mixtures for the stabilization of different heavy metals, including; Chromium, Cadmium, and Lead. CBA's mixing process eliminates the "powdered doughnut" effect created by conventional soil mixing techniques, and it increases the contact of chemical reagents with the targeted constituents of concern. On strict chemical/soil mixing projects, the MITU is utilized without the vapor collection hood, as at the hexavalent chrome site in Hagerstown, IN.

Lead stabilization
South Glenn Falls, NY

However, the hood can be utilized for dust control, if necessary. During a lead stabilization project in South Glenn Falls, New York, the MITU operated continuously without the use of the vapor collection hood. The chemical was applied to the surface of the treatment area and thoroughly mixed from top to bottom of the contaminated area.

2.1.5 Enhanced Bioremediation

The capability of the MITU to mix soils in place, without excavation, or to mix soils in above ground situations make it the ideal technology for landfarming and enhanced bioremediation applications. Although the use of the MITU technology along with bio-enhancement reagents is not the conventional in-situ method often employed, the combination of these technologies can significantly reduce the overall treatment time.

Above Ground Soil Mixing
MITU 12

In enhanced bioremediation, the activity of naturally occurring microbes is stimulated by the addition of nutrients, oxygen, or other amendments to enhance the biodegradation or contaminant desorption from subsurface materials. The trenching action of the MITU alone stimulates microbial activity and contaminant desorption by aerating the soil and creating a significantly larger soil surface area. In order for biodegradation to occur, the waste must come into contact with the bacteria cell's outermost coating. The trenching action of the MITU helps facilitate contact between the biomass and the waste or substrate.

Regardless of the amendments utilized for stimulating microbial activity, oxygen release compounds, macro nutrients, or additional substrates, the MITU technology ensures a thorough homogeneous mixture of the reagents throughout the soil matrix. The MITU is also capable of utilizing its on-board heat generation system to increase soil temperatures to optimum ranges.

In-Place Soil Mixing
MITU-LVR

CBA has discussed the application of several bio-enhancing reagents with their respective developers, such as, Regenesis' ORC™ and HRC™ compounds and FMC's PermeOx®. It is generally believed that applying these amendments with the MITU will increase their effectiveness. The traditional in-situ use of these products has proven to be successful, but is often limited by the application techniques. The effectiveness of these compounds is greatly reduced in dense, less permeable soils; however, the MITU has the ability to homogeneously deliver these amendments in most types of soil.

2.1.6 Special Equipment

CBA owns and maintains a portable fabric structure. This building consists of steel framing, with a very durable nylon fabric covering, and it is 50 feet wide by 100 feet long. The structure can be mobilized and erected within one week. CBA has utilized the building to protect treatment areas from inclement weather, as an aid in controlling fugitive dust and odors, and as a clear delineation of the work zone. The structure is mounted on skids and can easily be moved around the site; however, when anchored, it withstands 70 mph winds.

Two MITU-12 Units Beneath Structure
Arcade, NY

Portable Fabric Structure
Arcade, NY

CBA also owns and maintains a Mobile Support Unit; this unit serves as CBA's field office and workshop on major remediation projects. The 45 feet long van trailer contains an office space with telecommunications, computers, and other tools to support the field staff's administrative responsibilities. The trailer also houses a full workshop containing all of the tools and spare parts required to repair the MITU. This unit is invaluable for field support and maintaining continuity on the project when equipment failures could lead to significant down time. CBA personnel are fully equipped to make expedient repairs if needed.

Field Mobile Support Unit

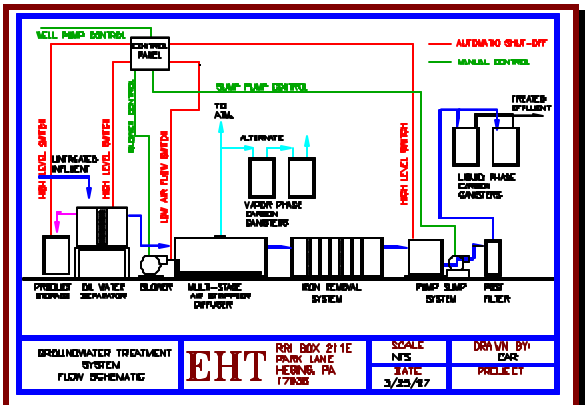
2.2 GROUNDWATER TREATMENT

In most cases contamination affects both soils and groundwater, with impacted soils being the source and groundwater posing a potential pathway of exposure. CBA recognized the need to provide full scale remediation services, which include both soil and groundwater treatment, to our clients.

2.2.1 Mobile Groundwater Treatment System

CBA has assembled a Mobile Groundwater Treatment Unit which consists of a package treatment system fully enclosed within a 16 ft. long Pace trailer. The system has been designed to remove free product and dissolved volatile organic compounds. The unit is extremely versatile and can be easily mobilized to a variety of sites. The system is fully automated and can be operated year-round on a continuous flow basis. CBA has fabricated the system allowing for maximum flexibility; therefore, additional features can be provided to meet site specific treatment objectives.

Mobile Groundwater Treatment Unit



Groundwater Treatment System Schematic

The package treatment system is comprised of individual CARBTROL® treatment units. The system has the capability of pumping from multiple recovery wells or storage tanks simultaneously. The system is capable of continuous flow treatment of up to 30 gpm and removal of 99.99% of dissolved phase volatile contaminants. The unit is also capable of removing free product within the treatment configuration or directly at the recovery well itself.

The system also includes an iron removal filter and a high pressure bag filter to remove oxidized iron and sediment prior to entering activated carbon polishing filters. The standard components include the following:

- Variable Speed Submersible Pumps
- Pump Speed Controller
- Oil Water Separator
- Multi stage Diffuser
- 300 CFM Blower
- Iron Removal Filter
- Sump Pump System
- High Pressure Bag Filter
- Liquid Phase Carbon Filters
- Vapor Phase Carbon Filters

2.3 TRAINING

The roots of the company, CBA Environmental Services, Inc., are in occupational safety and health training. CBA has developed complete hazardous materials training programs that meet or exceed the requirements of 29 CFR 1910. CBA's training courses are cost effective, well rounded programs which ensure proper training and certification of your employees or organization.

