INTERIM REMEDIAL MEASURE WORK PLAN

FOR

ROSE CLEANERS

500 Lexington Avenue
Mount Kisco, New York 10549
Site No.: 3-60-059
Index No.: W3-0978-03-12

PREPARED FOR

NEW YORK STATE DEPARTMENT OF
ENVIRONMENTAL CONSERVATION
625 BROADWAY
ALBANY, NEW YORK 12233-7016

PREPARED BY

BEi

BERNINGER ENVIRONMENTAL, INC.

March 2007

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ATTACHMENTS

1.0 INTRODUCTION

The subject property is listed on the New York State Department of Environmental Conservation (NYSDEC) Division of Environmental Remediation (DER) Registry of Inactive Hazardous Waste Disposal Sites in New York State as Site Number 3-60-059 with a Classification of 2 pursuant to ECL 27-1305. The site is located at 500 Lexington Avenue, Mt. Kisco, New York 10549, fully described at Dist. 80.64, Section 01, Lot 14.

The first phase of the Remedial Investigation (RI) of the Rose Cleaners Inactive Hazardous Waste Disposal Site (IHWDS) was performed pursuant to the requirements of an executed Order on Consent (December 22, 2003) between the NYSDEC, DER and LRB Cleaners, Inc., the Respondent. Based upon the remedial investigation completed to date, BEI has identified significant supplemental investigatory data needs for this property. An addendum (supplemental) to the RI work plan was prepared and work is to be performed. However, as requested by the NYSDEC, an Interim Remedial Measure (IRM) work plan was to be prepared to address immediate concerns relative to shallow soils impacted by dry-cleaning volatile organic chemicals (VOCs) (specifically tetrachloroethene (PCE) and its daughter products) delineated during prior RI study at the subject property. An IRM is proposed based upon the fact that:

- Sufficient delineation of site conditions has been completed; and
- Mitigation and/or the prevention of ongoing environmental impacts.

As both surficial, shallow unsaturated and saturated soil impacts have been identified, the IRM Work Plan includes a scope of work for the implementation of a remedial measure to address the aforementioned at areas delineated at the north, west and south sides of the building.

2.0 SHALLOW SOIL & GROUNDWATER CONTAMINATION

The RI soil sampling performed was biased toward the north side of the building and included other

potential suspect areas such as the rear of the building, exterior to doors, exhaust fans, the historic dumpster location, etc. A total of thirteen soil borings were installed across the subject property. A total of twelve (12) soil samples were collected from the thirteen soil borings and analyzed for Target Compound List (TCL) VOCs by EPA Method 8260. Primarily tetrachloroethene was the compound present at the highest concentration of concern, with detections of typical daughter or breakdown VOCs such as 1,2-Dichloroethene (total) and trichloroethene. No vinyl chloride was present above method detection limits. (See Figures 2 and 3)

The following soil sampling locations reported concentrations of Tetrachloroethene/Total VOCs above the NYSDEC Recommended Soil Cleanup Objectives (RSCOs) at the depths indicated: SB-03 at 4-5 ft bgs with concentrations of 34,000/34,460 *u*g/kg; SB-04 at 4-5 ft bgs at concentrations of 1,600,000/1,683,170 *u*g/kg; SB-05 at 3-4 ft bgs with concentrations of 51,000/51,044 *u*g/kg; SB-06 at 3-4 ft bgs with concentrations of 15,000/15,022 *u*g/kg; SB-08 at 6-8 inches bgs with concentrations of 4,300/4,319 *u*g/kg; and SB-10 at 3-4 ft bgs with concentrations of 15,000/15,060 *u*g/kg. Although VOCs were present at SB-1, SB-2, SB-9, SB-11, SB-12 and SB-13, none were present at concentrations in excess of the respective RSCOs for PCE, TCE or 1,2-DCE .

One other VOC (acetone) was present at three soil sampling locations at the concentrations indicated: SB-1 (72 *u*g/kg); SB- 2 (54 *u*g/kg); and SB-4 (370 *u*g/kg). Only SB-4 had a reported concentration in excess of the RSCO for acetone of 200 *u*g/kg.

Of these soil sampling locations, SB-03 represents a sampling location, exterior, to the rear exhaust fans; SB-04/SB-08 are located at the northwest corner of the building, with SB-05 and SB-06 located along the northern wall of the building, in the area of the former exhaust pipe. The location of SB-05 and SB-06 are proximate or coincident with the previous soil sampling locations by others that resulted in the state designation of Class 2 for this property. SB-10 location is adjacent to the historic dumpster area, along its west side. These data appear consistent with respect to the field evidence (PID screening and other physical characteristics) as well as the overall patterns of site impacts indicated by soil gas analytical testing data. Of all soil sampling locations, the area of

highest soil impacts was present at the SB-4 location. A summary of the delineation of these site conditions is depicted in Figures 2 and 3.

Prior to the RI, groundwater impacts had not been previously confirmed at the subject site. During the remedial investigation, groundwater samples were obtained within the same borehole as the soil samples to provide comparable data. Thirty groundwater samples were collected from 13 temporary monitoring wells completed at ten foot intervals below the groundwater table interface (e..g, 15-17 feet bgs and 25-27 feet bgs).

All but one (GW-9) of the groundwater sampling locations reported elevated concentrations of dry-cleaning related VOCs, above their respective NYSDEC Standards or Guidance Values (SGVs). PCE is the primary constituent present at the highest concentrations (up to 300,000 *u*g/L) with the exception of one sampling location (GW-1) at the northwest corner of the building wherein daughter products of PCE such as vinyl chloride predominated. The highest concentrations of PCE were present in the shallow groundwater samples collected at the northwest and north sides of the building consistent with the soil sampling data at these locations. Localized groundwater flow direction was confirmed to be to the northwest.

In summary, three main locations of shallow PCE contamination were delineated: the north side of the building, the dumpster area and the rear of the building, exterior to the door and exhaust vents.

3.0 INTERIM REMEDIAL MEASURE - BIOREMEDIATION VIA MICRO-BAC

3.1 Bioremediation Agent

The objective of this work plan is to provide substantive details for the performance of an IRM that consists of the treatment of soil and shallow groundwater in-situ using a bioremediation technology formulated by Micro-Bac International, Inc. This consists of the injection of natural bacteria specifically targeted for the contaminant groups such as chlorinated compounds inclusive of PCE.

The Micro-Bac remediation products are natural, non-pathogenic, and are not genetically engineered. Micro-Bac's M-1000 products are natural bacteria developed specifically to supply safe, simple remedies for the clean-up of contaminated soils and groundwater. M-1000 microbes provide the following: faster remediation, thorough degradation, anaerobic capacity, higher than normal biological activity and more resistance to toxins. As necessary, nutrients are added in specific phases of the bioremediation projects; Micro-Bac's eight nutrient packages are specifically designed for use with M-1000 to enhance remediation success.

Micro-Bac Usage M-1000® consists of live, specifically selected biologicals and biochemicals, along with a supply of balanced nutrients in a ready to use liquid medium. The Micro-Bac Usage M-1000® products can be applied *in situ* or *ex situ*, as part of a bioreactor process, in landfarms, in biopiles, in pump and treat scenarios and in numerous other ways. For soil applications, the product can be sprayed, or the soil can be reduced to a slurry and circulated with added products. For vadose zone or groundwater applications, the product can be applied in wells or infiltration galleries. Often the addition of specially-formulated nutrients can be used to augment the activity of the product in conditions where macro nutrients such as carbon, nitrogen or phosphate are limited. In this instance, BEI is proposing to inject same into both unsaturated and shallow saturated zone.

