



**SUPPLEMENTAL BROWNFIELDS
INVESTIGATION AND
REMEDIAL STRATEGY REPORT
SELECTED ASBESTOS DISPOSAL SITES
NASHUA, NEW HAMPSHIRE**

PREPARED FOR:

City of Nashua
Economic Development Office
Nashua, New Hampshire

PREPARED BY:

GZA GeoEnvironmental, Inc.
Manchester, New Hampshire

March 2004
File No. 23445

MSL Analytical, Inc.

Haddon Ave., Westmont, NJ 08108

ne: (856) 858-4800 Fax: (856) 858-4960 Email: ssiegel@EMSL.com



Amy Doherty
 GZA GeoEnvironmental Inc (NH)
 Airpark Business Center
 380 Harvey Road
 Manchester, NH 03103-3347
 (603) 624-9463

Phone: (603) 623-3600

Customer ID: GZAG51
 Customer PO: 4-06787
 Received: 08/22/03 10:21 AM

EMSL Order: 040315101

EMSL Project ID:

Analysis Date: 9/14/2003

ect: 04.0023445.00

Asbestos Analysis of Soils via EPA 600/R-93/116 Method using Polarized Light Microscopy

e	Location	Appearance	Treatment	Non-Asbestos		Asbestos
				% Fibrous	% Non-Fibrous	% Type
13-241-F-2' 101-0036	ADS 241	Red Fibrous Homogeneous	Teased		60% Non-fibrous (other)	40% Chrysotile
13-242-A-5' 101-0037	ADS 242	Brown/Red Fibrous Heterogeneous	Teased		85% Non-fibrous (other)	15% Chrysotile
13-LOWER-92-D-1' 101-0038	ADS 258-292	Tan/Red Fibrous Heterogeneous	Teased		90% Non-fibrous (other)	10% Chrysotile
13-UPPER-92-B-8' 101-0039	ADS 258-292	Brown Fibrous Homogeneous	Teased		55% Non-fibrous (other)	45% Chrysotile
13-UPPER-92-C-1' 101-0040	ADS 258-292	Brown Fibrous Homogeneous	Teased		55% Non-fibrous (other)	45% Chrysotile
13-UPPER-92-A-4' 101-0041	ADS 258-292	Red Fibrous Homogeneous	Teased		50% Non-fibrous (other)	50% Chrysotile
13-UPPER-92-B7' 101-0042	ADS 258-292	Red/White Fibrous Heterogeneous	Teased		60% Non-fibrous (other)	40% Chrysotile
13-70-12-A3' 101-0043	ADS 268	Brown/Gray Fibrous Homogeneous	Teased		55% Non-fibrous (other)	45% Chrysotile

(s) _____
 : Beard (10)

Stephen Siegel

 Stephen Siegel, CIH
 or other approved signatory



EMSL Analytical, Inc.

107 Haddon Ave., Westmont, NJ 08108

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Received: 08/22/03 10:21 AM

Fax: (603) 624-9463 Phone: (603) 623-3600
Project: 04.0023445.00

EMSL Order: 040315101
EMSL Project ID:
Analysis Date: 9/4/03

Qualitative asbestos analysis of soils using the EPA 600/R-93/116 method

Sample	Location	Appearance	Treatment	Result	Notes
081303-241(C-5) 040315101-0012	AOS 241			Chrysotile	
081403-242A-COMPOSITE 0.4' 040315101-0013	AOS 242			None Detected	
081803-LOWER-258-292-E-3' 040315101-0015	AOS 258-292			None Detected	
081803-LOWER-258-292-B-COMPOSITE 040315101-0016	AOS 258-292			None Detected	
081803-LOWER-258-292-E-1' 040315101-0017	AOS 258-292			None Detected	
081803-LOWER-258-292-A-COMPOSITE 040315101-0018	AOS 258-292			None Detected	
081803-LOWER-258-292-C-COMPOSITE 040315101-0019	AOS 258-292			None Detected	
081803-LOWER-258-292-D3' 040315101-0020	AOS 258-292			None Detected	

Analyst(s)

Delores Beard (25)

Stephen Siegel, CIH
or other approved signatory

EMSL recommends that soil samples reported as "ND" be tested by the EPA Screening Method/Qualitative. The above report relates only to the items tested. This report may not be reproduced, except in full, without written approval by EMSL Analytical, Inc. The above test must not be used by the client to claim product endorsement by NVLAP nor any agency of the United States Government.