CBA's training staff consists of OSHA, State, and National Fire Academy certified instructors who are all presently members of HAZ-MAT response teams. The combined experience of the staff exceeds 50 years of actual responses and involvement in hazardous material and hazardous waste activities.

CBA's programs are all in full compliance with the appropriate regulations; however, the courses are "custom tailored" to individual facilities. The training programs are not strictly "text book" classes; instead, they take full advantage of the instructor's field experience to relay "tricks of the trade" to the students.

2.3.1 "HAZWOPER" Training

CBA offers the following courses to meet the requirements of 29 CFR 1910.120 - Hazardous Waste Operations and Emergency Response, otherwise known as HAZWOPER training:

Spill Response Training
Sulfolk, VA

2.3.1.1 First Responder Awareness Level

This training course provides the students with the knowledge and reference materials to identify hazardous substances, and understand the risks associated with those substances. Students completing this course will understand how to effectively use the North American Emergency Response Guidebook and the NIOSH Pocket Guide to Chemical Hazards. This course emphasizes hazard identification, risk assessment concentrating on pathways of exposure.

2.3.1.2 First Responder Operations Level

This course also meets the appropriate training requirements under 29 CFR 1910.120(q). The program is designed to train employees who will respond to releases of hazardous materials in a limited fashion. This training stresses defensive tactics in spill response and

ensures that the employees understand their role within the employer's emergency response plan. Students completing this course will receive training emphasizing hazard identification techniques; risk assessment procedures; the proper wearing, use, and limitations of their PPE; spill confinement techniques outside of the "Hot-Zone"; and proper decontamination methods.

2.3.1.3 24 Hour Hazardous Material Technician

This program is designed to teach students advanced spill response techniques. The course satisfies the training requirements of 29 CFR 1910.120(q). These individuals are trained in aggressive spill containment and confinement tactics. The course emphasizes haz-mat identification, risk assessment, wearing and using various levels of PPE and respiratory protection, emergency decontamination procedures, and advanced air monitoring techniques.

Tanker Spill Containment Training Middletown, PA

Students completing this course are prepared to enter the "Hot Zone" and "stop the leak". Students completing this course will become intimately familiar with decontamination procedures and with conducting emergency response operations within the employer's emergency response plan.

2.3.1.4 Hazardous Materials Specialist

This program also complies with the appropriate requirements of 29 CFR 1910.120(q). CBA provides several customized courses to provide specialized training on specific hazardous substances, such as; chlorine, toluene diisocyanates (TDI), hydrochloric acid, sulfuric acid, cryogenic compounds, and many others. Students completing this training will obtain expertise on the proper handling, risks, dangers, and the proper emergency response procedures for the specific substance on which training is being conducted. Students will understand their role of technical support within the employer's emergency response plan, and will be able to communicate with off-site emergency responders.

2.3.1.5 On-Scene Incident Commander

CBA's Incident Command training course provides students with the knowledge and tools to effectively manage and control an incident in an emergency situation. This course is often combined with CBA's "table top simulator" to create realistic emergency situations. Students completing this course will understand the manageable realm of control and be able to functionally delegate responsibilities to the appropriate individuals. This course concentrates on utilizing the Unified Incident Command System and demonstrates proper critique and follow-up procedures.

2.3.1.6 24 Hour Hazardous Waste Worker

This course is targeted for employees or employers engaged in federal, state, or municipally licensed hazardous waste activities; and for operations involving hazardous waste handling, storage, disposal, or treatment. This course meets the requirements established by both OSHA (29 CFR 1910.120) and the EPA for hazardous waste workers at TSD and RCRA sites.

This program follows the outline of the 40 hour course, but it involves slightly less practical, hands-on experience. The emphasis is placed on risk assessment, proper use and wearing of PPE, proper use and wearing of respiratory protection, and decontamination procedures.

2.3.1.7 40 Hour Hazardous Waste Site Worker

This course is designed to meet the requirements of 29 CFR 1910.120(e)(3) - initial training for general site workers. The class covers topics from basic "Right-to-Know" standards to advanced air monitoring procedures. The program ensures that the students receive the minimum off-site training required by the regulation, and concentrates on risk assessment, personal protective equipment (PPE), respiratory protection, decontamination procedures, and air monitoring techniques.

Students will receive practical "hands-on" experience with donning and doffing of PPE and respiratory protection, the proper use and limitations of PPE and respiratory protection, setup and operation of a decontamination area, and the use, calibration and limitations of direct reading air monitoring instruments.

A variation of this course, which is tailored to the construction industry and satisfies the requirements of 29 CFR 1910.126, can also be offered.

2.3.2 Table-Top Simulator Training

CBA has designed and constructed a "table-top-city" which has been incorporated into many of the training courses. The city includes industrial, residential, and agricultural areas surrounded by interstate highways, railways, and waterways. Actual and potential emergency incidents are simulated on the table-top creating realistic situations. Students are able to practice decision making within the Incident Command System (ICS)under pressure situations.

Table-Top Incident Command Training
Pennsylvania Department of Correction

Members of the class are assigned roles within the ICS for each different scenario. Two-way radio communications are utilized to augment creating a realistic emergency incident. CBA's instructors will draw upon their experience as firefighters and Haz-Mat responders to incorporate realistic extraneous interference activities, which are a genuine aspect of emergency incidents.

As previously stated, this course can be incorporated with other CBA courses, or it can be presented as a stand-alone training course customized to an individual facility's or organization's training needs.

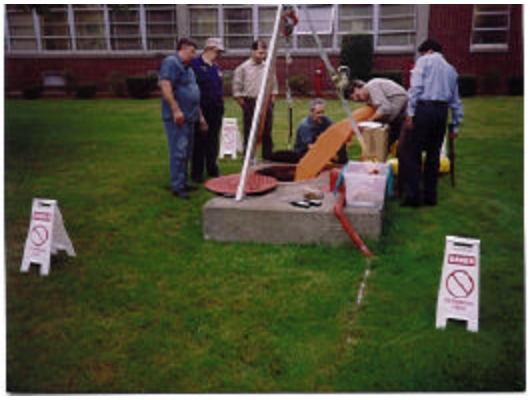
2.3.3 OSHA Subpart Training Courses

CBA also offers various OSHA Subpart courses. These courses are generally short, and specifically designed to meet the training requirements of the different subparts of 29 CFR 1910. Some of the courses offered by CBA are as follows:

- Industrial Environmental
- Industrial Forklift/Powered Truck
- Lockout/Tagout
- Welding, Cutting, and Brazing
- Industrial Haz-Mat
- Personal Protective Equipment
- Fire Protection
- Machinery and Machine Guarding
- DOT Haz-Mat

2.3.3.1 Confined Space Training

CBA offers this training course in compliance with 29 CFR 1910.146. Students completing this course will receive training on identifying, permitting, and entering a confined space. Students will understand the specific hazards associated with confined spaces, such as; toxic, explosive, and asphyxiating atmospheres. The course includes practical, hands-on training for entering a confined space and confined space rescue. Upon completion of the class, students will also understand the roles of the entrant, attendant and supervisor within the employer's permit-required confined space program.



