SUMMARY TABLE
LOAD LINE 9 DEMO
BUILDING DT-28 BASEMENT WATER RESULTS

ANALYTE, UNITS, METHOD NO.	Surface Water Background Criteria (ug/L)	Region 9 PRG Data (Tap Water ug/L)	LL9-SW-DT28-SW (Basement water from building DT-28)
Sample Date			3/24/03
TAL Metals 6010B (ug/L)			
Silver	0.00	180	BDL
Aluminum	3370	36000	59 (B)
Arsenic	3.20	0.05	BDL
Barium	47.50	2600	61
Beryllium	0.00	73	0.33 (B)
Calcium	41400	--	37000 (H)
Cadmium	0.00	18	BDL
Cobolt	0.00	2200	2.8 (B)
Chromium	0.00	--	BDL
Copper	7.90	1400	6.2 (B)
Iron	2560	11000	57
Mercury	0.00	11	BDL
Potassium	3170	--	11000
Magnesium	10800	--	2700
Manganese	391	880	7.6 (B)
Sodium	21300	--	2600
Nickel	0.00	730	2.1 (B)
Lead	0.00	--	12
Antimony	0.00	15	BDL
Selenium	0.00	180	BDL
Thallium	0.00	2.40	BDL
Vanadium	0.00	260	BDL
Zinc	42	11000	64
TPH Diesel Range Organics (mg/L)			
TPH - DRO	--	--	BDL
Asbestos MFL			
Long Fiber Concentration	**EPA limit for drinking water = 7 MFL for long asbestos fibers**		<1.549

-- = Data not available
BRL = Below Reporting Limit
ND = Not detected
NAD = No asbestos detected
MFL = millions of fibers per Liter
PRGs = Preliminary Remediation Goals
mg/kg = milligrams per kilogram (parts per million - ppm)
ug/L = micrograms per Liter (parts per billion - ppb)

= concentration greater than background
BOLD = concentration greater than Region 9 PRG data or other regulatory limit
J Qualifier = Result is an estimated value below the reporting limit or a tenetively identified compound (TIC).
B Qualifier = Result is less than reporting limit, but greater than Method detection limit.
a Flag = Concentration os below the method Reporting Limit (RL).
H Flag = Alternate peak selection upon analytical review.

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LABORATORY TEST RESULTS

Job Number: 216081

Date: 04/09/2003

CUSTOMER: MKM Engineers, Inc.

PROJECT: RAVENNA - LL6, 9, WS

ATTN: Brian Stockwell

Customer Sample ID: LL9-SW-DT28-SW
Date Sampled.....: 03/24/2003
Time Sampled.....: 09:15
Sample Matrix.....: Water

Laboratory Sample ID: 216081-1
Date Received.....: 03/26/2003
Time Received.....: 10:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
7041	Antimony (GFAA)											
	Antimony	3.0	U		2.5	3.0	1	ug/L	79274		03/31/03 2024	daj
7060A	Arsenic (GFAA)											
	Arsenic	2.0	U		2.0	2.0	1	ug/L	78940		03/27/03 1840	daj
7421	Lead (GFAA)											
	Lead	12			1.9	2.0	1	ug/L	78923		03/27/03 1809	daj
7841	Thallium (GFAA)											
	Thallium	2.0	U		2.0	2.0	1	ug/L	79046		03/29/03 0044	daj
7470A	Mercury (CVAA)											
	Mercury	0.20	U		0.049	0.20	1	ug/L	79332		04/01/03 1210	gok
6010B	Metals Analysis (ICAP Trace)											
	Aluminum *	59	B		24	200	1	ug/L	79284		03/31/03 2354	tds
	Barium	61			1.5	10	1	ug/L	79284		03/31/03 2354	tds
	Beryllium	0.33	B		0.17	4.0	1	ug/L	79284		03/31/03 2354	tds
	Cadmium	2.0	U		0.44	2.0	1	ug/L	79284		03/31/03 2354	tds
	Calcium	37000		H	24	100	1	ug/L	79284		03/31/03 2354	tds
	Chromium	10	U		1.5	10	1	ug/L	79284		03/31/03 2354	tds
	Cobalt	2.8	B		1.0	5.0	1	ug/L	79284		03/31/03 2354	tds
	Copper	6.2	B		1.6	10	1	ug/L	79284		03/31/03 2354	tds
	Iron	57			40	50	1	ug/L	79544		04/02/03 1820	tds
	Magnesium	2700			12	100	1	ug/L	79284		03/31/03 2354	tds
	Manganese	7.6	B		0.71	10	1	ug/L	79284		03/31/03 2354	tds
	Nickel	2.1	B		1.9	10	1	ug/L	79284		03/31/03 2354	tds
	Potassium	11000			110	500	1	ug/L	79284		03/31/03 2354	tds

* In Description = Dry Wgt.

