SIGMA
ENVIRONMENTAL SERVICES INC.

220 East Ryan Road
Oak Creek, WI 53154-4533
414-768-7144
FAX: 414-768-7158

March 3, 2002 2003?

Project Reference #7029
FID #241170270
BRRTS #02-41-278106

Ms. Gina Keenan
Wisconsin Department of Natural Resources - Southeast Region
2300 N. Dr. ML King Drive
P.O. Box 12436
Milwaukee, WI 53212-0436

Re: **WORK PLAN ADDENDUM**
Fritzke Colony Dry Cleaner Property
10003 West Carmen Avenue
Milwaukee, Wisconsin

Dear Ms. Keenan:

In compliance with NR 169.21 (2)(e), this letter has been prepared as an addendum to the Wisconsin Department of Natural Resources (WDNR) approved Sigma Environmental Services, Inc. (Sigma) January 31, 2002, work plan for subsurface investigation work for the Fritzke Colony Dry Cleaner Property. As outlined in the approved work plans, Sigma has implemented and completed the installation and sampling of test soil borings and groundwater monitoring wells at the above referenced site.

On June 24 and 25, 2002, Sigma supervised the advancement of three soil borings and the installation of three groundwater monitoring wells at the site. Selected soil samples were submitted to the project laboratory for Volatile Organic Compound (VOC) analysis. Based on a review of the soil analytical results, Tetrachloroethylene (PCE) was detected at a concentration of 30,000 µg/kg in a soil sample collected at MW-1 from a depth of 5 to 7 feet below ground surface (bgs) and Cis-1,2-Dichloroethene was detected at a concentration of 2,000 µg/kg in a soil sample collected at MW-3 from a depth of 3 to 5 feet bgs.

On July 1, 2002, and October 2, 2002, groundwater samples were collected from the site monitoring wells and submitted to the project laboratory for VOC analysis. The depth to groundwater in the monitoring wells was approximately 32 feet bgs. The groundwater flow direction observed during each event was to the northeast. A review of the groundwater analytical results indicates that no VOCs were detected in the groundwater samples at concentrations that exceed the laboratory method detection limit. In order to provide additional assurance that groundwater is not impacted at the site, Sigma proposes one additional round of groundwater sampling.

Based on a review of the site environmental data generated to date, Sigma recommends the installation of seven additional Geoprobe soil borings at the site to further delineate the extent of chlorinated impacts to soil to the northwest of the site building in the area of monitoring well MW-1, to the northeast of monitoring well MW-3, to the northwest of GP-2 and evaluate the potential for contaminant migration in the area of the water and sewer mains that enter the property from Carmen Avenue. The soil borings will be advanced to a depth of approximately eight feet bgs.

Two soil samples from each soil boring (12 samples total) collected during soil boring advancement will be submitted for EPA Method 8021 VOC analysis. All site data generated will be included in a comprehensive site investigation report.

A summary of site data including a map of the current site layout, proposed boring locations, groundwater flow direction, soil quality and tables presenting soil and groundwater quality data generated to date are presented as Attachment 1.

In addition, Sigma will coordinate the disposal of the soil auger waste generated at the site at an appropriate facility. An "Approval for Solid Waste Disposal Contained-In Determination" request was submitted by Sigma to the WDNR on November 25, 2002. The scope of work and associated costs to complete the above referenced activities and adequately delineate the extent of identified impacts are anticipated to exceed the WDNR approved scope of work and cost by more than $3,000. Therefore, presented as Attachment 2 to this letter for WDNR approval is a breakout of anticipated additional project costs. It is recommended due to the elevated concentration of detected compounds and the pending sale of the property, that the proposed activities be implemented as soon as possible.

Upon your review of the attached information should you have any questions, please contact our office at (414) 768-7144.

Respectfully submitted,

SIGMA ENVIRONMENTAL SERVICES, INC.