Confined Space Training
Hazelton, PA

2.4 UST/AST Management and Compliance

CBA provides a wide array of services for the management and compliance of storage tank systems. CBA is a certified removal/installation company in several states within the Mid-Atlantic region. CBA also employs experienced certified tank removers and installers who conduct most and oversee all activities performed during storage tank installations and removals.

2.4.1 UST/AST Removals

CBA maintains an extensive fleet of equipment and materials to provide tank removal and cleaning services. All equipment and materials are readily and easily mobilized to project sites as part of "tank removal and cleaning" units. CBA has vast experience and knowledge of tank removal techniques, protocol, and regulations. CBA will prepare a Site Specific Health and Safety Plan for all storage tank activities. CBA's employees are intimately familiar with all aspects of the health and safety plan, and all employees receive 40 hour OSHA training, confined space training, and specialized training in PPE, respiratory protection, and air monitoring.

Tank Venting / Preparation for Cleaning
Lebanon, PA

2.4.2 UST/AST Installations

UST Installation
Schuylkill County, PA

CBA also maintains and employs the necessary equipment and personnel to conduct tank installation procedures. CBA has widespread experience in installing various underground and above-ground storage tank systems.

The above listed capabilities, along with CBA's ability to perform site assessment activities, allow CBA to provide turnkey services for storage tank removals, installations, and upgrades.

3.0 SUPPORT CAPABILITIES

3.1 OPERATIONS

CBA Environmental Services, Inc. management staff includes a variety of professionals including geotechnical engineers, safety professionals, environmental engineers, and managers. Additionally, CBA's President and Principal Partners are recognized leaders in the geotechnical and/or environmental field(s). Training and education are combined with real-life experience of all personnel.

Our experienced project team, from senior project managers to field technicians, can be organized and tailored to meet specific job requirements. This would include handling such tasks as construction engineering, health and safety, recordkeeping, QA/QC, INSITU soil and groundwater remediation and custom "one pass" deep rock trenching. CBA can also provide a turnkey service for those projects requiring a remediation solution and close coordination of other services.

Project planning considers all the elements of a project and provides the basis for coordinating its implementation. The construction schedule that becomes a part of this plan is reviewed weekly to ensure timely completion. Costs are managed by a committed cost tracking system with direct input from the job site. Quality control becomes part of the daily job routine with outside laboratories providing independent third-party confirmation of field testing as/if required.

Every element of the project team can be increased to meet the demands of differing site conditions, weather, and changes in scope. CBA is committed to meeting project needs in the most straightforward, efficient, cost-effective manner. We emphasize planning to help anticipate and avoid conflicts. Moreover, we emphasize timely completion of a safe, quality production.

3.2 HEALTH AND SAFETY QUALIFICATIONS

3.2.1 Introduction

CBA management is committed to achieving safe production. As part of this commitment, CBA has an in-house Health and Safety Department, which provides technical input to line management in matters regarding health and safety. The manager of this department reports directly to the President of CBA. CBA's top management commitment to health and safety is evident. Management commitment to the program and incident prevention is further exemplified by CBA's Health and Safety Policy Statement signed by the President.

3.2.2 Health and Safety Department Qualifications

CBA's Health and Safety Department is designed to advise, question, warn and audit with respect to compliance. CBA's President and Operations Manager are disciplined in and practice strict Health and Safety/QA practices. Both individuals are also certified OSHA instructors who each conduct several hundred hours of compliance training every year. The President has fourteen years direct experience in both the safety and industrial hygiene arenas, serving in both technical and managerial capacities. Additionally, he has over twelve years in the environmental/hazardous waste discipline, providing health and safety technical support to management. The remaining staff consists of an Operations Manager - Health and Safety with over six years experience, who is also a staff health and safety specialist, with direct education and/or training in the safety and health arenas. Group experience includes working for such clients as USEPA, USAF, USARMY, DOT, and various clients from private industry. The Health and Safety Department has supported CBA on numerous construction and/or remediation projects, including IN-SITU soil and groundwater remediation, custom "one pass" rock trenches, slurry walls, et.al., where the organization has served as a Prime Contractor or subcontractor.

Staff members are well versed in industrial hygiene, general safety, and construction safety. They routinely interpret OSHA standards, NFPA, ACGIH, ANSI, and AIHA recommendations, and advise management regarding compliance.

3.2.3 Health and Safety Program Overview

CBA has an extensive program consisting of a written Health and Safety Program, Health and Safety Standard Operating Procedures (SOPs), Health and Safety Supervisory training, and an Employee Safety Handbook.

CBA has also instituted safety incentive awards programs for individuals and projects, and sets corporate goals each year for incident rates. Since formal program inception in 1996, CBA has continued to strive for improvement. Management enforcement of the program has manifested itself via enhanced employee protection, improved liability protection, and lowered EMR/incident rates.

3.3 QUALITY ASSURANCE/QUALITY CONTROL

3.3.1 Introduction

CBA management is committed to achieving quality production. As part of this commitment, CBA has an in-house QA/QC Department, which provides technical input to line management in matters regarding quality control. The Manager of this department reports directly to the President of CBA. Since the Operations Manager also reports to the President and is responsible for onsite compliance, CBA's top management commitment to quality is evident. Management commitment to the program is further exemplified by CBA's Quality Policy Statement signed by the President.

3.3.2 Quality Assurance/Quality Control Program Overview

Responsibility for project QC remains a line management function; however, the QA Specialist is responsible for the overall and ongoing development of CBA's QA/QC Program. These responsibilities include:

1) Coordinating the development and the updating of the Corporate QA/QC program.