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LABORATORY TEST RESULTS

Job Number: 216081

Date:04/09/2003

CUSTOMER: MWH Engineers, Inc. PROJECT: RAVENNA - LL6, 9, WS ATTN: Brian Stockwell

Customer Sample ID: LL9-SW-DT28-SW
Date Sampled.....: 03/24/2003
Time Sampled.....: 09:15
Sample Matrix.....: Water

Laboratory Sample ID: 216081-1
Date Received.....: 03/26/2003
Time Received.....: 10:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Selenium	5.0	U		5.0	5.0	1	ug/L	79284		03/31/03 2354	tds
	Silver	5.0	U		3.1	5.0	1	ug/L	79284		03/31/03 2354	tds
	Sodium	2600			500	1000	1	ug/L	79284		03/31/03 2354	tds
	Vanadium	5.0	U		2.1	5.0	1	ug/L	79544		04/02/03 1820	tds
	Zinc	64			10	10	1	ug/L	79284		03/31/03 2354	tds

* In Description = Dry Wgt.

SEVERN TRENT **STL**

STL Chicago
2417 Bond Street
University Park, IL 60466
Phone: 708-534-5200
Fax: 708-534-5211

Report To:
Contact:
Company:
Address:
Phone:
Fax:
E-Mail:

Bill To:
Contact:
Company:
Address:
Phone:
Fax:
PO#: Quote:

Shaded Areas For Internal Use Only — of

Lab Lot#

Package Sealed	Samples Sealed
Yes No	Yes No
Received on Ice	Samples Intact
Yes No	Yes No

Temperature °C of Cooler

Within Hold Time	Preserv. Indicated
Yes No	Yes No NA
pH Check OK	Res Cl_2 Check OK
Yes No NA	Yes No NA

Sample Labels and COC Agree
Yes No COC not present

Sampler Name:
Signature:
Project Name:
Project Number:
Project Location:
Date Required
Hard Copy:
Lab PM:
Fax:

Laboratory ID	MS/MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	Comp/Grab	Refrg #	# / Cont.	Volume	Preserv	Additional Analyses / Remarks

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME
RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME

Matrix Key
WW = Wastewater, W = Water, S = Soil, SL = Sludge, MS = Miscellaneous, OL = Oil, A = Air, SE = Sediment, SO = Solid, DS = Drum Solid, DL = Drum Liquid, L = Leachate, WI = Wipe, O = ____

Container Key
1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other ____

Preservative Key
1. HCl, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. Cool to 4°
7. None

COMMENTS

Date Received / /
Courier: Hand Delivered
Bill of Lading

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STL-8208 (0500)

AMA Analytical Services, Inc.

A Specialized Environmental Laboratory

CERTIFICATE OF ANALYSIS

NVLAP
NY ELAP
AIHA

Client:	MKM Engineers	**Job Name:**	Ravenna Army Plant-LL 9 Demo	**Chain Of Custody:**	107862
Address:	4153 Blue Bonnet Drive	**Job Location:**	Not Provided	**Date Analyzed:**	04/24/2003
	Stafford, Texas 77477	**Job Number:**	02074	**Person Submitting:**	Brian Stockwell
		P.O. Number:	LA0401-02074		
Attention:	Brian Stockwell				

Summary of Results of Water Borne Asbestos Analysis by TEM - USEPA and NY ELAP Method 198.2

AMA Sample Number	Client Sample Number	Sample Type	Sample Aliquot (ml)	Filter Collection Area (mm²)	Filter Area Anaiyzed (mm²)	Sensitivity (MFL)		Fiber Count		Total Fiber Conc. (MFL)			Long Fiber Conc. (MFL)			Comments
						Total Fibers	Long Fibers	Total Fibers	Long Fibers	Mean	95 % UCL	95 % LCL	Mean	95 % UCL	95 % LCL	
0340687	LL9-SW-DT-28-0002	Waste	25	1260	0.12	0.420	0.420	NAD	NAD	<1.549	1.549	N/A	< 1.549	1.549	N/A	Ten (10) grid openings scanned. Analysis includes only asbestos structures greater than or equal to 10 microns in length.

Please Note: EPA requires analysis of 'long' asbestos fibers (>10 um), where as New York State ELAP 198.2 requires analysis of 'long' and 'short' asbestos fibers (>0.5um). EPA also recently promulgated an MCL (maximum containment level) of 7 MFL (millions of fibers per liter) for long (>10um) asbestos fibers for primary drinking water samples.

Limit of Detection: The Limit of Detection (LOD) for this method is equal to four asbestos fibers. If the sample had no asbestos detected (NAD) the mean asbestos concentration is reported as less than the 95% UCL (upper confidence limit), which is 369 % of the analytical sensitivity. If 1 to 3 fibers were detected, the mean asbestos concentration is reported as less than the 95 % UCL. A lower confidence limit (LCL) does not apply (N/A) for samples in which three or fewer asbestos fibers were detected.