ACCREDITATIONS: AIHA #100192, NVLAP #1048 and NY STATE ELAP #10872



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GZA GeoEnvironmental Inc (NH)
Airpark Business Center
380 Harvey Road
Manchester, NH 03103-3347

Fax: (603) 624-9463 Phone: (603) 623-3600
Project: 04.0023445.00

Customer ID: GZAG51
Customer PO: 4-06787
Received: 08/22/03 10:21 AM

EMSL Order: 040315101
EMSL Project ID:
Analysis Date: 9/4/03

Qualitative asbestos analysis of soils using the EPA 600/R-93/116 method

Sample	Location	Appearance	Treatment	Result	Notes
081903-UPPER- 258-292-D-1' 040315101-0022	ADS 258-292			None Detected	
081903-UPPER- D4' 040315101-0025	ADS 258-292			None Detected	
081903-UPPER- 258-292-E1' 040315101-0026	ADS 258-292			None Detected	
081903-UPPER- 258-292-E4' 040315101-0027	ADS 258-292			None Detected	
081903-UPPER- 258-292-C3' 040315101-0028	ADS 258-292			None Detected	
081803-LOWER- 258-292-D5' 040315101-0030	ADS 258-292			None Detected	
081803-258-292- LOWER 3' DUPE 040315101-0034	ADS 258-292			None Detected	
081503-242-E COMPOSITE 0- 10' DUPE 040315101-0035	ADS 258-292			None Detected	

Analyst(s)
Delores Beard (25)

Stephen Siegel, CIH
or other approved signatory

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ACCREDITATIONS: AIHA #100192, NVLAP #1048 and NY STATE ELAP #10872

Sample I.D.	Date/Time Sampled (Very Important)	Matrix A=Air S=Soil GW=Ground W. SW=Surface W. WW=Waste W. DW=Drinking W. Other (Specify)	Sample Type A=Auto M=Manual P=Top F=Flow T=Trapped G=Grab C=Comp	ANALYSIS REQUIRED		ASBESTOS BULK AIR						
				GW ONLY	DW	PLM	TEM Chatfield	Point Counting	N7400 (PCM)	Total # of Cont.		
081303 241-C 5'				<input type="checkbox"/> 624 <input type="checkbox"/> 625	<input type="checkbox"/> 524.2 <input type="checkbox"/> 502.1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
081403 242-A Composite 0-4'				<input type="checkbox"/> 601 <input type="checkbox"/> 602	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
081803 258-292 D 1' Lower				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
081803 Lower 258-292-E 30				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
081803 Lower 258-292-B Composite				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
081803 Lower 258-292-E 1'				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
081803 Lower 258-292-A Composite				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
081803 Lower 258-292-C Composite				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
081803 Lower 258-292-D 3'				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
081903 Upper 258-292-B 8'				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
081903 Upper 258-292-D 1'				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

CONTAINER TYPE (P-Plastic, G-Glass, V-Vial, T-Teflon, O-Other)*
 RELINQUISHED BY: (AFFILIATION) DATE/TIME RECEIVED BY: (AFFILIATION)
 RELINQUISHED BY: (AFFILIATION) DATE/TIME RECEIVED BY: (AFFILIATION)
 RELINQUISHED BY: (AFFILIATION) DATE/TIME RECEIVED BY: (AFFILIATION)
 RELINQUISHED BY: (AFFILIATION) DATE/TIME RECEIVED BY: (AFFILIATION)

PROJECT MANAGER: Amy Oshety EXT: 4263

GZA GEOTECHNICAL, INC. ENGINEERS AND SCIENTISTS

Alpark Business Center
 380 Harvey Road
 MANCHESTER, NH 03103-3347
 (603) 623-3600
 FAX (603) 624-9463

NOTES: (Unless otherwise noted, all samples have been refrigerated to 4°C).
 Specify other preservatives and containers types in this space.
PLM by EPA 600/R-93/116

YOU MUST INCLUDE AN ECL PURCHASE ORDER NUMBER WHEN SHIPPING SAMPLES DIRECTLY TO ALPHA ECL P.O.#
 Contact ECL at 508-435-9244 Ext. 4721 - Sample Receiving for a Purchase Order Number.