2) Hiring, developing, and managing of QC Specialists to perform QC duties on CBA projects.

3) Assisting project management with developing/implementing training as necessary for QC specialists on projects.

4) Auditing projects for compliance with designated QC procedures.

Project Engineers/QC Specialists are responsible for following/implementing designated QA/QC SOPs in the field and reporting problems to management. These personnel report to the QA Specialist, who is responsible for ensuring technical consistency among these personnel. The Operations Manager - Health and Safety/QA oversees all QA Department activities.

Following are components of CBA's Manual, and hence, the program:

Policy Statement

1) Foreword (which details purpose, scope, definitions, as well as responsibilities, authority, accountability, and procedures for appropriate deviations)

2) QC Procedures/Testing
   - A) Insitu Soil Treatment
   - B) Exsitu Soil Treatment
   - C) Groundwater Treatment
   - D) Groundwater Control/Trenching
   - E) Groundwater Drainage/Trenching
   - F) Rock Trenching
   - G) Earthwork
   - H) Daily Diary/Logbook
   - I) Utility Trenching

3) Sampling Procedures
   - A) Sampling

4) Training Procedures (Includes Training Forms)
5) Audit Procedures

6) References

3.4 TREATABILITY STUDIES

As a leader in geotechnical and environmental construction, CBA has advanced the pursuit of finding material solutions for performance requirements. Often this has meant extensive testing of trial formulations to find acceptable and cost-effective blends of materials to solve specific engineering requirements. Through a working arrangement with independent laboratories, which often use CBA's special treatment and mixing equipment, the company has led the engineering community in new solutions and published a number of technical articles in leading journals, which document methods and successes.

CBA's experience in testing slurry walls, soil mixing, and waste treatment mixtures has led to the development of new applications for cost-effective materials including metals treatment, high temperature heat injection, fly ash, bentonite, chemical mixtures, and many other additives. Normally these services are provided as a part of the work; but, upon request, CBA will work directly for the owner or consultant to solve compatibility and treatment options prior to construction to ensure a successful plan for the work.

4.0 REFERENCES PROJECTS

CBA has operated as both a general contractor and a specialty subcontractor on major remediation projects. CBA has experience at completing all phases of site work that are involved with a major remediation project, including but not limited to; clearing and grubbing, demolition, excavation and backfill, compaction, interception and containment trenches, and decontamination.

CBA's main area of expertise is soil remediation; offering various innovative remediation technologies to solve the complex environmental challenges that face us today. These remedial technologies combined with the patented MITU delivery technology allow CBA to offer cost effective remedial approaches over other more conventional remedial technologies.

Table 4.1 on the following page lists some of CBA's larger soil remediation projects. Several detailed case studies for specific projects are also included in this section.

Hexavalent Chrome Soil Remediation, Hagerstown, Indiana

Client: DANA Corporation

SITUATION

DANA Corporation operated a chrome plating facility for automotive parts manufacturing in eastern Indiana. Following shut down of operations, the building was demolished; a concrete wall footing and several concrete plating dip tanks were left in-place. The soils within the foundation area were contaminated with total levels of Hexavalent Chrome ranging from 5,600 ppm to 10,000 ppm. Results of a site characterization indicated approximately 9,400 tons of impacted soil to a depth of eight (8) feet. Static ground water was present at 8.2 feet.

The Indiana Department of Environmental Management (IDEM) and DANA entered into an agreement under the state's Voluntary Cleanup Program to remediate areas of the facility that had been contaminated with Hexavalent Chrome. In order to meet the State's treatment level, site soils had to be treated to less than 1 mg/l TCLP, (<1 mg/l Leachable Chrome).

CBA'S TECHNOLOGY AND APPROACH

CBA was approached by the DANA's engineering firm, RMT, prior to completion of the remedial action plan. The primary objective was to utilize an innovative IN-SITU Soil Treatment Technology that could meet treatment objectives in accordance with the IDEM soil treatment criteria, and to generate cost savings to the client. CBA's Mobile Injection Treatment Unit (MITU) was selected as a potential innovative methodology. A pilot study was scheduled to demonstrate the MITU technology's mixing ability and to finalize the chemical dosage application prior to full scale remediation.

RESULTS

During the pilot study, additional sub-surface obstructions were discovered. These obstructions consisted of seven (7) full-length concrete reinforcement walls, which were located throughout the entire treatment area. The clients initial decision was to excavate and dispose off-site of the concrete. CBA proposed the option of excavation and on-site crushing of the concrete. A crusher was mobilized to the site. All concrete was excavated and crushed to 2 inch minus, re-applied over the treatment area and treated in-place by the MITU technology. CBA successfully treated all crushed concrete and generated a $250,000 savings to the client, in addition to eliminating any materials from going off-site for disposal.

During the full-scale operation, the MITU technology averaged a treatment and production rate of 450 tons per day of treated chrome contaminated soil, which included chemical handling, application and treatment. Despite adverse weather conditions of continuous rain, very dense and plastic soils and site mobility, CBA completed the project with success prior to the end of the year.

Project Manager: Bruce L. Bruso
Site Manager: Mike Siravo
Bid Cost: $750,000
Client Contact Reference: Jack Pew, Env. Coordinator, DANA (317) 966-8111
RMT Project Manager: Jack Anderson (608) 831-4444

INTERNATIONAL **Projects**

Hydrocarbon Soil Remediation, Hovedstadens Jordrens, Copenhagen, DK

SITUATION

Over the past century, the land use in the Copenhagen area has changed dramatically. Initially, land was used for farming in the surrounding communities and residential use in the main city area. Later, these properties were changed into manufacturing areas as the industrial revolution took hold and progressed for many years. Recently, these properties have become disused and are changing back into residential areas and recreational parks. This redevelopment construction has created an abundance of contaminated soils associated with the previous manufacturing and industrial use. In Copenhagen, the contaminated soils are managed at an off-site soil management firm. This allows construction to continue and soils can be managed for a set fee. However, this has resulted in a significant volume of soils to be managed at the local Copenhagen soil management facilities.

Because hydrocarbon soils are generally conducive to low-cost bioremediation, the soil management firms prefer to use this approach. However, bioremediation typically takes much longer to implement (i.e., time consuming) and generally can't achieve the desirable low levels (i.e., Class I). The time consumption has resulted in an increased quantity of soils on-site and little movement of soils off-site due to the slow remedial process.