Analytical Sensitivity: Typical analytical sensitivities for drinking water samples should be < 10 MFL for 'total' asbestos and <0.2 MFL for 'long' asbestos fibers. Analytical sensitivities may be much higher for non-drinking water samples due to the high concentration of suspended particulate which requires using small aliquots to make usable sample preparations.

Method of Analysis: The method of analysis used is the New York ELAP 198.2 as revised on 6/01/95. This method is based on the Chatfield and Dillion "Analytical Method for the Determination of Asbestos", 1983 (EPA-600/4-84-043) and complies with both USEPA 100.1 and New York State regulations.

Asbestos Types: Chry = Chrysotile; Amos = Amosite; Croc = Crocidolite; Trem = Tremolite; Actn = Actinolite; Anth = Anthophyllite

Robert Workman

AMA Analytical Services, Inc.

AIHA (#8863) NVLAP (#1143) NY ELAP (10920)
4475 Forbes Blvd. • Lanham, MD 20706
(301) 459-2640 • (800) 346-0961 • Fax (301) 459-2643

CHAIN OF CUSTODY

(Please Refer To This Number For Inquires) 107862

MAILING ADDRESS:

1. Submittal Date: 21 Apr. 03 — Job Name/location: Ravenna Army Plant - LL 9 Demo
2. Client Name: MKm Engineers, Inc — Job #: 02074 — P.O. #: will forward
3. Street/RFD/P.O. Box: 8456 St. Rte 5 — Bill To: MKm Engineers, Inc
4. City, State, Zip: Ravenna, OH 44266 — Phone #: 330 358-2203 — Fax: 330-358-2924
5. Contact Person: Brian Stockwell — Submitted By: [signature] (Print) Brian Stockwell (Signature)
6. DATE & TIME RESULTS REQUIRED: 4 / 24 / 03, Time: 1000 AM PM ☐IMMED. ☐24HR ☒48HR ☐72HR ☐5-DAY OTHER(Specify):

SAMPLE DATA:

1. Analysis Type: ☒Asbestos ☐Lead ☐NOB-Whole(PLM/TEM) ☐NOB-Whole(PLM Only) ☐NOB-Whole(TEM Only) ☐NOB-Res. Ash(TEM) ☐TCLP for Pb ☐Other(specify):
2. Total Number Of Samples: TEM 1 PCM ____ PLM ____ LEAD ____ OTHER (Specify) Waste water Sample - only count fibers ≥ 10 micron
3. ELECTRON MICROSCOPY SAMPLES:
   A. Filter Type: PC☐ MCE☐ B. Porosity: ____ Micron C. Diameter ☐37mm ☐25mm
4. LEAD SAMPLES Wipe Type: ☐Pace ☐Palintest ☐Ghost ☐Lynx Products ☐Other (specify) ____
5. Release Criteria/Analytical Sensitivity: 0.010 f/cc☐ 0.005 f/cc☐ AHERA ☐ %ASBESTOS ☐ S/FT² ☐ OTHER ☐
6. Field Sheet Attached? ☐YES ☐NO If No Then Please Complete The Following:

SAMPLE ANALYSIS INFORMATION					ANALYSIS					MATRIX				CLIENT CONTACT
CLIENT ID NUMBER	SAMPLE LOCATION	DATE	VOLUME (LITERS)	WIPE AREA	TEM	PCM	PLM	LEAD	OTHER	AIR	BLANK	BULK	WIPE	(LABORATORY STAFF ONLY)
LL9-SW-DT-28+ 0002			2		X					Soc		Water		Date/Time: Contact: By:
														Date/Time: Contact: By:
														Date/Time: Contact: By:

REPORTING DATA:

1. Verbal Results To Whom? Name: Brian Stockwell Phone: 330-358-2203 Beeper: ____
2. Date Written Results Required 4 / 24 / 03

LABORATORY STAFF ONLY: (CUSTODY)

1. Date/Time RCVD: 4 / 22 / 03 @1000 Via: DOT Fedex By (Print): E. Vanecp Sign: E. Vanecp
2. Date/Time Analyzed: 4 / 24 / 03 @1100 By (Print): B. Workman Sign: [signature]
3. Results Reported To: Brian Stockwell Via: Fax Date: 4 / 24 / 03 Time: ____ Initials: [initials]
4. Comments: ____

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SAMPLE INFORMATION
Date: 12/05/2002

Job Number.....: 213716
Customer.....: MKM Engineers, Inc.
Attn.....: Brian Stockwell

Project Number.....: 20002825
Customer Project ID.....: LL6
Project Description....: Ravenna - LL6, 9, WS Demo

Laboratory Sample ID	Customer Sample ID	Sample Matrix	Date Sampled	Time Sampled	Date Received	Time Received
213716-1	LL6-SW-TC1-SW	Water	11/20/2002	13:50	11/21/2002	09:20
213716-2	LL6-SW-SP1-SW	Water	11/20/2002	14:30	11/21/2002	09:20

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Job Number: 213716

LABORATORY TEST RESULTS

Date: 12/05/2002

CUSTOMER: NKM Engineers, Inc.