Martin D. Nessman, PG
Project Hydrogeologist

Randy E. Boness, P.G.
Senior Scientist

attachments

cc: Mr. Tom Fahl
Mr. Don Fritzke

ATTACHMENT 1

Table 1
Soil Quality Results - Geoprobe Borings*
Fritzke Colony Dry Cleaners
10003 W. Carmen Avenue
Milwaukee, WI

Boring ID		GP-1	GP-1	GP-2	GP-3	NR 720 RCL	NR 746 Table 1	NR 746 Table 2
Depth (feet bgs)		2-4	14-16	2-4	2-4			
Date	Units	07/03/2001	07/03/2001	07/03/2001	07/03/2001			
Volatile Organic Compounds								
Benzene	µg/kg	<25	<25	<25	<25	5.5	8,500	1,100
Ethylbenzene	µg/kg	<25	<25	<25	<25	2,900	4,600	---
Toluene	µg/kg	<25	<25	<25	<25	1,500	38,000	---
Xylenes	µg/kg	<25	<25	<25	<25	4,100	42,000	---
cis-1,2-Dichloroethene	µg/kg	<25	<25	**453**	<25	---	---	---
trans-1,2-Dichloroethene	µg/kg	<25	<25	**109**	<25	---	---	---
Tetrachloroethene	µg/kg	<25	<25	<25	<25	---	---	---

KEY:

*	Samples collected by Key Environmental.
µg/kg	micrograms per kilogram
---	No standard established
BOLD	Analyte detected above laboratory detection limit.
NR 720 RCL	Chapter NR 720 Generic Resudual Contaminant Limit
NR 746 Table 1	Chapter NR 746 Table 1, Indicators of Residual Petroleum Products.
NR 746 Table 2	Chapter NR 746 Table 2, Protection of Human Health from Direct Contact with Contaminated Soil.

Table 1
Soil Quality Results - Monitoring Wells
Fritzke Colony Dry Cleaners
10003 W. Carmen Avenue
Milwaukee, WI

Boring ID		MW-1	MW-1	MW-2	MW-2	MW-3	MW-3	NR 720 RCL	NR 746 Table 1	NR 746 Table 2
Depth (feet bgs)		5-7	13-15	7-9	17-19	3-5	10-12			
Date	Units	06/24/2002	06/24/2002	06/25/2002	06/25/2002	06/26/2002	06/26/2002			
Volatile Organic Compounds										
Benzene	µg/kg	<130	<25	<25	<25	<25	<25	5.5	8,500	1,100
Ethylbenzene	µg/kg	<130	<25	<25	<25	<25	<25	2,900	4,600	**
Toluene	µg/kg	<130	<25	<25	<25	<25	<25	1,500	38,000	**
Xylenes	µg/kg	<130	<25	<25	<25	<25	<25	4,100	42,000	**
cis-1,2-Dichloroethene	µg/kg	<130	<25	**42**	<25	**2,000**	<25	**	**	**
trans-1,2-Dichloroethene	µg/kg	<130	<25	<25	<25	**110**	<25	**	**	**
Tetrachloroethene	µg/kg	**30,000**	<25	<25	<25	**130**	<25	**	**	**

KEY:
µg/kg micrograms per kilogram
** No standard established
BOLD Analyte detected above laboratory detection limit.
NR 720 RCL Chapter NR 720 Generic Resudual Contaminant Limit
NR 746 Table 1 Chapter NR 746 Table 1, Indicators of Residual Petroleum Products.
NR 746 Table 2 Chapter NR 746 Table 2, Protection of Human Health from Direct Contact with Contaminated Soil.

Table 3
Groundwater Analytical Results
Fritzke Colony Dry Cleaners
10003 W. Carmen Avenue
Milwaukee, WI

Monitoring Well #		MW-1		MW-2		MW-3		NR 140	NR 140
Date	Units	07/01/2002	10/02/2002	07/01/2002	10/02/2002	07/01/2002	10/02/2002	ES	PAL
Volatile Organic Compounds									
Benzene	µg/l	<0.48	<0.25	<0.48	<0.25	<0.48	<0.25	5	0.5
Ethylbenzene	µg/l	<0.43	<0.53	<0.43	<0.53	<0.43	<0.53	700	140
Toluene	µg/l	<0.47	<0.84	<0.47	<0.84	<0.47	<0.84	1,000	68.6
Xylenes	µg/l	<1.4	<1.83	<1.4	<1.83	<1.4	<1.83	10,000	1000
cis-1,2-Dichloroethene	µg/l	<0.73	<0.81	<0.73	<0.81	<0.73	<0.81	70	7
trans-1,2-Dichloroethene	µg/l	<0.79	<0.80	<0.79	<0.80	<0.79	<0.80	100	20
Tetrachloroethene	µg/l	<0.57	<0.63	<0.57	<0.63	<0.57	<0.63	5	0.5