Case studies have been performed on several sites in New York to address PCE and petroleum contamination in soil and groundwater. NYSDEC Spill closure was achieved for a petroleum-contaminated site in Mount Kisco, New York (see Attachments).

3.2 Application of Micro-Bac

In summary, three main locations of shallow PCE soil contamination were delineated: the north side of the building, the dumpster area and the rear of the building, exterior to the door and exhaust vents.

Based upon rough calculations of the areal extent of the soil contamination the following areas for treatment were identified for the purposes of the IRM:

- Dumpster area - 30 feet by 18 feet by 4 feet deep (80 cubic yards);
- Rear of building - 24 feet by 18 feet by 4 feet deep (64 cubic yards); and
- Area to north of building - 60 feet by 40 feet by 6 feet deep (533 cubic yards).

The injection into shallow soils will also include injection into the shallow (upper) portion of the underlying aquifer. Based upon the soils identified at the subject areas being logged as fine grained, high porosity, low to moderate permeability, an injection grid of 5 foot sphere of influence between injection points is proposed. Injections would be applied through 1-inch diameter 0.10 slot screen set into the soil column and upper two feet of groundwater via the Geoprobe direct push drilling system. The grout or ORC injection pump would be used for the application of Micro-Bac as it is most beneficial to apply pressure during the application of the bacteria to enhance the area of influence. The volume of each injection area would be based on the levels of contamination that are present at each area. The injection volumes would be pre-calculated per area prior to injection mobilization. M-1000H* and Tri-Phasic (nutrient mixture) can be injected separately or mixed together after the nutrients have been diluted.

Upon review of the Rose Cleaners site specific data, Micro-Bac scientists have recommended the following initial dose of Micro-Bac microbial solutions and nutrients.

- Six 55 gallon drums of M-1000H* microbial solution
- 30 1-gallon jugs of Tri-Phasic12 nutrient concentrate

The M-1000H* is injected full strength. Tri-Phasic12 must be diluted with 50-55 gallons of water per 1 gallon jug of nutrients. Both the M-1000H* and Tri-Phasic12 can be treated, prior to injection, with the addition of 2% potassium chloride which will assist in causing the fine-grained soils such as clay not to swell. This will keep any existing pathways open for greater penetration of the bacteria and nutrients. In 90 days after treatment, site data will determine if a second treatment event is required. A minimum temperature of 50° Fahrenheit is needed for best treatment results.

3.3 HASP & Engineering Controls

The site specific Health and Safety Plan developed for the RI will be used for the IRM. The plan will be adhered to by all personnel involved in the IRM. Incorporated into the plan is a section on community health and safety with measures to ensure the public living and working near the site, including facility employees or visitors, are protected from exposure to site contaminants during intrusive activities or on-site treatment actions.

According to correspondence provided by Micro-Bac, the USEPA does not require the regulation of the naturally occurring bacteria in use for this project. Therefore, no specific health and safety protocols are required relative to same. A Material Safety Data Sheet is provided as an attachment.

The following provides a summary of the engineering controls which will be maintained during the conduct of the IRM field activities, as necessary.

Dust Monitoring/Suppression

No dust will be generated as only geoprobe borings and small diameter monitoring wells will be installed. If necessary, fugitive dust levels will be monitored at several locations at the property in accordance with the project Community Air Monitoring Plan (CAMP) in order to protect on-site personnel and the surrounding community.

Fencing

During the IRM activities, fencing will be utilized to secure the three application areas from outside intrusions. The fence will be maintained as part of post-IRM activities.

3.4 Monitoring of IRM

A select number of representative application point wells will be used for the collection of groundwater samples, in addition to the existing monitoring well network. Groundwater samples

will be collected for Target Compound List Volatile Organic Compounds by EPA Method 8260 plus Tentatively Identified Compounds (TICs) at 90 days after application in order to ascertain the need for additional treatment. After supplemental treatment, and/or groundwater sampling, soil samples will be collected to evaluate the reduction in VOCs achieved in the unsaturated zone.

PROJECT SCHEDULE

Within 30 days of the approval of the IRM Work Plan, BEI can begin to perform the Micro-Bac application. It is anticipated that the IRM will take up to seven days to complete. Monitoring will be conducted on a quarterly basis. Soil borings and soil sampling will be performed when necessary. Receipt of certified laboratory data in these tasks will require up to 45 days; with an additional 30 days for data usability analysis. A final report will be issued within 60 days of receipt of validated testing data packages.