PROJECT: LL6

ATTN: Brian Stockwell

Customer Sample ID: LL6-SW-TC1-SW
Date Sampled.....: 11/20/2002
Time Sampled.....: 13:50
Sample Matrix.....: Water

Laboratory Sample ID: 213716-1
Date Received.....: 11/21/2002
Time Received.....: 09:20

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8330	Explosives by 8330 (HPLC)											
	HMX	0.39	U		0.22	0.39	1.00000	ug/L	70945		11/23/02 0529	san
	RDX	0.16	J	a	0.13	0.16	1.00000	ug/L	70945		11/23/02 0529	san
	1,3,5-Trinitrobenzene	0.16	U		0.080	0.16	1.00000	ug/L	70945		11/23/02 0529	san
	1,3-Dinitrobenzene	0.16	U		0.053	0.16	1.00000	ug/L	70945		11/23/02 0529	san
	Nitrobenzene	0.16	U		0.092	0.16	1.00000	ug/L	70945		11/23/02 0529	san
	2,4,6-TNT	0.16	U		0.068	0.16	1.00000	ug/L	70945		11/23/02 0529	san
	Tetryl	0.31	U		0.22	0.31	1.00000	ug/L	70945		11/23/02 0529	san
	2,4-Dinitrotoluene	0.16	U		0.042	0.16	1.00000	ug/L	70945		11/23/02 0529	san
	2,6-Dinitrotoluene	0.31	U		0.21	0.31	1.00000	ug/L	70945		11/23/02 0529	san
	2-Nitrotoluene	0.31	U		0.16	0.31	1.00000	ug/L	70945		11/23/02 0529	san
	4-Nitrotoluene	0.78	U		0.34	0.78	1.00000	ug/L	70945		11/23/02 0529	san
	3-Nitrotoluene	0.31	U		0.10	0.31	1.00000	ug/L	70945		11/23/02 0529	san
7041	Antimony (GFAA)											
	Antimony	3.0	U		2.5	3.0	1	ug/L	70844		12/03/02 2232	daj
7060A	Arsenic (GFAA)											
	Arsenic	2.0	U		2.0	2.0	1	ug/L	70677		12/03/02 1016	daj
7421	Lead (GFAA)											
	Lead	2.0	U		1.9	2.0	1	ug/L	70897		12/04/02 1141	daj
7841	Thallium (GFAA)											
	Thallium	2.0	U		2.0	2.0	1	ug/L	70829		12/03/02 0927	daj
7470A	Mercury (CVAA)											
	Mercury	0.20	U		0.049	0.20	1	ug/L	70305		11/26/02 1536	gok

* In Description = Dry Wgt.

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Job Number: 213716

LABORATORY TEST RESULTS

Date:12/05/2002

CUSTOMER: MKM Engineers, Inc. PROJECT: LL6 ATTN: Brian Stockwell

Customer Sample ID: LL6-SW-TC1-SW
Date Sampled.....: 11/20/2002
Time Sampled.....: 13:50
Sample Matrix.....: Water

Laboratory Sample ID: 213716-1
Date Received.....: 11/21/2002
Time Received.....: 09:20

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
60109	Metals Analysis (ICAP Trace)										
	Aluminum	72	B	24	200	1	ug/L	70379		11/28/02 0904	tds
	Barium	11		1.5	10	1	ug/L	70379		11/28/02 0904	tds
	Beryllium	4.0	U	0.17	4.0	1	ug/L	70379		11/28/02 0904	tds
	Cadmium	2.0	U	0.44	2.0	1	ug/L	70379		11/28/02 0904	tds
	Calcium	34000		24	100	1	ug/L	70379		11/28/02 0904	tds
	Chromium	10	U	1.5	10	1	ug/L	70379		11/28/02 0904	tds
	Cobalt	5.0	U	1.0	5.0	1	ug/L	70379		11/28/02 0904	tds
	Copper	34		1.6	10	1	ug/L	70379		11/28/02 0904	tds
	Iron	96		40	50	1	ug/L	70564		12/02/02 1334	tds
	Magnesium	3200		12	100	1	ug/L	70379		11/28/02 0904	tds
	Manganese	7.8	B	0.71	10	1	ug/L	70379		11/28/02 0904	tds
	Nickel	2.5	B	1.9	10	1	ug/L	70379		11/28/02 0904	tds
	Potassium	9500		110	500	1	ug/L	70379		11/28/02 0904	tds
	Selenium	5.0	U	5.0	5.0	1	ug/L	70379		11/28/02 0904	tds
	Silver	5.0	U	3.1	5.0	1	ug/L	70379		11/28/02 0904	tds
	Sodium	3400		500	1000	1	ug/L	70497		11/29/02 1347	tds
	Vanadium	5.0	U	2.1	5.0	1	ug/L	70379		11/28/02 0904	tds
	Zinc	95		10	10	1	ug/L	70379		11/28/02 0904	tds

* In Description = Dry Wgt.