KEY: µg/l micrograms per liter

Table 1
Static Groundwater Elevation Measurements
Fritzke Colony Dry Cleaners
10003 W. Carmen Avenue
Milwaukee, WI

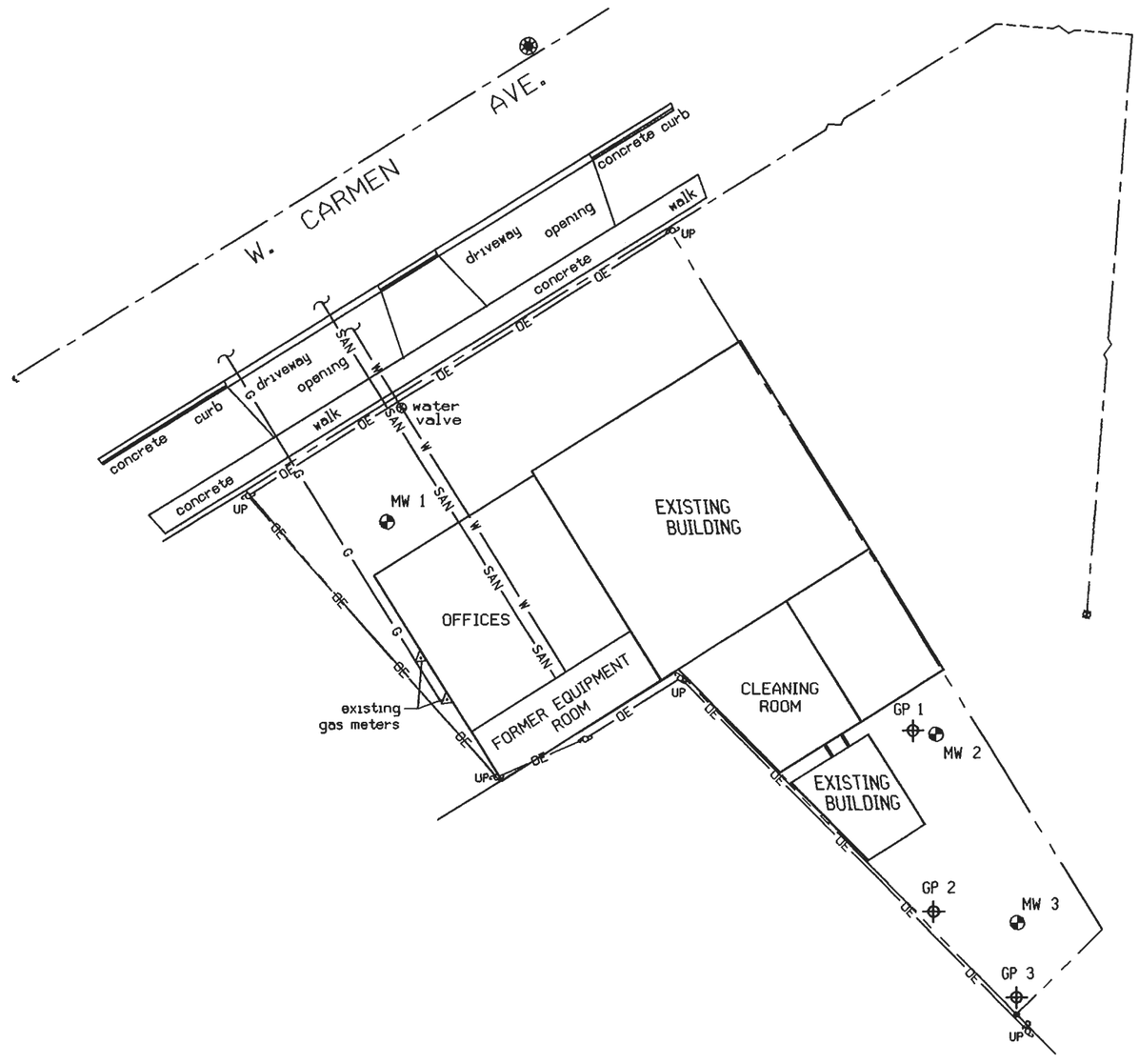
Well Identification	Elevation Top Of Casing	Depth to Water (Below Top of Casing)	Groundwater Elevation	Date
MW-1	752.74	31.99	720.75	07/01/2002
		34.50	718.24	10/02/2002
MW-2	751.78	32.99	718.79	07/01/2002
		40.13	711.65	10/02/2002
MW-3	750.77	31.4	719.37	07/01/2002
		33.05	717.72	10/02/2002

Elevations based on site survey by Surveying Associates, July 22, 2002.