CBA'S TECHNOLOGY AND APPROACH

CBA's innovative technology was considered to provide a pathway toward achieving the lower concentrations in the soils after the bioremediation had been performed. The primary objective was to utilize the EX-SITU soil treatment technology that could meet treatment objectives in accordance with the Denmark's soil treatment criteria. This treatment could be done by applying heat and hot-air for the lighter fraction hydrocarbons and a chemical amendment for the heavier compounds. CBA focused on treating the soils in separate piles that would be selectively removed following treatment.

RESULTS

At the request of the client, CBA began EX-SITU soil treatment work on a test pile in late May. Pre-treatment results indicated TPH levels of 5,000 ppm in one of the samples. CBA completed EX-SITU soil treatment by use hot-air treatment on TPH contaminated soils in a very rapid fashion. While performing under adverse working conditions, including heavy precipitation, it was determined that the soils actually contained the heavier hydrocarbon compounds (C25 – C35) which required chemical amendment as well as heat. CBA ordered the appropriate chemical mix and was able to completely mix the pile within one day.

Based on historical information, this type of rapid mixing process with the MITU will render the soils as Class I (Clean Fill).

Project Manager: Bruce L. Bruso
Site Manager: Jorgen Ravn
Cost: $

Mixed Waste Soil Remediation, Milwaukee, Wisconsin

Client: WDNR/HSI Geotrans

SITUATION

In the 1950s and 60s, the property at 3033 West Walnut Street was being utilized as plating operation for Electro-coatings. Following shut down of operations, the soils within the area of the operation were found to be contaminated with Hexavalent Chrome and chlorinated VOCs (e.g., PCE, TCE, etc.). Results of a site characterization indicated approximately 14,400 tons of impacted soil to a depth of 40 feet. VOC contaminated soils were expected to be less than 7,700 ppm.

The Wisconsin Department of Natural Resources (WDNR) elected to remediate the site under a publicly funded approach. Two separate bid options were evaluated: 1) Treat metals in-place, Excavate and remove VOC soils as hazardous and incinerate; 2) Treat metals soils in-place and perform IN-SITU hot-air treatment on VOC soils to lower/ eliminate contamination levels to meet a non-hazardous classification for off-site disposal. In order to meet the State's treatment level, site soils had to be treated to less than 5 mg/l TCLP, Leachable Chrome, 14 ppm for PCE and 5 ppm for TCE. Bid option 2 was selected due to cost savings.

CBA'S TECHNOLOGY AND APPROACH

CBA's innovative technology was considered instrumental for IN-SITU hot-air soil treatment by the WDNR's prime contracting firm, HSI Geotrans. The primary objective was to utilize the IN-SITU soil treatment technology that could meet treatment objectives in accordance with the WDNR soil treatment criteria. CBA focused on treating the soils in shallow lifts that would be selectively removed following treatment.

RESULTS

At the request of the WDNR, CBA began IN-SITU soil treatment work on Lift No. 1 in late December. Post-treatment results indicated VOC levels of 15,000 ppm in one of the grids. Based on treatment time, it was estimated that PCE soils within that grid were likely at or near 25,000 ppm prior to treatment. CBA completed IN-SITU soil treatment on chrome-contaminated soils in rapid fashion and continued to use hot-air treatment on VOC contaminated soils. While performing under adverse winter working conditions, heavy precipitation and the presence of marine clays, CBA was able to meet the treatment objectives for TCE and achieve 99% mass removal from the PCE soils (i.e., to about 100 ppm) with hot-air only. CBA and HSI collectively approached the WDNR and proposed the additional use of chemical amendments (i.e., chemical oxidation) in order to meet the optimal treatment objective of 14 ppm for the VOC contaminated soils.

Bench and pilot scale studies indicated that potassium permanganate could achieve the desired results. The CBA / HSI team proposed the use of $KMnO_4$ as a polishing step in the treatment train; this approach was still approximately $2MM less than Option 1. CBA utilized the MITU-LVR to mix the $KMnO_4$ as a dry crystalline form with the VOC contaminated soils. The average $KMnO_4$ dose was 4% by wt., and results were generally achieved within 72 hours after initial application.

Project Manager: Clark Romberger
Site Manager: Mike Bauer
Cost: $1.85 Million
Client Contact Reference: Tom Wentland, Project Mgr., WDNR (414) 229-0853
HSI Project Manager: Dan Morgan (262) 792-1282

VOC and Metals Soil Remediation, Arcade, New York

Client: HSI Geotrans/Motorola, Inc.

SITUATION

A chemical and waste storage building was the source of contamination at a former Motorola facility near Buffalo, New York. An Interim Remedial Measure (IRM) was developed to address the heavy metal and VOC impacted soils remaining at the currently active facility now owned by Prestolite Electric, Inc. The VOC contamination included BTEX and TCE, while the metal contamination included primarily cadmium but also elevated levels of chromium and lead. The contamination extended to a depth of 12 feet and encompassed a volume of approximately 4,500 cubic yards.

Several alternative remedial options were tested and evaluated at the site; they included soil vapor extraction and phytoremediation. These approaches were unsuccessful due to the lithology and characteristics of the site soils. As part of the IRM, and as a voluntarily negotiated Order of Consent, a Remedial Action Plan (RAP) was submitted to the New York State Department of Environmental Conservation (NYSDEC) and approved proposing the use of the MITU technology to remediate VOC and metals impacted soils.

CBA'S TECHNOLOGY AND APPROACH

Motorola's consultant HSI Geotrans awarded the remediation contract to CBA through a competitive bidding process. The MITU technology was selected based on total cost and on the MITU's ability to treat soils contaminated with mixed waste (*e.g. metals and VOCs*). CBA proposed forced hot air and mechanical mixing for the thermal stripping and removal of VOCs and admixing of a chemical reagent for the stabilization of heavy metals. The most appealing aspect of this approach was that the MITU could perform both remedial processes simultaneously or as a parallel or serial technique utilizing one or more MITUs.