STL CHICAGO

Client Sample ID: LL6-SW-TC1-SW

HPLC

Lot-Sample #...: G2K230182-001	Work Order #...: FDR181AF	Matrix.....: WATER
Date Sampled...: 11/20/02	Date Received..: 11/23/02	
Prep Date.....: 11/25/02	Analysis Date..: 12/03/02	
Prep Batch #...: 2330297		
Dilution Factor: 1	Method.....: SW846 8330	

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Nitroglycerin	ND	0.65	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
3,4-Dinitrotoluene	98	(35 - 165)

STL CHICAGO

Client Sample ID: LL6-SW-TC1-SW

Trace Level Organic Compounds

Lot-Sample #...: G2K230182-001 Work Order #...: FDR181AD Matrix.....: WATER
Date Sampled...: 11/20/02 Date Received..: 11/23/02
Prep Date.....: 12/16/02 Analysis Date..: 12/23/02
Prep Batch #...: 2350352
Dilution Factor: 1

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
Nitroguanidine	ND	20	ug/L	NONE UV/HPLC per

STL CHICAGO

Client Sample ID: LL6-SW-TC1-SW

General Chemistry

Lot-Sample #...: G2K230182-001 Work Order #...: FDR18 Matrix.....: WATER
Date Sampled...: 11/20/02 13:50 Date Received..: 11/23/02 09:50

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Perchlorate	ND	4.0	ug/L	EPA-DW1 314.0	12/16/02	2352203

Dilution Factor: 1 Analysis Time..: 11:52 MDL.....: 1.5

STL CHICAGO

Client Sample ID: LL6-SW-TC1-SW

General Chemistry

Lot-Sample #...: G2K230182-001 Work Order #...: FDR18 Matrix.....: WATER
Date Sampled...: 11/20/02 Date Received..: 11/23/02

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrocellulose	ND	0.50	mg/L	MCAWW 353.2	12/11-12/13/02	2345462

Dilution Factor: 1

AMA Analytical Services, Inc.

A Specialized Environmental Laboratory

CERTIFICATE OF ANALYSIS

NVLAP
NY ELAP
AIHA

Client:	GPL Environmental Services, Inc.	**Job Name:**	Not Provided	**Chain Of Custody:**	105963
Address:	202 Perry Parkway	**Job Location:**	Not Provided	**Date Analyzed:**	11/12/02
	Gaithersburg, Maryland 20877	**Job Number:**	211020	**Person Submitting:**	Debbie Griffiths
		P.O. Number:	211020		
Attention:	Debbie Griffiths				

Summary of Results of Water Borne Asbestos Analysis by TEM - USEPA and NY ELAP Method 198.2

AMA Sample Number	Client Sample Number	Sample Type	Sample Aliquot (ml)	Filter Collection Area (mm²)	Filter Area Analyzed (mm²)	Sensitivity (MFL)		Fiber Count		Total Fiber Conc. (MFL)			Long Fiber Conc. (MFL)			Comments
						Total Fibers	Long Fibers	Total Fibers	Long Fibers	Mean	95 % UCL	95 % LCL	Mean	95 % UCL	95 % LCL	
0309036	LL6-SW-TC1-SW 1	Not Provided	1	1260	0.114	11.053	11.053	NAD	NAD	<40.773	40.773	N/A	< 40.773	40.773	N/A	
0309037	LL6-SW-TC1-SW 2	Not Provided	1	1260	0.114	11.053	11.053	NAD	NAD	<40.773	40.773	N/A	< 40.773	40.773	N/A	

Please Note: EPA requires analysis of 'long' asbestos fibers (>10 um), where as New York State ELAP 198.2 requires analysis of 'long' and 'short' asbestos fibers (>0.5um). EPA also recently promulgated an MCL (maximum containment level) of 7 MFL (millions of fibers per liter) for long (>10um) asbestos fibers for primary drinking water samples.