Table 4
Groundwater Natural Attenuation Parameters
Fritzke Colony Dry Cleaners
10003 W. Carmen Avenue
Milwaukee, WI

Sample		MW-1		MW-2		MW-3	
Date	Units	07/01/2002	10/02/2002	07/01/2002	10/02/2002	07/01/2002	10/02/2002
Dissolved Oxygen	mg/L	0.18	NA	0.23	NA	0.32	NA
Redox	mV	-201.4	231.2	-176.7	281.7	67.5	301.2
pH	--	7	7	7	7	7	7
Ferrous Iron	mg/L	0	0	0	0	0	0
Temperature	° C	15.7	NA	15.6	NA	15.2	NA
Sulfate	mg/L	NA	NA	NA	NA	NA	NA
Nitrogen, Nitrate	mg/L	NA	NA	NA	NA	NA	NA
Manganese	mg/L	NA	NA	NA	NA	NA	NA

Key:		
	NA	Not Analyzed
	mg/l	milligrams per liter
	mV	millivolts
	--	unitless
	° C	degrees Celsius



N

LEGEND

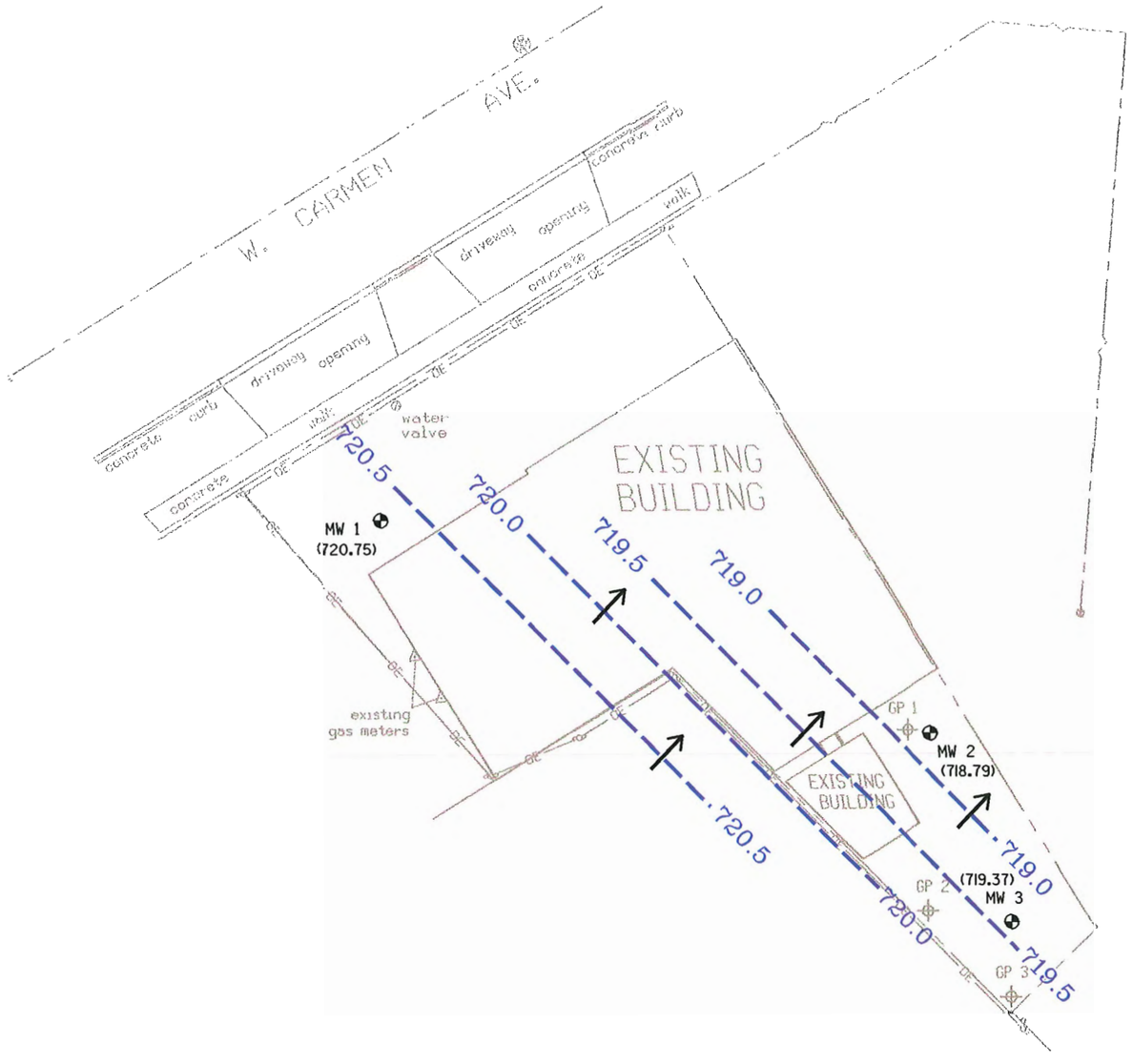
- GP ⊕ = GEOPROBE BORING LOCATION
- MW ⊕ = MONITORING WELL LOCATION
- UP ∞ = UTILITY POLE
- —— OE —— = OVERHEAD UTILITY LINE
- —— G —— = UNDERGROUND GAS LINE
- —— SAN —— = UNDERGROUND SANITARY SEWER LINE
- —— W —— = UNDERGROUND WATER LINE
- —— – —— = PROPERTY LINE