RESULTS

Treatment goals were established for the following volatile organic compounds; TCE - 0.7ppm, toluene - 1.5ppm, ethyl benzene – 5.5ppm, and xylene – 1.2ppm. The objective for metals treatment was to minimize the potential leachability with TCLP values for cadmium, chromium, and lead approaching or meeting the NYSDEC groundwater standard. During the treatment process subsurface debris in the form of concrete, as large as 14 ft x 4 ft x 4 ft; asphalt; wood and timber; crushed and in tact drum carcasses; metal pipes, plastic and geofabric material, was discovered. A perched water table was also encountered throughout the treatment area at depths as shallow as 3 feet.

In-situ treatment with the MITU began in December and was conducted throughout the winter months. A temporary portable structure was erected to facilitate working through the severe climate in this region.

The cleanup goals for all heavy metals and for TCE, toluene, and ethyl benzene were met or exceeded. Although the cleanup goal of 1.2 ppm for xylene was not met in nineteen of thirty-one treatment grids; A xylene mass removal of at least 87% was obtained throughput the treatment area. In addition, a 96% reduction was achieved in twelve of the nineteen grids and a reduction in excess of 99% was shown in four of those grids. Based on these results, the Client was able to obtain closure.

Project Manager: Clark A. Romberger
Site Manager: Donald Chescavage
Bid Cost: $500,000
Client Contact Reference: Michael E. Loch, Motorola (847) 480-8000
HSI Project Manager: Rich Gnat (262) 792-1282

5.0 CLIENT LIST

CBA's clientele includes both public and private sector work. Our clients range from small manufacturing facilities to large corporate industries. We are proud of our successful history on projects and strive to maintain successful client/contractor relationships. The following is a partial list of CBA's clients:

Corporation & Industrial

Aetna Insurance
Agway
Allied Signal
Bethlehem Steel
Betz Labs
Brubacher Excavating
Capitol Adjusters
Chemply Chemicals
CHEMSPEC Laboratory
Copperhead Chemical
Cressona Aluminum
Crompton & Knowles
DANA Corporation
EJ Brenemans
Elk Transportation
General Foam Corporation *
Gettysburg Railway
Goodyear Tire (Reneer Tires)
Gould's Pump
Graco Metal Products
GTP Plastics
Hetran Inc.
Hercules International
Hershey Creamer
H.T. Lyons
Ingersoll Rand
JC Ehrlich Chemical Co.
Laneco
Manley-Regan Chemicals
Mid-State Chemicals
Motorolla
NESTLE Inc.

Nibco, Inc.
Penn Fishing Tackle
Penn Mar
Prillaman Chemicals
Pottstown Plating Works
Quaker State Farms
Sears
Smith Steelite
State Farm
Stroheman Food Service
Taco Bell
Tower Sales
Wheelabrator Energy
Winzeler Construction
Wright's Knitwear
Zapata Industries Inc.

Consulting & Engineering Firms

Alfred Benesch Engineers
Apex Environmental
ATEC
Bioscience Management
Black & Veatch
DAS Environmental
Diamond State Environmental
Environmental Technology, Inc.
Entech Engineering
ERM, Inc.
EWMA
HSI Geotrans (Tetratech)
Keystone Block
Keystone Environmental
Negley's Drilling
Radian International
Rettew Associates
RMT, Inc.
SMC Environmental

Public Sector

Boro of Schuylkill Haven FD
City of Allentown FD
City of Harrisburg
Fairview Township, PA
Hazleton Water Authority
Hegins Township Police
PA DCNR
PA Department of Corrections
PADEP*
PA State Police
Schuylkill County EMA
St. Clair Boro
United Cerebral Palsy
US Air National Guard
US Army (PAANG)
US Army Corp of Engineers
US EPA

Utilities & Institutions

Chambersburg Area School District
City of Allentown WWT
Coldwell Bankers
Gettysburg College
Lebanon Area School District
Meridian Bank
Octorara Area School District
Pennsylvania College of Technology
Pennslyvania Power & Light Co.
Schuylkill County Housing Authority
State College Area School District
Tri-Valley School District
Union Bank
Williams Valley High School

* Indicates that work was performed at more than (5) locations of that client.

6.0 KEY PERSONNEL QUALIFICATIONS

(SEE ATTACHED)

Bruce L. Bruso, Principal

Fields of Competence

Occupational Health and Safety Certified Instructor
Project management (International and Domestic)
Site remediation design and implementation
Corporate level responsibility for compliance and interface
Innovative technology development
Business development (International and Domestic)

Experience Summary

More than 12 years of international and domestic professional experience providing site remediation and assessment services. Performed project management during feasibility study, design phase, and construction phase on numerous project sites ranging from heavy industrial facilities, water and sewer treatment plants, sludge lagoons, power plants, storage tank facilities, military bases and landfills. Project management design phase services included remedial technology development and evaluation, professional testimony, field chemical applications, occupational health and safety compliance training of over 3,000 individuals, and earthwork and compaction requirements. Project management construction phase services included providing field recommendations in a timely manner to reduce potential delays in construction schedules, and documenting and recording observation and testing services. Treatability study experience ranged from leading physical stabilization programs on highly organic contaminated soils and heavy metal soils to development of field pilot programs.

Credentials

National Fire Academy - Hazardous Materials Response
Course work completed towards B.S., Environmental Engineering
USEPA Hazardous Materials Team Certification
Certified Hazardous Materials Supervisor -
Harrisburg Community College, 1988
Instructor - OSHA 1910.120 (q)
WTTI - Metallurgy, 1984
National Fire Academy - Certified Fire Fighter I

Professional Affiliation

National Fire Protection

Key Projects

Provided project design and management on the first Pennsylvania State Superfund Emergency Action project. Managed this interceptor trench, stabilization of soils and overpacking of 150 leaking drums project from development of the field program and conceptual design through the project design and construction phase. Worked directly with the project team from the PADEP and the Governor's office so immediate threats to groundwater were stabilized in 48 hours.

Provided Occupational Health & Safety as well as remediation expertise on a Due Diligence / Acquisition at a German owned speciality steel manufacturing facility being purchased in Pennsylvania. The assessment included definition of the occupational health and safety procedures, facility environmental setting, site historical background, environmental conditions, and a variety of remediation scenarios and cost estimates based on state and federal regulatory requirements. This information was utilized in the development of final purchase figures.

Provided design and implementation of an innovative soil treatment technology for a CERCLA project (REGION 3) at an existing Fortune 500 Communications manufacturer. The technology was implemented and completed the target treatment objective under the State of New York (NYSDEC's) toughest soil treatment standard in the US. The site contained mixed contaminates including hazardous levels of metals and chlorinated VOC's.