FIGURES

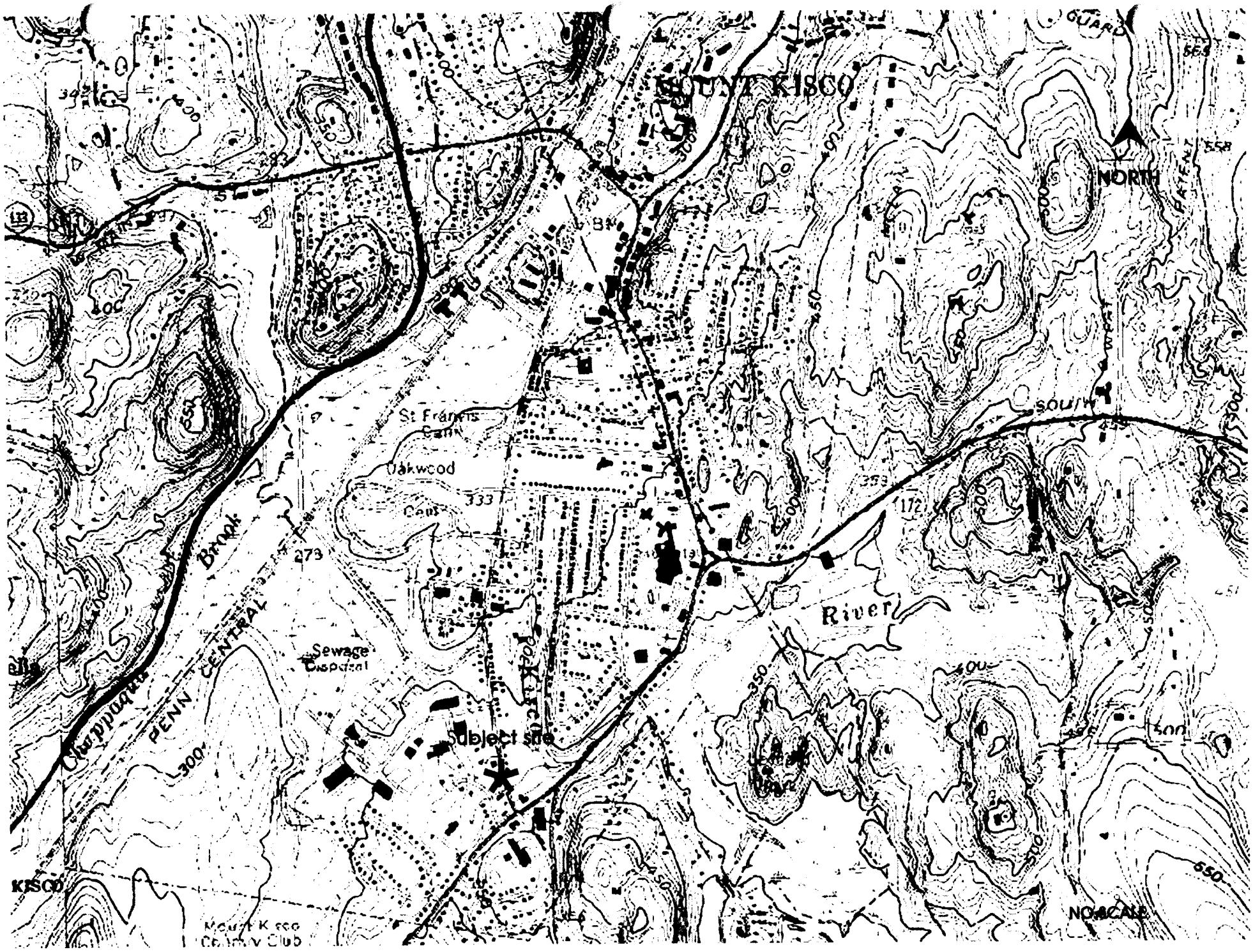
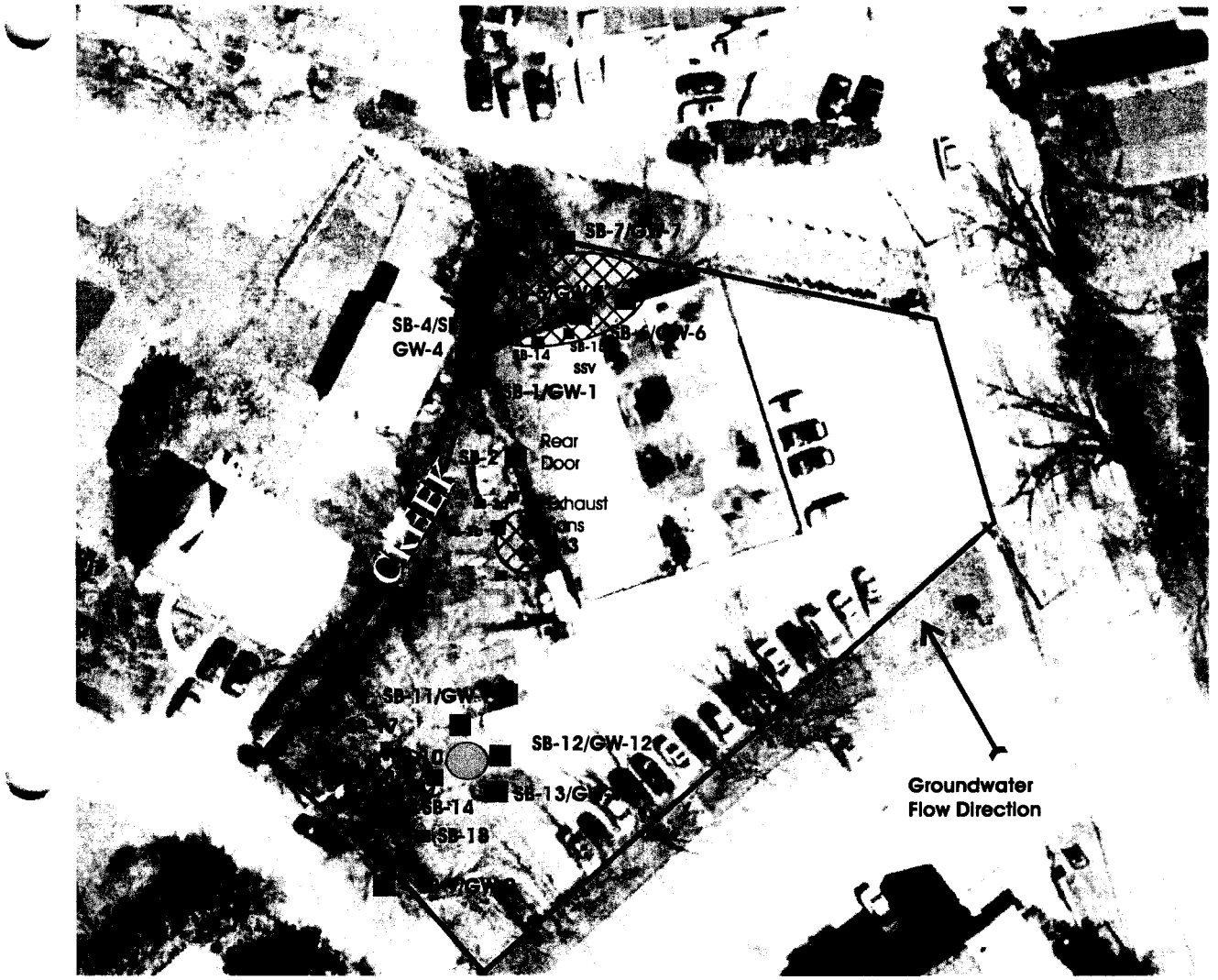


FIGURE 1 - SITE LOCATION AND TOPOGRAPHY



Soil Boring #	Depth, bgs	PCE	TCE	1,2-DCE	VC	TVOCs
SB-1	3-4 ft	270	26	260	ND	628
SB-2	5-6 ft	110	11J	170	ND	400
SB-3	4-5 ft	**34,000**	280	180	ND	34,460
SB-3A	4-5 ft	220	60	**730 J**	ND	1,010
SB-3B	4-5 ft	**1,300**	62	**460 J**	ND	1,408
SB-3C	4-5 ft	**11,000**	290	**3,600 J**	ND	14,890
SB-4	4-5 ft	**1,600,000**	**75,000**	**7,800 J**	ND	1,683,170
SB-5	3-4 ft	**51,000**	44J	ND	ND	51,044
SB-6	3-4 ft	**15,000**	10 J	12 J	ND	15,022
SB-8	6"-8"	**4,300**	13	6J	ND	4,319
SB-9	3-4 ft	ND	ND	ND	ND	ND
SB-10	3-4 ft	**15,000**	46	14	ND	15,060
SB-10A	4-5 ft	ND	ND	ND	ND	ND
SB-10B	5-6 ft	ND	ND	ND	ND	ND
SB-11	0.5 ft-1 ft	ND	ND	ND	ND	ND
SB-12	3-4 ft	740	22	21	ND	783
SB-13	0-3 ft	ND	ND	ND	ND	ND
SB-14 (inside)	4-5 ft	46 J	ND	ND	ND	ND
SB-14 (dumpster area)	5-6 ft	**8,200 J**	ND	ND	ND	8,200
SB-15(inside)	4-5 ft	ND	ND	ND	ND	ND

Notes:

- **SB-9/GW-9** - Soil & Groundwater Sampling Locations
- - Historic Dumpster Location
- - Soil pile
- - Approximate Area of Soils impacted with VOCs at concentrations exceeding applicable NYSDEC RSCOs

Scale

0 41 Feet

PCE - Tetrachloroehene; TCE- Trichloroethene; 1,2-Dichloroethene; VC - Vinyl Chloride; TVOCs - Total Volatile Organic Compounds; Bolded Value represent contaminant at concentration exceeding applicable NYSDEC RSCOs

'gure 2 - Supplemental
oil Sampling Locations & Areas
Of Soil Impacts
- September 2006

Rose Cleaners
500 Lexington Avenue
Mt. Kisco, New York

BEI BERNINGER ENVIRONMENTAL INC.
groundwater consultants and geologists
90 B Knickerbocker Avenue
Bohemia, New York 11716
Phone # (631) 589-6521
Fax # (631) 589-6528

Sample #	Depth, bgs	PCE	TCE	1,2-DCE	VC
GW-1	4-6 ft	14 J	ND	13,000	6,900
	14-16 ft	14,000	ND	110	42
	24-26 ft	2,300	ND	45	16 J
GW-2	5-7 ft	1,200	230	2,800	85
	15-17 ft	140	8	14	ND
	25-27 ft	220	8	32	ND
GW-3	5-7 ft	1,500	560	3,500	80 J
	15-17 ft	150	20	55	ND
GW-4	5-7ft	55,000	10,000	11,000	400
	15-17 ft	57,000	590	480	ND
	25-27 ft	12,000	430	440	ND
GW-5	5-7 ft	240,000	ND	ND	ND
	15-17 ft	300,000	2,200	1,100 J	ND
	25-27 ft	300,000	1,800	660 J	ND
GW-6	5-7 ft	34,000	860	360	6 J
	15-17 ft	2,500	50 J	22 J	ND
	25-27 ft	1,400	48 J	34 J	ND