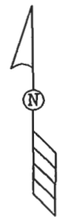
GRAPHIC SCALE

0 15 30 60

NOTE:
MAP BASED ON SURVEY PERFORMED ON 7-22-02, BY SURVEYING ASSOCIATES, INC.

FRITZKE PROPERTY MILWAUKEE, WI			SIGMA ENVIRONMENTAL SERVICES INC.
DATE: 1-17-03	DR. BY: BEB	DR.# 7029-002	SCALE: 1" = 30'
SITE PLAN MAP			FIGURE 2





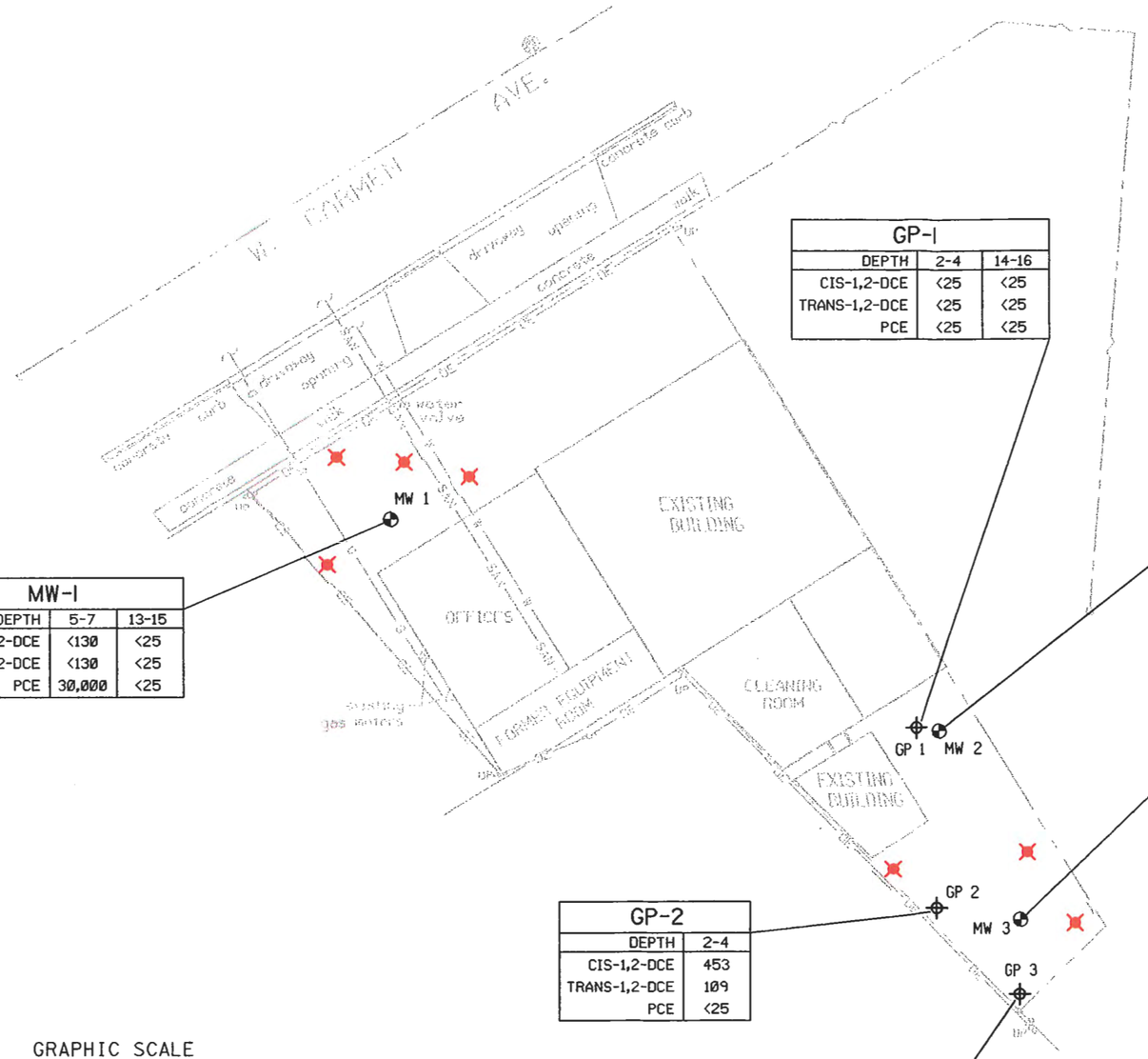
LEGEND

- = GEOPROBE BORING LOCATION
- = MONITORING WELL LOCATION
- OE = OVERHEAD UTILITY LINE
- = GROUNDWATER CONTOUR LINE, CONTOUR INTERVAL = .5'
- ( ) = STATIC GROUNDWATER LEVEL (7-1-02)
- = GROUNDWATER FLOW DIRECTION

0 15 30 60

NOTE:
MAP BASED ON SURVEY PERFORMED ON 7-22-02, BY SURVEYING ASSOCIATES, INC.

FRITZKE PROPERTY MILWAUKEE, WI			SIGMA ENVIRONMENTAL SERVICES INC.
DATE: 7-26-02	DR. BY: TMM	DR.# 7029-003	SCALE: 1" = 30'
GROUNDWATER CONTOUR MAP (7-1-02)			FIGURE 3



GP-1		
DEPTH	2-4	14-16
CIS-1,2-DCE	<25	<25
TRANS-1,2-DCE	<25	<25