(continued over)

Pennsylvania Hazardous Materials Technicians Assoc.

Key Projects (continued)

Provided project management for a Fortune 50 Automotive Component manufacturer in (Region 5). The client won an environmental award as a result of the use of the innovative soil treatment technology. All soils and concrete discovered were treated on site thereby eliminating off-site disposal. Remedial Action Work was performed under the voluntary cleanup program in conjunction with IDEM (State of Indiana).

Provided PRP support on a feasibility study (FS) at an industrial facility's previous disposal area in the center of Metropolitan Milwaukee. Coordinated with the Wisconsin Department of Natural Resources (WDNR) to develop and implement the CBA MITU soil treatment technology. This project is the highest publicly funded State Superfund cleanup in the history of the State of Wisconsin. The site contains a mixture of significant quantities of organic and inorganic compounds in soil to a depth of 45 feet BGS. Developed Remedial Action Plan that considered a unique in-place treatment remedy that allowed for a 60% cost savings to the State. As such, remediation costs were reduced by $6,000,000.

Developed an innovative trenching design application for various vertical barrier systems and groundwater control at a Military Installation in Virginia. The evaluation entailed developing a detailed cost analysis and determining constructability for the options considered.

Managed and participated in a treatability study program for In-SITU treatment of PCB contaminated soils and sediment on a Superfund project in the Mid-west. The project materials were contaminated with high concentrations of 1242 Aroclor. The treatability study provided a 68% reduction with the first application. The results are being further evaluated for full-scale implementation in combination with the MITU technology.

Provided innovative chemical response training and facilities spill management evaluation for seven years running at various Military Installations. Continue to provide custom Occupational Health & Safety training to the US Army and US Air Force. Additional training includes crisis management training to high level ranking officers for disaster preparation.

Michael R. Bauer

Certifications
40 Hour OSHA Worker Protection

Fields of Competence
Site management and construction oversight
Site remediation
Field Chemist

Experience Summary
Twenty years of service in the United States Army Reserve & Pennsylvania National Guard as a Nuclear-Biological-Chemical (NBC) Warfare specialist and Drill Sergeant. Last two years of military service included service as an adviser to the Commanding General of the Pennsylvania National Guard on NBC matters both military and civilian.

Nine years experience in the hazardous waste industry, including: manifesting, profiling, lab packing, consolidating, and HAZCATing materials in the field. Two years experience handling Radioactive and Biohazardous waste while working for a major pharmaceutical company in its R&D division. The last three as a field chemist / supervisor for a high hazard chemical spill response team, duties to include: Health & Safety, first entry, assessment, monitoring, and customer relations on all hazardous spills.

Credentials
US Army Nuclear-Biological-Chemical Warfare School
US Army Drill Instructor Academy
US Army Advanced NCO Academy
US Army Combat Engineer School
West Chester University, 1997

Key Projects
Providing site supervision during soil remediation project of hazardous soils in Milwaukee, WI. The project involves the in situ heat and chemical treatment of soils contaminated with Hexavalent Chrome and chlorinated VOCs. Providing management and coordination of site activities. Project is on going, to be completed October 2002.

Served as Field Chemist / Health & Safety Officer during response and remediation of a major warehouse fire serving as a transportation hub for multiple companies in Pennsylvania. Warehouse contained major quantities of: oils, greases, lubricant, cosmetic raw materials, bulk cleaning materials, QA / QC labs, PCB transformers, vitamins, sporting goods, bulk food products, and appliances. Project involved the containment and cleanup of product that migrated off site due to fire department activity. Areas impacted included wetlands and navigable waterways. Duties included review of all available MSDS Sheets and Shipping Papers to determine possible chemical hazards due to chemical reactions and thermal decomposition. Implemented and oversaw Air, Water, and Soil monitoring procedures. In charge of entering fire damaged structure to perform inventory, photo document, and delineate hazard areas. In charge of sampling and HAZCATing of all materials on site. In charge of packaging, removal, and disposal of all materials. In charge of pumping, treating, and obtaining permitting for sewer discharge over 750,000

(continued over)

Key Projects (continued)

gallons of organics and sulfides contaminated water on site, providing the customer with a savings of over $250,000 for off site disposal.

Served as Field Chemist / Health & Safety Officer during a response to and remediation of 2,000,000 gallons of Sodium Hydroxide contaminated wastewater for a major pharmaceutical company in Pennsylvania. Coordinated neutralization and wastewater release, without any plant shutdown, loss of product or time for the manufacturer. Thru prompt on site treatment the customer saved over $700,000 in disposal costs, and millions due to no loss of product or work time.

Served as Field Chemist / Health & Safety Officer during a Chlorine gas release at a municipal water treatment plant in a New Jersey residential area. Coordinated all activities to stop, contain and dispose of released materials. Activity was completed with minimum impact to the public and surrounding area.

Served as Supervisor / Field Chemist / Health & Safety Officer on multiple PCB and Non-PCB pole cleanup sites, under various conditions, in Pennsylvania and New Jersey. In charge of identifying, delineating, and remediation of contaminated areas. Responsible for coordination of equipment, personnel, and disposal needs.

Served as Field Chemist during test pit digs at a former landfill in Delaware. In charge of inspection and identification of multiple hazardous substances encountered during excavation. Work was performed over a five-month period under Level B conditions.

CJ Lupole

Experience Summary

Mr. Lupole serves as a Marketing Coordinator for CBA Environmental Services, Inc. He is responsible for the development and implementation of sales plans and strategies. Before coming to CBA, he was a Sales Representative for a National Laboratory. His position required coordinating sales efforts and managed projects along with developing new relationships with environmental groups both domestic and internationally.