Sample #	Depth, bgs	PCE	TCE	1,2-DCE	VC
GW-7	5-7 ft	1,200	32 J	81 J	ND
	15-17 ft	150,000	480	360	26
	25-27 ft	140,000	420	160	8 J
GW-9	5-7 ft	2 J	ND	ND	ND
	15-17 ft	2 J	ND	ND	ND
GW-10	5-7 ft	380	47 J	15	ND
	15-17 ft	120	17 J	7	ND
GW-11	5-7 ft	26	4 J	2 J	ND
	15-17 ft	17	ND	3 J	ND
GW-12	5-7 ft	5,800	1,200 J	220	ND
	15-17 ft	5,400	910 J	120	ND
	19.5-23.5 ft	5	ND	ND	ND
GW-13	5-7 ft	3,500	640 J	210	ND
	15-17 ft	1,900	560 J	330	ND
GW-14	5-9 ft	9,900	17	ND	ND
	15-19 ft	11,000	13	ND	ND

Sample #	Depth, bgs	PCE	TCE	1,2-DCE	VC
GW-15	5-9 ft	46	ND	ND	ND
	15-19 ft	560	ND	ND	ND
GW-16	5-9 ft	94	ND	ND	ND
	15-19 ft	32	ND	ND	ND
GW-17	6-8 ft	2,600	6	ND	ND
	16-18 ft	190	ND	ND	ND
GW-18	8-10 ft	280	22 J	ND	ND
	14-16 ft	68	ND	ND	ND
GW-19	5-7 ft	130,000	1,400	ND	ND
	15 - 17 ft	44,000	4,300 J	ND	ND

Prior Groundwater Sampling Locations

Prior Groundwater Sampling Location with Supplemental Sampling Depth Interval

Supplemental Groundwater Sampling Location

Scale

0 41 ft

PCE - Tetrachloroethene; TCE - Trichloroethene; 1,2-DCE - Dichloroethene; VC- Vinyl Chloride;

TVOCs - Total Volatile Organic Compounds. Bold # = Exceedance of NYSDEC Potable Groundwater SGVs or Surface Water SGVs

Figure 3- Supplemental Groundwater Sampling Locations - September 2006

Rose Cleaners
500 Lexington Avenue
Mt. Kisco, New York

BEI BERNINGER ENVIRONMENTAL INC.
groundwater consultants and geologists
90 B Knickerbocker Avenue
Bohemia, New York 11716
Phone # (631) 589-6521
Fax # (631) 589-6528

ATTACHMENTS

Rose Cleaners Suggested Site Remediation

Jill S. Haimson, CGWP, PG
Principal
Preferred Environmental Services
325 Merrick Av., 2nd Floor
East Meadow, NY 11554

Dear Jill,

Per the information that you sent me, and our discussion, I am recommending the following initial dose of Micro-Bac microbial solutions and nutrients. In 90 days after treatment, site data will determine if a second treatment event is required.

6 55 gallon drums of M-1000H* microbial solution
30 1 gallon jugs of Tri-Phasic12 nutrient concentrate

M-1000H* is injected full strength. Tri-Phasic12 must be diluted with 50-55 gallons of water per 1 gallon jug of nutrients.
Both the M-1000H* and Tri-Phasic12 can be treated, prior to injection, with the addition of 2% potassium chloride which will assist in causing the clay not to swell. This will keep any existing pathways open for greater penetration of the bacteria and nutrients.
A minimum temperature of 50° Fahrenheit is needed for best treatment results.

Rose Cleaners Suggested Site Remediation

When planning an injection grid, I would design your system using a 5 foot sphere of influence between injection points. The volume of each injection area would be based on the levels of contamination that are present.
M-1000H* and Tri-Phasic can be injected separately or mixed together after the nutrients have been diluted.

Since purified water is used as the carrier for the bacteria, greater penetration can be achieved, as opposed to working with a slurry.

You will find MSDS and Technical Data sheets for the solutions mentioned, along with this letter.

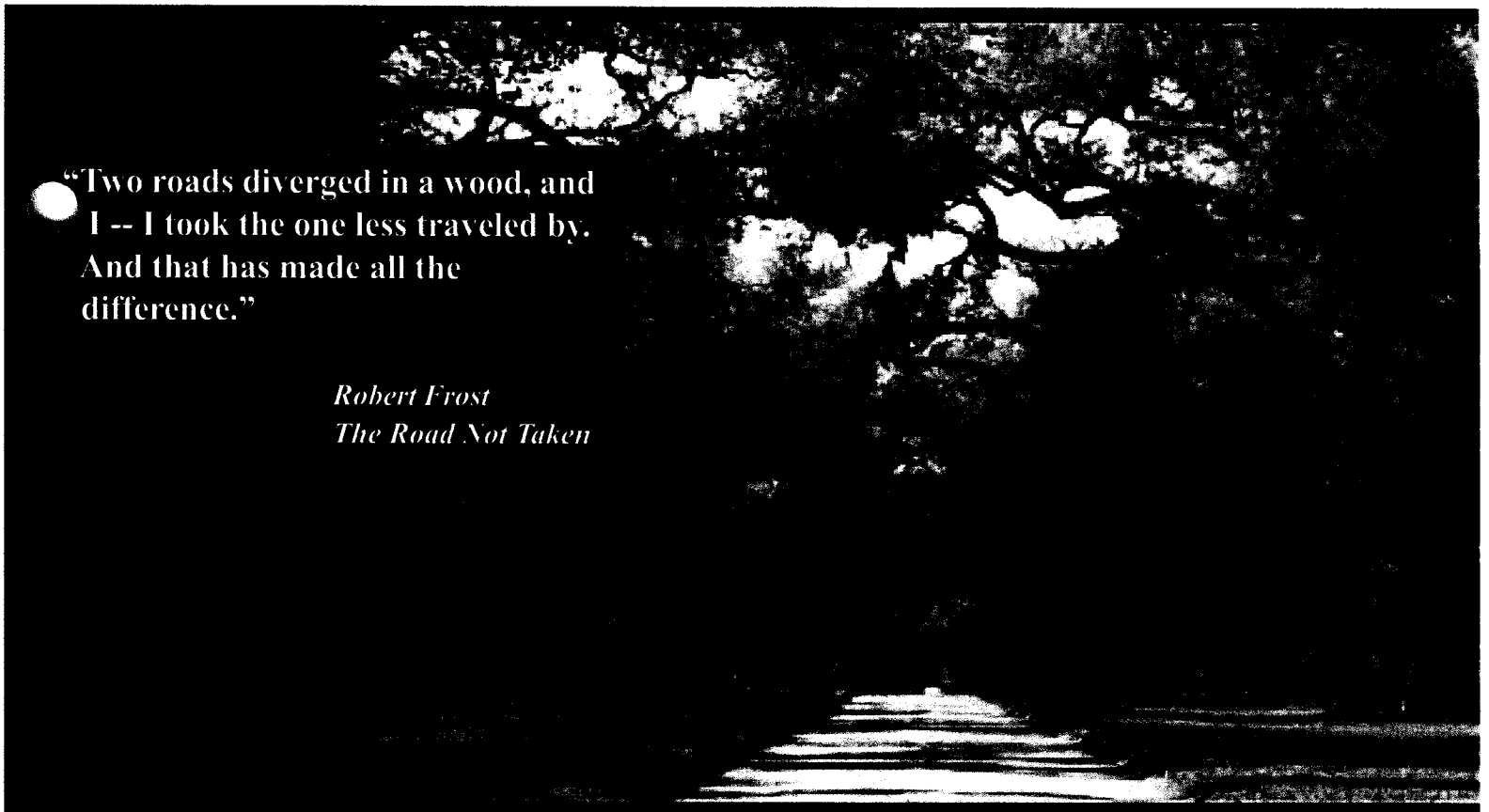
Please feel free to contact me with any questions that you may have.