TURNAROUND TIME: Standard Rush _____ Days. Approved by: _____ TEMP. OF COOLER _____

GZA FILE NO: 0406033445.00 P.O. NO: 4-06787

PROJECT: Various Nashua Sites

LOCATION: Nashua, NH

COLLECTOR(S): J Kertmansky SHEET 2 OF 4

03 AUG 22 AM 10:22
 RECEIVED
 WESTMONT, NJ

CHAIN-OF-CUSTODY RECORD

W.O. # _____
(for lab use only)

Sample ID.	Date/Time Sampled (Very Important)	Matrix A=Air S=Soil GW=Ground W. SW=Surface W. WW=Waste W. DW=Drinking W. Other (specify)	Sample TYPE A=Atmos M=Mineral P=Plastic F=Fuel T=Trash G=Glass C=Camp	ANALYSIS REQUIRED		ASBESTOS BULK		Total # of Cont.	
				WW ONLY	DW	AIR	AIR		No.
081903	upper 358-292-C 1'			<input type="checkbox"/> 624 <input type="checkbox"/> 625	<input type="checkbox"/> 524.2 <input type="checkbox"/> 502.1	<input type="checkbox"/> 6260	<input type="checkbox"/> 8015B - DRO	<input type="checkbox"/> PLM	
081903	upper 358-292-A 4'			<input type="checkbox"/> 601 <input type="checkbox"/> 602	<input type="checkbox"/> 8015B - GRO	<input type="checkbox"/> 8260 - "8240" List	<input type="checkbox"/> 8015B - GRO	<input type="checkbox"/> TEM Checkfield	
	upper 358-292-D 4'			<input type="checkbox"/> 524.2 <input type="checkbox"/> 502.1	<input type="checkbox"/> 8015B - DRO	<input type="checkbox"/> 8015B - GRO	<input type="checkbox"/> TPH-GC (Mod. 8100)	<input type="checkbox"/> Point Counting	
	upper 358-292-E 1'			<input type="checkbox"/> 524.2 <input type="checkbox"/> 502.1	<input type="checkbox"/> 8015B - DRO	<input type="checkbox"/> 8015B - GRO	<input type="checkbox"/> TPH-GC w/FING	<input type="checkbox"/> N7400 (PCM)	
	upper 358-292-E 4'			<input type="checkbox"/> 524.2 <input type="checkbox"/> 502.1	<input type="checkbox"/> 8015B - DRO	<input type="checkbox"/> 8015B - GRO	<input type="checkbox"/> TPH-GC w/FING		
	upper 358-292-C 3'			<input type="checkbox"/> 524.2 <input type="checkbox"/> 502.1	<input type="checkbox"/> 8015B - DRO	<input type="checkbox"/> 8015B - GRO	<input type="checkbox"/> TPH-GC w/FING		
	upper 358-292-B 3'			<input type="checkbox"/> 524.2 <input type="checkbox"/> 502.1	<input type="checkbox"/> 8015B - DRO	<input type="checkbox"/> 8015B - GRO	<input type="checkbox"/> TPH-GC w/FING		
081803	Lower 358-292-D 5'			<input type="checkbox"/> 524.2 <input type="checkbox"/> 502.1	<input type="checkbox"/> 8015B - DRO	<input type="checkbox"/> 8015B - GRO	<input type="checkbox"/> TPH-GC w/FING		
082003	70-12-A 3'			<input type="checkbox"/> 524.2 <input type="checkbox"/> 502.1	<input type="checkbox"/> 8015B - DRO	<input type="checkbox"/> 8015B - GRO	<input type="checkbox"/> TPH-GC w/FING		
082003	70-12-A 6'			<input type="checkbox"/> 524.2 <input type="checkbox"/> 502.1	<input type="checkbox"/> 8015B - DRO	<input type="checkbox"/> 8015B - GRO	<input type="checkbox"/> TPH-GC w/FING		
082003	70-12-B 3'			<input type="checkbox"/> 524.2 <input type="checkbox"/> 502.1	<input type="checkbox"/> 8015B - DRO	<input type="checkbox"/> 8015B - GRO	<input type="checkbox"/> TPH-GC w/FING		

RECEIVED WESTMONT, NJ
03 AUG 22 AM 10:22

PLM by EHA 608/R-93/116

NOTES: Unless otherwise noted, all samples have been refrigerated to 4°C.
*Specify "Other" preservatives and containers types in this space.