Limit of Detection: The Limit of Detection (LOD) for this method is equal to four asbestos fibers. If the sample had no asbestos detected (NAD) the mean asbestos concentration is reported as less than the 95% UCL (upper confidence limit), which is 369 % of the analytical sensitivity. If 1 to 3 fibers were detected, the mean asbestos concentration is reported as less than the 95 % UCL. A lower confidence limit (LCL) does not apply (N/A) for samples in which three or fewer asbestos fibers were detected.

Analytical Sensitivity: Typical analytical sensitivities for drinking water samples should be < 10 MFL for 'total' asbestos and <0.2 MFL for 'long' asbestos fibers. Analytical sensitivities may be much higher for non-drinking water samples due to the high concentration of suspended particulate which requires using small aliquots to make usable sample preparations.

Method of Analysis: The method of analysis used is the New York ELAP 198.2 as revised on 6/01/95. This method is based on the Chatfield and Dillion "Analytical Method for the Determination of Asbestos", 1983 (EPA-600/4-84-043) and complies with both USEPA 100.1 and New York State regulations.

Asbestos Types: Chry = Chrysotile; Amos = Amosite; Croc = Crocidolite; Trem = Tremolite; Actn = Actinolite; Anth = Anthophyllite

Andreas Saldivar

AIR Analytical Services, Inc.

AIHA (#8863) NVLAP (#1143) NY ELAP (10920)
4475 Forbes Blvd. • Lanham, MD 20706
(301) 459-2640 • (800) 346-0961 • Fax (301) 459-2643

CHAIN OF CUSTODY

(Please Refer To This Number For Inquires) 15963

MAILING ADDRESS:

1. Submittal Date: 11-7-02 — Job Name/location:
2. Client Name: GPC — Job #: 21020 — P.O. #: 21020
3. Street/RFD/P.O. Box: — Bill To:
4. City, State, Zip: — Phone #: — Fax:
5. Contact Person: Debbie Gnkatfas — Submitted By: (Print) (Signature)
6. DATE & TIME RESULTS REQUIRED: 11/12/02, Time: 1000 ☐AM ☐PM ☐IMMED. ☑24HR ☐48HR ☑72HR ☐5-DAY OTHER(Specify)

SAMPLE DATA:

1. Analysis Type: ☐Asbestos ☐Lead ☐NOB-Whole(PLM/TEM) ☐NOB-Whole(PLM Only) ☐NOB-Whole(TEM Only) ☐NOB-Res. Ash(TEM) ☐TCLP for Pb ☐Other(specify):
2. Total Number Of Samples: TEM 2 PCM ____ PLM ____ LEAD ____ OTHER (Specify) water
3. ELECTRON MICROSCOPY SAMPLES:
   A. Filter Type: PC ☐ MCE ☐ B. Porosity: ____ Micron C. Diameter: ☑37mm ☐25mm
4. LEAD SAMPLES: Wipe Type: ☑Pace ☐Palintest ☑Ghost ☐Lynx Products ☐Other (specify)
5. Release Criteria/Analytical Sensitivity: 0.010 f/cc ☐ 0.005 f/cc ☐ AHERA ☐ %ASBESTOS ☐ S/FT² ☐ OTHER ☐
6. Field Sheet Attached? ☐YES ☐NO If No Then Please Complete The Following:

CLIENT ID NUMBER	SAMPLE LOCATION	DATE	VOLUME (LITERS)	WIPE AREA	ANALYSIS: TEM	PCM	PLM	LEAD	OTHER	MATRIX: AIR	BLANK	BULK	WIPE

CLIENT CONTACT (LABORATORY STAFF ONLY)

Date/Time: 11/6 Contact: DC By: MA
spoke w/ Debbie G. samples submitted & informed that H2O was FBN
Date/Time: Contact: By:
Date/Time: Contact: By:

REPORTING DATA:

1. Verbal Results To Whom? Name: Phone: Beeper:
2. Date Written Results Required ____ / ____ / ____

LABORATORY STAFF ONLY: (CUSTODY)

1. Date/Time RCVD ____ / ____ / ____ @ ____ Via: ____ By (Print): ____ Sign: ____
2. Date/Time Analyzed: ____ / ____ / ____ @ ____ By (Print): ____ Sign: ____
3. Results Reported To: ____ Via: ____ Date: ____ / ____ / ____ Time: ____ Initials: ____
4. Comments: ____

STL
Committed to Your Success

Chicago Laboratory
2417 Bond Street
University Park, IL 60466
Phone: 708-534-5200
Fax: 708-534-5211

Report To:
Contact: Brian Stewart
Company: MW Engineers, Inc.
Address: 8051 RT 5
Ravenna, Ohio 44266
Phone: 330-358-7010
Fax: 330-297-2959
E-Mail:

Bill To:
Contact:
Company:
Address: SAME
Phone:
Fax:
PO#: Quote:

Shaded Areas For Internal Use Only of

Lab Lot #

Package Sealed Yes No	Samples Sealed Yes No
Received on Ice Yes No	Samples Intact Yes No
Temperature °C of Cooler	
Within Hold Time Yes No	Preserv. indicated Yes No NA
pH Check ok Yes No NA	Res. Cl_2 Check ok Yes No NA
Sample Labels and COC Agree Yes No COC not present	

Sampler Name: Dennis Pancio
Signature:
Project Name: Landfill Area
Project Number: 00274
Project Location: Kent
Lab PM: Eric Long
Date Required Hard Copy: 21 Days Fax: 14 Days

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	Comp/Grab	# Containers	Filtered	Preserved	Parameters	Additional Analyses / Remarks
		LL6-SW-TC1-Sep	11/16/06	1300	W	G	5	X	X	X	Trip blank and Sample
		LL6-SW-SR1-Sep	11/16/06	1430	W	G	5	X	X	X	Dump sample
											CLP Not Required
											Please send COC's

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME
	MW	11/16/06	1600				
RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME

Matrix Key
WW = Wastewater, W = Water, S = Soil, SL = Sludge, MS = Miscellaneous, OL = Oil, A = Air, SE = Sediment, SO = Solid, DS = Drum Solid, DL = Drum Liquid, L = Leachate, WI = Wipe, O = _____

Container Key
1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other

Preservative Key
1. HCl, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn Acetate, Cool to 4°
6. Cool to 4°
7. None

COMMENTS: Water samples from LL6-L. Site Characterization Dump

Date Received / /
Courier: Hand Delivered
Bill of Lading:

ENVIRONMENTAL CONTROL LABORATORIES

Mr. Brian Stockwell
MKM Engineers, Inc.

8451 State Rte. 5
Ravenna, OH 44266

E. C. Lab #: 0305-21003
Received Date: 5/21/03
Report Date: 5/29/03

Purchase Order #:

Subject: LL6 & 9 DEMO

Sample No: 001
Client I.D. LL6SW-TCI-0002
Sample Date: 5/20/2003
Matrix: Aqueous

Analyte	Method	Detection Limit	Results	Units	Analysis Date
TPH, Diesel	8015M	2.0	BDL	mg/L	5/28/03

Sample No: 002
Client I.D. LL9SW-DT29-0002
Sample Date: 5/20/2003
Matrix: Aqueous

Analyte	Method	Detection Limit	Results	Units	Analysis Date
TPH, Diesel	8015M	2.0	BDL	mg/L	5/28/03

Sample No: 003
Client I.D. LL6-WPDG-001-WC
Sample Date: 5/20/2003
Matrix: Solid

Analyte	Method	Detection Limit	Results	Units	Analysis Date
TCLP METALS*					5/27/03
Lead	6010B	0.050	BDL	mg/L	5/27/03

Note:BDL(Below Detection Limit)

Environmental Control Labs

SEVERN TRENT **STL**

~~STL Chicago~~
~~2417 Bond Street~~
~~University Park, IL 60466~~
~~Phone: 708 534 5200~~
~~Fax: 708 534 5211~~

EC Labs
38818 Taylor Pkwy.
N. Ridgeville, OH
44039

Report To:
Contact: Brian Stockwell
Company: MKM Engineers, Inc.
Address: 8451 St. Rte. 5
Ravenna, Ohio 44266
Phone: 330-358-2920
Fax: 330-358-2924
E-Mail:

To:
Contact:
Company: SAME
Address:
Phone:
Fax: P.O.# to be forwarded
PO#: Quote:

Shaded Areas For Internal Use Only ____ of ____

Lab Lot# 0305-21003

Package Sealed	Samples Sealed
Yes No	Yes No
Received on Ice	**Samples Intact**
Yes No	Yes No

Temperature °C of Cooler

Within Hold Time	Preserv. Indicated
Yes No	Yes No NA
pH Check OK	**Res Cl_2 Check OK**
Yes No NA	Yes No NA

Sample Labels and COC Agree
Yes No COC not present

Sampler Name: James Panozzo
Signature:
Project Name: LL6+9 Demo
Project Number: 02074
Project Location: RVAAP
Date Required
Hard Copy: Normal
Fax: ___/___/___
Lab PM: Ron Scheidel

Laboratory ID	MS MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	Comp/Grab	Refrig #	# / Cont.	Volume	Preserv	TPH-DRO	TCLP Lead	Additional Analyses / Remarks
		LL6SW-TC1-0002	5-20-03	1350	W	G					X		
		LL9SW-DT29-0002	5-20-03	1340	W	G					X		
		LL6-WPDG-001-WC	5-19-03	1430	SO	G						X	

RELINQUISHED BY: Brian Stockwell COMPANY: MKM DATE: 5-20-03 TIME: 1600
RELINQUISHED BY: ____ COMPANY: ____ DATE: ____ TIME: ____