Warmest Regards,

Jeff Donohue
Sales Manager
Micro-Bac International
jdonohue@micro-Bac.com
www.micro-bac.com
877-559-1800

Leading The N

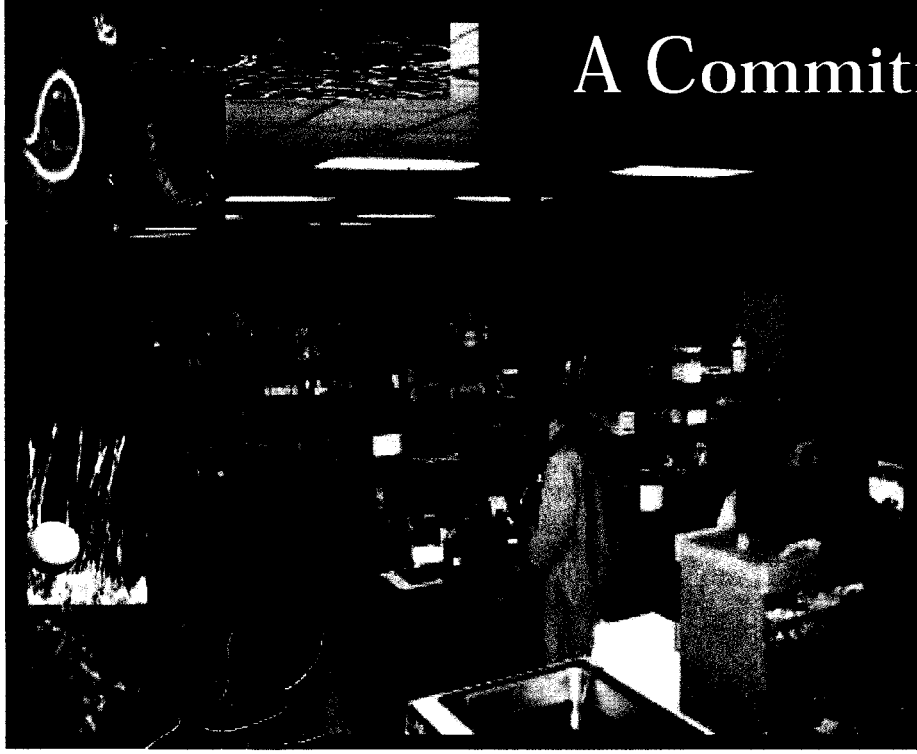
Micro-Bac International Inc.®



"Two roads diverged in a wood, and I -- I took the one less traveled by. And that has made all the difference."

Robert Frost
The Road Not Taken

When Micro-Bac International Inc. set out in 1979 to improve the environment and enhance the accessibility to the world's energy reserves, they had little more than a conscience and a vision. Today, Micro-Bac continues to create global solutions for our resource-strapped planet. From the critical issues with water and wastewater, to the detrimental effects of environmental contamination, to the challenges of efficient petroleum production, Micro-Bac is committed to solving these problems with innovative and environmentally friendly solutions. And that first step has made all the difference.



A Commitment to Innovation

Developing solutions for a marketplace that is fast approaching $1 trillion requires not only constant innovation, but a dedication to a new way of thinking. Toward this goal, Micro-Bac R & D teams are firmly committed to new ideas such as Green Integrated Technologies. By recognizing the value of integrating other key technologies, Micro-Bac ensures that new product development creates compatible and synergistic solutions for us all.

Unlocking the Secrets of the Universe

The key to solving the world's environmental and energy problems is apparent to those researchers who truly understand the dynamics of environmental biotechnology. Micro-Bac has spent decades compiling and maintaining one of the most extensive environmental culture collections in the world. Micro-Bac scientists continue to discover new biological solutions from the myriad that can be expressed under the diverse conditions that exist in the environment.

"The secrets to environmental solutions are ours for the taking."

Biotechnologies

Micro-Bac technologies are successfully being used in the following markets:*

- ◆Oil Production
- ◆Reservoir Stimulation
- ◆Refinery and Terminal Services
- ◆Paraffin and Scale Control
- ◆Fracture Damage Repair
- ◆Tank Cleaning
- ◆Bioremediation

Municipal Wastewater Treatment

- ◆Industrial Wastewater Treatment
- ◆Grease Trap Maintenance
- ◆Food Processing Waste
- ◆Waste Odor Control
- ◆Animal Waste Degradation
- ◆Animal Health

* Box color represents product line color

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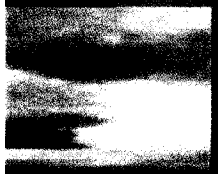
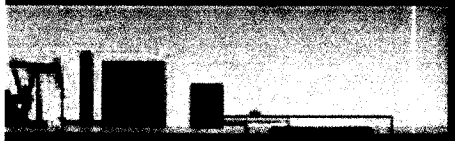
Soil & Grou dwater





Animal Waste Solutions

A Global Marketplace

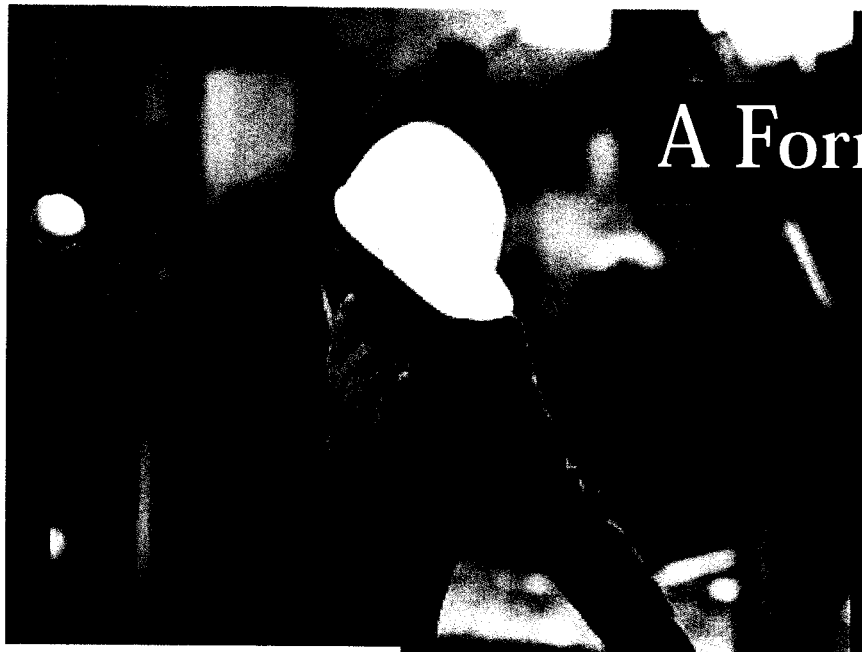
Strategically located business interests throughout the world.

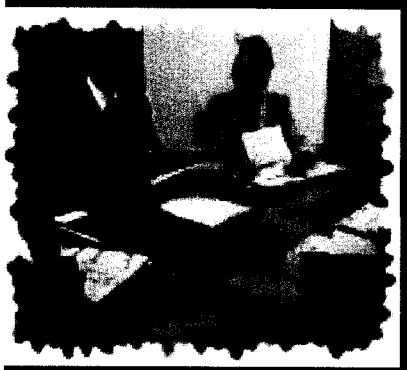
Micro-Bac has developed an impressive list of partnerships around the world that share our vision. It is the mission of the business development group to seek out those individuals which exemplify the entrepreneurial spirit and those businesses that realize the value in sharing strategies, time and resources.