PCE	<25	<25

MW-1		
DEPTH	5-7	13-15
CIS-1,2-DCE	<130	<25
TRANS-1,2-DCE	<130	<25
PCE	30,000	<25

MW-2		
DEPTH	7-9	17-19
CIS-1,2-DCE	42	<25
TRANS-1,2-DCE	<25	<25
PCE	<25	<25

MW-3		
DEPTH	3-5	10-12
CIS-1,2-DCE	2,000	<25
TRANS-1,2-DCE	110	<25
PCE	130	<25

GP-2	
DEPTH	2-4
CIS-1,2-DCE	453
TRANS-1,2-DCE	109
PCE	<25

GP-3	
DEPTH	2-4
CIS-1,2-DCE	<25
TRANS-1,2-DCE	<25
PCE	<25

ANALYTICAL KEY

DCE = DICHLORODETHENE
PCE = TETRACHLORODETHENE

ALL CONCENTRATIONS EXPRESSED IN MICROGRAMS PER KILOGRAM (ug/kg)

LEGEND

- = PROPOSED GEOPROBE BORING LOCATION
- Gr = GEOPROBE BORING LOCATION
- MW = MONITORING WELL LOCATION
- = UTILITY POLE
- OE = OVERHEAD UTILITY LINE
- G = UNDERGROUND GAS LINE
- SAN = UNDERGROUND SANITARY SEWER LINE
- W = UNDERGROUND WATER LINE
- = PROPERTY LINE

GRAPHIC SCALE

0 15 30 60

NOTE:
MAP BASED ON SURVEY PERFORMED ON 7-22-02, BY SURVEYING ASSOCIATES, INC.