RELINQUISHED BY: (AFFILIATION) _____ DATE/TIME _____ RECEIVED BY: (AFFILIATION) _____

RELINQUISHED BY: (AFFILIATION) _____ DATE/TIME _____ RECEIVED BY: (AFFILIATION) _____

RELINQUISHED BY: (AFFILIATION) _____ DATE/TIME _____ RECEIVED BY: (AFFILIATION) _____

PROJECT MANAGER: Amy Oshry EXT: 4263

GZA GEOENVIRONMENTAL, INC.
ENGINEERS AND SCIENTISTS

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MANCHESTER, NH 03103-3347
(603) 623-3600
FAX (603) 624-9463

YOU MUST INCLUDE AN ECL PURCHASE ORDER NUMBER WHEN SHIPPING SAMPLES DIRECTLY TO ALPHA ECL P.O. # _____
Contact ECL at 508-435-9244 Ext. 4721 - Sample Receiving for a Purchase Order Number.

TURNAROUND TIME: Standard Rush _____ Days. Approved by: _____ TEMP. OF COOLER _____ °C

GZAFIELD NO: 04 0023445.00 P.O. NO: 4-6287

PROJECT Various Wishes Sites

LOCATION Wishes VII

COLLECTOR(S) D Ketchum

SHEET 3 OF 4

EMSL Analytical, Inc.

107 Haddon Ave., Westmont, NJ 08108

Phone: (856) 858-4800 Fax: (856) 868-4960 Email: ssiegel@EMSL.com



Attn: GZA GeoEnvironmental Inc (NH)
Airpark Business Center
380 Harvey Road
Manchester, NH 03103-3347

Fax: (603) 624-9463

Project: 04.0023445.00

Phone: (603) 623-3600

Customer ID: GZAG51
Customer PO: 4-06787
Received: 08/19/03 11:03 AM

EMSL Order: 040314825

EMSL Proj:

Analysis Date: 08/20/2003

Phase Contrast Microscopy (PCM) Fiber Count by NIOSH 7400, Fourth Edition, Issue 2, 8/15/94

Sample	Location	Sample Date	Volume	Fibers	Fields	LOD (fib/cc)	Fibers/mm ²	Fibers/cc	Notes
081803-258-292- Upwind 040314825-0001		08/18/2003	2760.00	<5.5	100	0.001	<7.0	<0.001	
081803-258-292- A-Downwind 040314825-0002		08/18/2003	2415.00	<5.5	100	0.001	<7.0	<0.001	
081803-258-292- B-Downwind 040314825-0003		08/18/2003	2415.00	8.0	100	0.001	10.2	0.002	
081803-258-292- Sidewind 040314825-0004		08/18/2003	1080.00	<5.5	100	0.002	<7.0	<0.002	
081803-258-292- Blank 040314825-0005		08/18/2003	0.00	<5.5	100		<7.0		Field Blank

Steve Siegel

Analyst(s)

Steve Siegel (5)

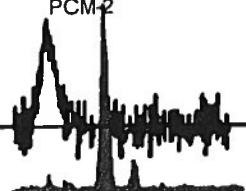
Stephen Siegel, CIH
or other approved signatory

Limit of detection is 7 fibers/mm². The laboratory is not responsible for data reported in fibers/cc, which is dependent on volume collected by non-laboratory personnel. This report relates only to the samples reported above. The test results contained within this report meet the requirements of NELAC unless otherwise noted. This report may not be reproduced, except in full, without written approval by EMSL.

Analysis performed by EMSL Westmont (NY State ELAP #10872, AIHA #100194)

PCM-2

THIS IS THE LAST PAGE OF THE REPORT.



EMSL Analytical, Inc.