Information

As advances in Information Technology rapidly unfold, Micro-Bac will continue to develop its seamless business and distribution channels. Using both internet and intranet capabilities, our goal is to link partners, distributors, industries and customers with the latest information, the best products and the most innovative platform from which to build business.

A Formula for Success

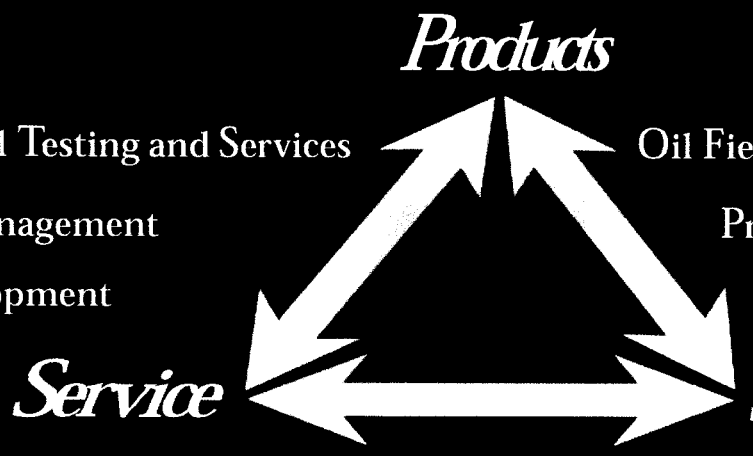




Today more than ever, businesses need to build strong relationships to stay competitive.

From distributors to joint ventures to strategic alliances, Micro-Bac continues to refine its business models for success. All Micro-Bac distributors are trained both technically and in business development to ensure long term success and greater market growth.

A Full Service Company



Analytical Testing and Services

Project Management

Business Development

Oil Field Engineering Services

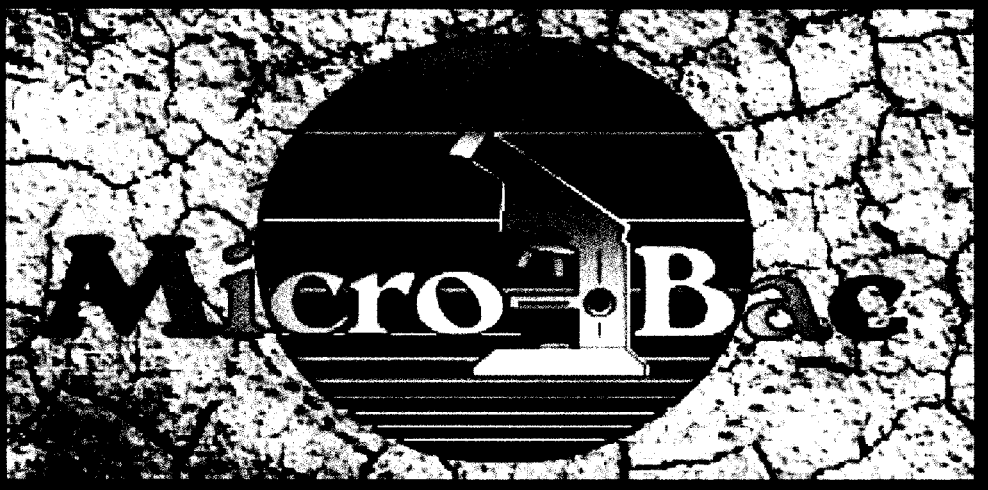
Product Application Support

Marketing Support

Leading the New Direction

The new direction requires us to address the Earth's diminishing resources with a dynamic consortium of science, business and vision. Micro-Bac is at the forefront of this revolution by combining biological innovation and information technology to develop safe, alternative solutions for cleaning up the environment.

The new direction has just begun and Micro-Bac is leading the way.



Micro-Bac International Inc.
3200 N. I H 35 • Round Rock, TX 78681
Ph: 512-310-9000 • Fax: 512-310-8800
Email: mail@micro-bac.com • Web: www.micro-bac.com

M-1000H★
Biodegradation Lab Study

SUBSTANCE: PCE Contaminated water

TESTING: Groundwater samples were obtained to perform a four week biodegradation study. The study was conducted such that each sampling point had a sterilized sample, a control sample, and test samples with bacteria only, with nutrients only, and with bacteria and nutrients.

The samples were incubated at 35°C in containers sealed to minimize any volatilization. Samples were analyzed by U.S. EPA method 8260 for volatile organics.

RESULTS: The following compounds were found in the samples: 2-butanone, acetone, benzene, ethylbenzene, m,p xylenes, methylene chloride, 0-xylenes, t1,2 dichloroethene, tetrachloroethene (PCE), toluene, and trichloroethene. No vinyl chloride was detected in any sample prior to treatment.

The principal contaminants found were 2-butanone (methyl ethyl ketone) at 12,000 micrograms per liter and tetrachlorethene (PCE) at 49,000 micrograms per liter. All other contaminants were in the in the 200 micrograms per liter or less range. Volatilization appeared to be minimal as levels of 2-butanone and methylene chloride in the control were maintained throughout the incubation period.

Good evidence for biodegradation of the various pollutants was found. The M-1000H★ treated samples consistently produced levels lower than the uninoculated controls. The level of biodegradation ranged from >99% for 2-butanone to >97% for tetrachloroethene by week four. (see table below)

		2-butanone	tetrachloroethene
	Starting concentrations	12,000	49,000
Day 7	Control	10,000	17,000
	Bacteria	<100	4,000
Day 14	Control	14,000	270
	Bacteria	<100	11
Day 21	Control	9,200	27
	Bacteria	<100	<5
Day 28	Control	12,000	210
	Bacteria	<100	<5

Methylene chloride exhibited the least amount of biodegradation (19% decline), and by week four was the only pollutant out of eleven still detected in the samples. Vinyl chloride was not detected in any of the samples following treatment.

Micro-Bac®

Biological products for a clean, safe environment.

December 21, 1998

TO: Valued Customers and Interested Parties

RE: EPA Regulation of Microorganisms

MESSAGE:

For several years, the Environmental Protection Agency of the United States (USEPA) has not regulated naturally-occurring microorganisms of the types and kinds produced for almost 20 years by Micro-Bac International, Inc.® (MBI). Though they have always reserved the right to regulate, it should be noted that they have never seen the need to exercise their authority in this regard. Every few years, historically, they have restated this position and the latest rendition of that restatement was received in our corporate offices earlier this month (see attached). This reiteration is the result of an act passed in April of 1997.

In summary, the Toxic Substances Control Act (TSCA) does not consider naturally occurring microbes "new" and so they are not subject to reporting prior to their "use for commercial purposes." The agency still retains its right to regulate "if there are indications of adverse human health or environmental effects" but, again, the USEPA has never "exercised such authority" over naturally occurring microorganisms.

Should there ever be adverse health or environmental effects, MBI is required to keep records (Section 8, c) and, if necessary, report to the agency any indication of "substantial risk of injury to health or the environment" (Section 8, e). In our 18 years, there has never been an incident of injury to health or environment stemming from the use of MBI products worldwide. Accordingly, record keeping and reporting to the agency has been historically unnecessary and is not currently required nor anticipated to be required.

Further, since our microbial products are in no way genetically engineered, none of the TSCA rules concerning so called intergeneric products has any application to MBI products or our clients who use them.

Please feel free to call or write if there are any questions.