FRITZKE PROPERTY
MILWAUKEE, WI

SIGMA ENVIRONMENTAL SERVICES INC

DATE: 1-17-03	DR. BY: BEB	DR.# 7029-005	SCALE: 1" = 30'

SOIL QUALITY/ PROPOSED GEOPROBE SOIL BORING LOCATION MAP

FIGURE 4

ATTACHMENT 2

COST ESTIMATE
SITE INVESTIGATION ADDENDUM ACTIVITIES
CDC, INC.
10003 WEST CARMEN AVENUE
MILWAUKEE, WISCONSIN
Project Reference #7029

TASK 1: GEOPROBE SOIL BORING INSTALLATION (Sigma) (Includes all oversight activities associated with the advancement of seven Geoprobe soil borings).		
○ Mobilization/Demobilization, 1 trip	$	23
○ Project Hydrogeologist, 6 hrs @ $85/hr	$	510
○ Staff Hydrogeologist, 10 hrs @ $75/hr	$	750
○ Senior Project Manager, 2 hrs @ $100/hr	$	200
○ Equipment:		
FID/PID 1 days @ $70/day	$	70
Subtotal	$	**1,553**
PROJECT COORDINATION (Sigma) (Includes coordination of all project activities, discussions with the WDNR, client and legal council, evaluation of data, and additional report preparation activities).		
○ Staff Hydrogeologist, 30 hrs @ $75/hr	$	2,250
○ Senior Project Manager, 6 hrs @ $100/hr	$	600
○ Project Hydrogeologist, 10 hrs @ $85/hr	$	850
Subtotal	$	**3,700**
COMMODITY SERVICES **Drilling Services**		
○ Installation of six soil borings to a depth of 8 feet bgs	$	640
Subtotal	$	**640**
LABORATORY SERVICES (Estimated) (Includes laboratory analysis of 14 soil samples).		
○ Soil: VOC, 14 samples @ $55/sample	$	770
Subtotal	$	**770**
TOTAL TASK 1:	$	**6,663**
TASK 2: GROUNDWATER SAMPLING (Sigma) (The collection of one round of groundwater samples from the monitoring wells).		
○ Mobilization/Demobilization, 1 trip	$	23
○ Project Hydrogeologist, 3 hrs @ $85/hr.	$	255
○ Senior Project Manager, 1 hrs @ $100/hr	$	100

COST ESTIMATE
SITE INVESTIGATION ADDENDUM ACTIVITIES
CDC, INC.
10003 WEST CARMEN AVENUE
MILWAUKEE, WISCONSIN
Project Reference #7029

TASK 2: GROUNDWATER SAMPLING (Continued)		
○ Field Technician, 6 hrs @ $55/hr	$	330
Equipment:		
Sampling kits, 3 kits @ $15/kit	$	45
55-Gallon drums, 1 drums @ $35/drum	$	35
Water level indicator, 1 days @ $25/day	$	25
Subtotal	$	813
LABORATORY SERVICES (Estimated)		
(Includes one round of groundwater sample collection with QA/QC sample collection from three groundwater monitoring wells).		
○ Water: VOC, 3 + 2 QA/QC samples @ $55/sample	$	275
Subtotal	$	275
TOTAL Task 2:	$	1,088
TASK 3: SOIL DISPOSAL (Sigma)		
(Includes soil profile preparation, coordination and supervision for the disposal of 14 drums of auger spoils generated during the site investigation).		
○ Project Hydrogeologist, 8 hrs @ $85/hr	$	680
○ Staff Hydrogeologist, 8 hrs @ $75/hr	$	600
○ Senior Project Manager, 2 hrs @ $100/hr	$	200
Subtotal	$	1,480
COMMODITY SERVICES: SOIL DISPOSAL		
*(Estimated based on contained-in determination of soil as a solid waste not a hazardous waste).	$	250
○ Mobilization/Demobilization, Lump Sum	$	1,400
○ Soil Disposal, 14 Drums @$100/drum	$	1,650
TOTAL TASK 3:	$	3,130
TOTAL ESTIMATED COST	$	10,881

* Please note that significant additional costs will be incurred for soil disposal if the soil is determined to be a hazardous waste.