107 Haddon Ave., Westmont, NJ 08108

Phone: (856) 858-4800 Fax: (856) 858-4960 Email: ssiegel@EMSL.com



Attn: Amy Doherty
GZA GeoEnvironmental Inc (NH)
Airpark Business Center
380 Harvey Road
Manchester, NH 03103-3347

Customer ID: GZAG51
Customer PO: 4-06787
Received: 08/20/03 9:46 AM

Fax: (603) 624-9463 Phone: (603) 623-3600

EMSL Order: 040314902

Project: #04.0023445.00/LOT 258-292

EMSL Proj:

Analysis Date: 08/20/2003

Phase Contrast Microscopy (PCM) Fiber Count by NIOSH 7400, Fourth Edition, Issue 2, 8/15/94

Sample	Location	Sample Date	Volume	Fibers	Fields	LOD (fib/cc)	Fibers/mm ²	Fibers/cc	Notes
081903-258-292		08/19/2003	2250.00	<5.5	100	0.001	<7.0	<0.001	
040314902-0001									
081903-258-292A		08/19/2003	2400.00	<5.5	100	0.001	<7.0	<0.001	
040314902-0002									
081903-258-292B		08/19/2003	2250.00	<5.5	100	0.001	<7.0	<0.001	
040314902-0003									
081903-258-292	BLANK	08/19/2003		<5.5	100		<7.0		Field Blank
040314902-0004									
081903-258-292S		08/19/2003	900.00	<5.5	100	0.003	<7.0	<0.003	
040314902-0005									

Analyst(s)

Robyn Denton (5)

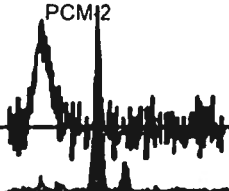
Stephen Siegel, CIH
or other approved signatory

Limit of detection is 7 fibers/mm². The laboratory is not responsible for data reported in fibers/cc, which is dependent on volume collected by non-laboratory personnel. This report relates only to the samples reported above. The test results contained within this report meet the requirements of NELAC unless otherwise noted. This report may not be reproduced, except in full, without written approval by EMSL.

Analysis performed by EMSL Westmont (NY State ELAP #10872, AIHA #100194)

PCM12

THIS IS THE LAST PAGE OF THE REPORT.



HAIN-OF-CUSTODY RECORD

ANALYSIS REQUIRED

W.O. #

(for lab use only)

Sample I.D.	Date/Time Sampled (Very Important)	Matrix A=Air S=Soil G=Gravel W=Water D=Dredging M. Other (specify)	Sample Type A=Auto M=Manual P=Plat F=Flow T=Trind G=Grab C=Comp	W/COMB		GC Screen (Methanol)		TCLP (Spec. Below)		Disinfect Metals		Total Metals		ASBESTOS SUK		Total # of Cont.	Note #	
				624	625	801	802	801	802	801	802	801	802	801	802			PLM
081903 - 258-292	upwind																1	
258-292A	downwind																1	
258-292A	downwind																1	
258-292	Black																1	
258-292	side																1	

METALS SAMPLES (P=) INDICATES THAT THE SAMPLE WAS FILTERED IN THE FIELD

PRESERVATIVE (C - HCl, M-Methanol, N - HNO3, S - H2SO4, Na - NaOH, O - Other)

CONTAINER TYPE (P-Plastic, G-Glass, V-Vial, T-Telton, O-Other)

RELINQUISHED BY: (AFFILIATION) DATE/TIME RECEIVED BY: (AFFILIATION)

RELINQUISHED BY: (AFFILIATION) DATE/TIME RECEIVED BY: (AFFILIATION)

RELINQUISHED BY: (AFFILIATION) DATE/TIME RECEIVED BY: (AFFILIATION)

PROJECT MANAGER: Amy Dechty EXT: 4263

GZA GEOENVIRONMENTAL, INC.
ENGINEERS AND SCIENTISTS

Albany Business Center
380 Harvey Road
MANCHESTER, NH 03103-3347
(603) 623-3600
FAX (603) 624-9463

NOTES: (Unless otherwise noted, all samples have been refrigerated to 4°C)
Specify "Other" preservatives and container types in this space.
1) 24 hr Turn Around
2) Fax results to Amy Dechty

YOU MUST INCLUDE AN ECL PURCHASE ORDER NUMBER WHEN SHIPPING SAMPLES DIRECTLY TO ALPHA ECL P.O. #
Contact ECL at 808-435-9744 Ext. 4721 - Sample Receiving for a Purchase Order Number.

TURNAROUND TIME: Standard Rush Days, Approved by: TEMP OF COOLER °C

GZAFLENO: 04.0023445.00 P.O. NO. 4.06787

PROJECT Lot 256 292

LOCATION N5 hvc, NH

COLLECTOR(S) J Kortmork SHEET 1 OF 1