Dr. Dennis Schneider, Ph. D.
Corporate Vice President
Director, Research and Development

MICRO-BAC INTERNATIONAL, INC.® • 3200 N. IH 35 • ROUND ROCK, TEXAS • USA • 78681-2410 • (512) 310-9000 • FAX (512) 310-8800

M-1000 Products For Contaminated Waste

The Problem Contamination of soil and groundwater comes from dozens of sources but the majority of contaminants are hydrocarbon-based. This means that they have an organic basis for their composition and that they can be broken down into something that no longer pollutes. Sometimes, the environment can naturally break down pollutants over a long period of time. More often, site conditions, time constraints, business interests and risk evaluations require a faster remedy like the M-1000 line of bacterial products.

The Solution Cost-effective, flexible and easy to apply, Micro-Bac's M-1000 products are natural bacteria developed specifically to supply safe, simple remedies for the clean-up of contaminated soils and groundwater. M-1000 adds a second army of microbes to the area and these extra-strength bacteria go to work to help provide...

- Faster remediation
- Thorough degradation
- Anaerobic capacity
- Better activity
- More resistance to toxins
- Multiple bacteria capability

The Benefits M-1000 products have a 95% success rate on bioremediation projects around the world, assuring that you will achieve project closure approvals more quickly, easily and economically than most mechanical or chemical technologies. The Micro-Bac remediation products are specifically targeted for the contaminant groups most frequently encountered; including products for TPH, PAH, PCBs, other aromatics, other chlorinated compounds, gasolines, crude oils, and jet fuels, to name a few. Compared to almost every other approach, M-1000 products are cost-effective. They work either anaerobically or aerobically. They require no expensive machinery. They withstand most bio-toxins and chemicals and by remediating the site more quickly, they will save you time and money on monitoring expenses, escrow fees, bank interest, penalties and lack of revenue.

The Usage M-1000® products can be applied *in situ* or *ex situ*, as part of a bioreactor process, in landfarms, in biopiles, in pump and treat scenarios and in numerous other ways. They work well as an augmentation to other methods or as a stand-alone solution. Our clients are backed up by the modern lab facilities and excellent technical support of Micro-Bac International - a developer of environmental biotechnology products for industries throughout the world.

*Adding Nutrients...*Remediation specialists recognize the benefits of including nutrients in their bioremediation projects. Providing vitamins and trace minerals necessary for maximum performance, Micro-Bac's eight nutrient packages are tailored for use with M-1000 for remediation success.

The Application Applying microbes and nutrients from Micro-Bac is simple. There's no need for special equipment or handling. But if necessary, diagrams are supplied for unique remediation protocols.

The Acceptance M-1000 products are non-pathogenic, non-toxic and non-chemical. The EPA has seen no cause to regulate these natural products and they are used throughout the United States, Canada, Brazil, China, Japan, England, Venezuela and most of Europe.

MSDS Summary for M-1000 Products	
Appearance:	Light pink to tan liquid with moderate odor
Density:	8 lbs./gallon
Flash point:	None
Shelf life:	6-12 months at 13-32 degrees C
Handling:	No special handling required, gloves/goggles suggested
Disposal:	Flush with clean water
Hazards:	None
Water Soluble:	Yes

Bioremediation of MTBE and Gasoline Range Organics

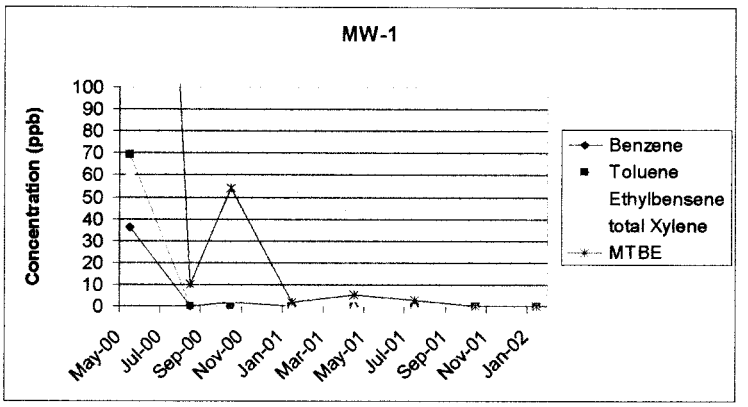
MOUNT KISCO NEW YORK TRANSFER STATION

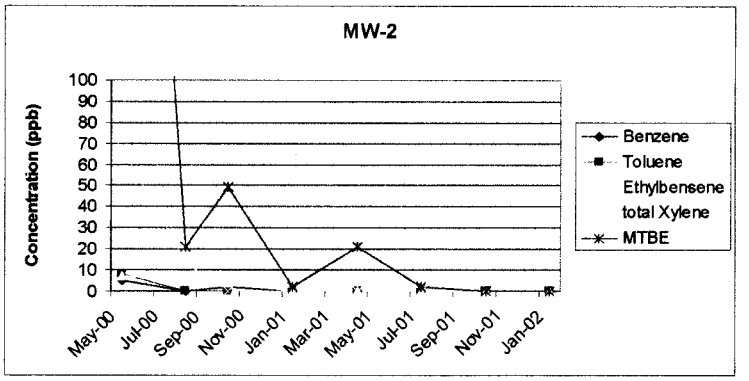
On March 8, 2000, National Environmental Specialists Inc. (NES) removed (2) 550-gallon gasoline UST's from a concrete vault at the above referenced site. During removal activities, NES encountered petroleum contaminated soil. On site factors (high pressure sewer lines, offices, and shallow ground water) prevented further excavation and ground water monitoring wells were installed to determine any residual gasoline impact on sensitive receptors in the area.

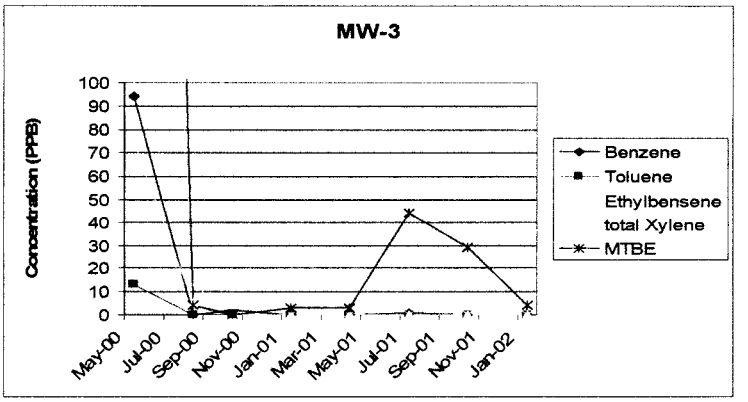
An increase in target analytes, particularly MTBE, in December 2000 and again in April 2001, prompted a request from New York State Department of Environmental Conservation (NYSDEC) for aggressive remedial action. NES responded to this request by employing biological remediation technology. They installed several injection points throughout the plume, and injected a recommended mix of hydrocarbon-degrading microorganisms (M-1000H*) and micronutrients (OSNF#1) from Micro-Bac International Inc.

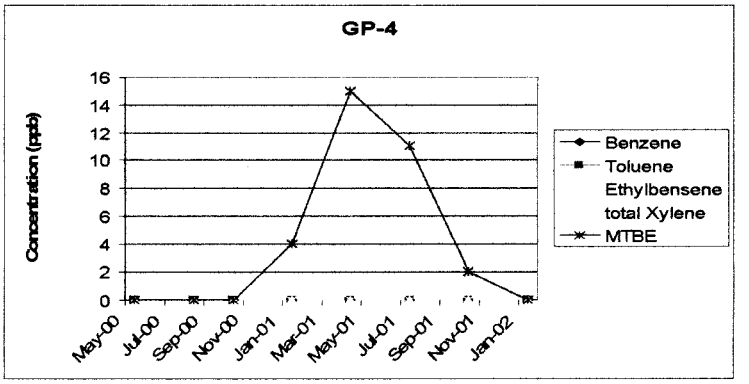
NES continued to collect data from the monitoring wells on a quarterly basis. Target analytes decreased significantly during the months following the injection event (see accompanying graphs). Within 12 months, all concentrations of target contaminants (benzene, toluene, ethylbenzene, total Xylene and MTBE) decreased to a point below the NYSDEC Guidance Values; TAGM # 4046.