Credentials

B.S., Business Administration, Kutztown University, 2001

Professional Affiliation

American Marketing Association
The Society of American Military Engineers

James E. Marley

Director

CBA Environmental Services, Inc., Hegins, PA
Armstrong Holdings, Inc., Lancaster, PA
Arvin Meritor Automotive Inc., Troy, Michigan
United Way of the Capital Region-Chair elect
YWCA (Advisory Board), Harrisburg, PA
Penn State University: Chair, College of Engineering's Grand Destiny campaign
Ybn.com, Board chair, Harrisburg, PA
Intercon Systems, Harrisburg, PA
The Kline Foundation, Inc., Harrisburg, PA

Previous Directorships

Pennsylvania Chamber of Business and Industry, Harrisburg, PA (Past Chair)
Technology Council of Central Pennsylvania, Harrisburg, PA (Past Chair)
Allied Arts Fund, Harrisburg, PA
Susquehanna Art Museum, Harrisburg, PA

Experience Summary

Mr. Marley has joined the Board of Directors for CBA Environmental and is a strategic consultant. He was employed at AMP Incorporated from 1963 to 1998. Mr. Marley was first elected as a Vice President in 1970. This position was followed by many executive positions including President and Director in 1986; President and Chief Operating Officer in 1990; and Chairman of the Board in 1993. He retired in 1998. Mr. Marley held engineering positions in several firms before joining AMP and holds a large number of patents. He has founded a new company focused on providing services to entrepreneurs.

Credentials

B.S., Aeronautical Engineering, Pennsylvania State University, 1957
M.S., Mechanical Engineering, Drexel University, 1963

Professional Affiliation

C-PAN: The Central Pennsylvania Angel Network
Institute of Electrical and Electronics Engineers, Inc. (IEEE)

American Society of Mechanical Engineers
American Management Association

Honors

Penn State University - Distinguished Engineer Alumnus (1985)
Drexel University - "100" Distinguished Alumni (1992)
Penn State University - Distinguished Alumni by Board of Directors (1994)
Drexel University - Doctor of Engineering (1995)

Clark A. Romberger

Certifications
Pennsylvania Sewage Enforcement Officer

Fields of Competence
Project management
Site management and construction oversight
OSHA compliance and "HAZWOPER" Instruction
Site remediation
Erosion control

Experience Summary
Eight years of service in the United States Navy as a Cryptologic Technician holding a Top Secret security clearance. During this time served at five different shore commands and aboard over five sea commands as a technician and Direct Support Team Supervisor. Last three years of military service included serving as an Instructor at a Naval Technical Training Center. Five years of experience providing site management and construction oversight involving hazardous waste site remediation projects, groundwater treatment projects, wastewater treatment plant construction, and collection system installation. Provided detailed field documentation and supervised field crews during site work activities. Project engineering services include design phase of wastewater treatment facilities, sanitary sewer systems, computer modeling of water distribution systems, groundwater treatment, and site remediation. Project management through design, implementation, construction and closure of hazardous waste remediation projects. Project management included administering the project budget and recognizing and implementing cost saving avenues and procedures which can be passed to the Client.

Credentials
B.S., Environmental Engineering, Pennsylvania State University, 1996

Professional Affiliation
Pennsylvania Association of Sewage Enforcement Officers

Key Projects
Provided site management on a Pennsylvania Hazardous Waste Site Cleanup involving the in-situ remediation of chlorinated solvent impacted soils. Provided oversight of all site work activities including earth moving, soil treatment, verification sampling, and health and safety Issues.

Provided design recommendations and technical expertise in the implementation of a groundwater treatment system utilized to remediate a UST release site in Pennsylvania. Provided long term project management and oversight of operation and maintenance of the system.

Provided project engineering and assistance to project manager on a hazardous chrome remediation project in the state of Indiana. Developd and implemented cost tracking procedures for labor, equipment and materials; this information was used to manage the overall project budget and ultimately allowed the project manager to make cost saving decisions.

Provided project management during a soil remediation project of a hazardous waste site which was to be listed in the state of New York. The project involved the in-situ treatment of mixed hazardous waste, VOCs and heavy metals. Provided management and coordination of all site activities, and management of the project budget. Contaminated soil issues have been resolved on the site; groundwater monitoring is to continue; however, the site will not be added to the Potentially Most Hazardous Sites List In New York.

(continued over)

Key Projects (continued)

Provided assistance on project management team for remediation project of a mixed hazardous waste site listed in the state of Wisconsin. Project involved in-situ remediation of chlorinated solvents and hexavalent chrome on the largest state funded project to date in Wisconsin. Integral part of project team decision making and problem solving process on earthmoving, soil treatment, decontamination, health and safety, and budgetary issues. Project is still active and ongoing.

Performed field engineering and construction oversight during the installation of a .75MGD wastewater treatment facility and during the installation of over 21 miles of collection system. Provided detailed field documentation and reviewed payment quantities and requests.

Conducted I & I study for a small municipality in southeastern Pennsylvania. Study included evaluation of pump station capacities, determining and identifying locations of potential causes, recommending various solutions, and oversight of implementing selected remedy.

Mark D. Snyder

Certifications
Certified Public Accountant (CPA)
Certified Management Accountant (CMA)

Experience Summary
Mr. Snyder serves as the Corporate Financial Officer (CFO) for CBA Environmental Services, Inc. He is responsible for all of the financial reporting to the Board of Directors and financial institutions. Before coming to CBA, he worked for the Company's outside accounting firm for 12 + years. He held positions as a public accountant and as a senior level supervisor for the last six years of his employment. His work encompassed all aspects of financial reporting including compilations, reviews, audits and projections. He also prepared tax returns for individuals, partnerships, "S" corporations and corporations.

Credentials
B.S., Management Accounting, Lock Haven University, 1987

Professional Affiliation
American Institute of Certified Public Accountants (AICPA)
Pennsylvania Institute of Certified Public Accountants (PICPA)
Institute of Management Accountants (IMA)

Table 4.1 Major Soil Remediation Projects

Client	Location	Contaminants	Volume	Remediation	Total Cost
RMT, Inc./ DANA Corp.	Hagerstown, IN	Cr^{+6}	4000 CY	Stabilization	$750,000
Geotrans, Inc.	Milwaukee, WI	PCE, TCE, Cr^{+6}	9600 CY	Stabilization, Thermal, and Chemical Oxidation	$1,500,000
Malcolm Pirnie	Watervliet, NY	BTEX, PAHs	4000 CY	Soil Mixing, Bioremediation	$139,000
Pipeline Petroleum	Allentown, PA	BTEX, TPH	7000 CY	Thermal	$110,000
EPA Region 3	Lansdale, PA	TCE	1000 CY	Thermal	$70,000
Geotrans, Inc./ Motorola	Arcade, NY	BTEX, TCE, Lead	4500 CY	Thermal, Stabilization	$500,000