NES requested the closure letter on this site from NYSDEC Region 3 and the letter "requiring no further action" was dated APRIL 22, 2003. *(Please see page 2.)*

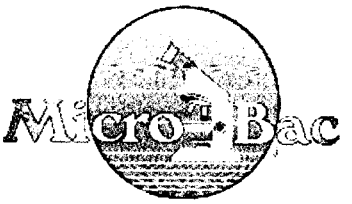








Bioremediation of MTBE and Gasoline Range Organics, *side 2*



New York State Department of Environmental Conservation
Division of Environmental Remediation, Region 3
21 South Putt Corners Road, New Paltz, New York 12561-1696
Phone: (845) 256-3112 • **FAX:** (845) 255-2987
Website: www.dec.state.ny.us

Erin M. Crotty
Commissioner

April 22, 2003

Scott Taylor
National Environmental Specialists
26 Broadway
Hawthorne NY 10532

RE: Spill #9913342, Mount Kisco Sewer Transfer Station

Dear Mr. Taylor:

Based on your April 16, 2003 report, the above spill number is considered closed and the Department is requiring no further action on this site at this time.

Very truly yours,

John O'Mara, P.E.
Environmental Engineer II
Region 3

JOM:th

cc: T. Ghiosay
File

● TECHNICAL DATA
TRI-PHASIC 12™

BIOLOGICAL STIMULANT

General Description

TRI-PHASIC 12™ is a proprietary blend of vitamins, minerals and organic nutrients used to stimulate microbial activity in product applications for Micro-Bac® International biological products where indigenous nutrients are insufficient to support optimal microbial activity. Such applications include bioremediation of contaminated soil and water. TRI-PHASIC 12™ may also be used in the remediation of oligotrophic waters and tank bottoms. By lowering the carbon/nitrogen ratio, biodegradation is enhanced and mineralization is promoted. TRI-PHASIC 12™ is supplied in an easy-to-use colloidal liquid form that flows and is freely soluble in water. It is designed to be used in conjunction with Micro-Bac® International products such as M-1000H*™.

Product Formula

TRI-PHASIC 12™ contains all the major and minor mineral compounds as well as defined vitamins required by the specific microorganisms used in the Micro-Bac® International products. It supports maximal activity of these microorganisms under both aerobic and anaerobic conditions.

Product Specifications

Color	dark brown layers
pH concentrated	circa 4.3
pH diluted	5-8
Shipping Size	1 gal. container
Odor	mild
Wt. per Gal.	11.4 lbs.
Specific Gravity	1.30
Solubility	> 2 gal. per 100 gal water

Dosage

Micro-Bac's® technical staff can provide dosage recommendations based on the design and volumes of the project site. For example one container of Tri-Phasic 12™ nutrient is generally used with 50 cubic yards of contaminated soil.

Application

TRI-PHASIC 12™ is generally dissolved in water at a rate of 1 container per 55 gallons. It is generally applied after and occasionally simultaneous with microbial treatments.

Handling & Safety

TRI-PHASIC 12™ is a natural product that meets EPA requirements for release into the environment. Special clothing and equipment are not required for handling TRI-PHASIC 12™ although contact by inhalation or touch should be avoided and the use of gloves and a dust respirator is suggested. Routine hygiene should be observed.

Shipping

TRI-PHASIC 12™ is shipped in a one gallon container, F.O.B. Round Rock, Texas

Service

When the use of TRI-PHASIC 12™ is indicated through testing, Micro-Bac® provides technical support and treatment design to its customers.

©Micro-Bac® International, Inc. • 3200 N IH 35 • Round Rock, TX 78681-2410
(512)310-9000 • Toll-Free (877)559-1800 • Fax (512)310-8800 • E-mail: mail@micro-bac.com • Website: http://www.micro-bac.com

#2 Fuel Oil *In Situ* Bioremediation

Project A Massachusetts residential property identified #2 fuel oil underneath the basement floor. The oil release came from a leaking above-ground storage tank located next to the foundation. A subsequent site investigation found TPH (total petroleum hydrocarbon) levels as high as 4,500 ppm in the soil underneath the basement floor.

Treatment Cost estimates to remove the foundation and basement floor, as well as the contaminated soil, ranged from $150,000 to $200,000. The owner selected bioremediation as an alternative solution for elimination of the fuel oil contamination. A series of six-inch diameter holes were drilled through the basement floor, and M-1000H*®, OSNF #1 nutrients and water were metered into the holes to assure thorough penetration and proper soil saturation. Moisture and nutrient levels were monitored and maintained. After five months, the TPH levels were reduced to less than 500 ppm, except in one small area where hard-pan soil lenses prevented proper saturation. The concrete floor was removed in this area, the soil broken up, and the area treated with bacteria and nutrients.

Results The contaminant levels in the problem area immediately started to drop following treatment, and by the end of seven months, that area also showed TPH values well below the target 500 ppm. The next month, confirmation testing showed that all areas complied with state clean-up standards. The total cost to remediate the site was less than $25,000.

TPH Results of Soil Contaminated with No. 2 Fuel Oil

Date	Sampling Locations					
	S-1	S-2	S-3	S-4	S-5	S-3
6/13/94	4,000	ND	2,600	ND	4,000	13
1/27/95	BBP	BBP	BBP	BBP	BBP	BBP
3/12/95	1,632	2,378	387	717	1,028	ND
4/6/95	1,632	1,270	240	800	249	5.7
7/25/95	349	ND	ND	ND	ND	ND
10/5/95	230	590	ND	ND	470	370

- BBP: Began bioremediation program
- ND: Not detected

Notes:

1. All samples collected after the bioremediation program began (1/27/95) were tested for total petroleum hydrocarbons (TPH) using EPA method D-3328 (GC-FID). All reported concentrations shown above are in parts per million (ppm).
2. Only one soil sample, collected on 7/25/95 at the S-1 location was tested for TPH to give a general indication of the bioremediation progress. The sample collected was taken after the soil (from existing grade to two feet below) under the concrete floor was roto-tilled.
3. Soil samples collected on 10/5/95 are the results of the final testing program to determine if the average concentration of the remediated soil is below the Method 1 GW-1/S-1 of 500 ppm for TPH.

Information courtesy of CJH Environmental, Inc., Stoughton, MA.

PROFESSIONAL ENGINEER'S CERTIFICATION

CERTIFICATION:

I hereby certify that I have personally reviewed this Interim Remedial Measure Work Plan (IRM WP) developed for the subject property pursuant to the requirements of an executed Order on Consent (December 22, 2003) between the New York State Department of Environmental Conservation (NYSDEC), Division of Environmental Remediation (DER), and LRB Cleaners, Inc., the Respondent. The site is located at 500 Lexington Avenue, Mt. Kisco, New York 10549, fully described at Dist. 80.64, Section 01, Lot 14. (See Figure 1). The site occupant and operator is Rose Cleaners. This work plan was prepared by Jill S. Haimson, PG, CGWP Project Manager under my supervision.

SEAL

John V. Soderberg, P.E.

Signature:

New York State P.E. License No.
049975

NYSDEC Drycleaner owner/Manager Certification No.
1606320604

Dated: March 7, 2007