RECEIVED BY: Rhonda Stowell COMPANY: ____ DATE: 5-21-03 TIME: 11:20am
RECEIVED BY: ____ COMPANY: ____ DATE: ____ TIME: ____

Matrix Key
WW = Wastewater
W = Water
S = Soil
SL = Sludge
MS = Miscellaneous
OL = Oil
A = Air
SE = Sediment
SO = Solid
DS = Drum Solid
DL = Drum Liquid
L = Leachate
WI = Wipe
O = ____

Container Key
1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other ____

Preservative Key
1. HCl, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. Cool to 4°
7. None

COMMENTS

Date Received ___/___/___
Courier: Hand Delivered ☐
Bill of Lading

STL Chicago is part of Severn Trent Laboratories, Inc.

Job Number: 214117

LABORATORY TEST RESULTS

Date: 01/03/2003

CUSTOMER: MKM Engineers, Inc.

PROJECT: RAVENNA - LL6, 9, WS

ATTN: Brian Stockwell

Customer Sample ID: LL6-SW-2F36-SW
Date Sampled.....: 12/12/2002
Time Sampled.....: 13:45
Sample Matrix.....: Water

Laboratory Sample ID: 214117-1
Date Received.....: 12/13/2002
Time Received.....: 09:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
7041	Antimony (GFAA)											
	Antimony	74			25	30	10	ug/L	72207		12/18/02 1747	daj
7060A	Arsenic (GFAA)											
	Arsenic	2.0	U		2.0	2.0	1	ug/L	72092		12/18/02 0748	daj
7421	Lead (GFAA)											
	Lead	210			19	20	10	ug/L	72258		12/19/02 1347	daj
7841	Thallium (GFAA)											
	Thallium	2.0	U		2.0	2.0	1	ug/L	71950		12/16/02 1630	daj
7470A	Mercury (CVAA)											
	Mercury	0.20	U		0.049	0.20	1	ug/L	71839		12/16/02 1530	gok
6010B	Metals Analysis (ICAP Trace)											
	Aluminum	280			24	200	1	ug/L	71904		12/17/02 0146	tds
	Barium	43			1.5	10	1	ug/L	71904		12/17/02 0146	tds
	Beryllium	4.0	U		0.17	4.0	1	ug/L	71904		12/17/02 0146	tds
	Cadmium	3.0			0.44	2.0	1	ug/L	71904		12/17/02 0146	tds
	Calcium	35000			24	100	1	ug/L	71904		12/17/02 0146	tds
	Chromium	3.3	B		1.5	10	1	ug/L	71904		12/17/02 0146	tds
	Cobalt	5.0	U		1.0	5.0	1	ug/L	71904		12/17/02 0146	tds
	Copper	14			1.6	10	1	ug/L	71904		12/17/02 0146	tds
	Iron	2700			40	50	1	ug/L	72302		12/19/02 2350	tds
	Magnesium	4400			12	100	1	ug/L	71904		12/17/02 0146	tds
	Manganese	24			0.71	10	1	ug/L	71904		12/17/02 0146	tds
	Nickel	10	U		1.9	10	1	ug/L	71904		12/17/02 0146	tds
	Potassium	23000			110	500	1	ug/L	71904		12/17/02 0146	tds

* In Description = Dry Wgt.

Job Number: 214117

LABORATORY TEST RESULTS

Date:01/03/2003

CUSTOMER: MKM Engineers, Inc. PROJECT: RAVENNA - LL6, 9, WS ATTN: Brian Stockwell

Customer Sample ID: LL6-SW-2F36-SW
Date Sampled.....: 12/12/2002
Time Sampled.....: 13:45
Sample Matrix.....: Water

Laboratory Sample ID: 214117-1
Date Received.....: 12/13/2002
Time Received.....: 09:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Selenium	5.0	U		5.0	5.0	1	ug/L	71904		12/17/02 0146	tds
	Silver	5.0	U		3.1	5.0	1	ug/L	71904		12/17/02 0146	tds
	Sodium	4400			500	1000	1	ug/L	71904		12/17/02 0146	tds
	Vanadium	5.0	U		2.1	5.0	1	ug/L	72410		12/20/02 2153	lmr
	Zinc	340		H	10	10	1	ug/L	71904		12/17/02 0146	tds

* In Description = Dry Wgt.

SEVERN TRENT SERVICES

STL Chicago
2417 Bond Street
University Park, IL 60466
Phone: 708-534-5200
Fax: 708-534-5211

Report To:

Contact: Brian Stockwell	Contact:
Company: MKM Engineers Inc	Company:
Address: 845 SR 5 Ravenna OH 44266	Address: SAME
Phone: 330-358-2920	Phone:
Fax: 330-358-2920	Fax:
E-Mail:	PO#: No for water Quote:

Lab Lot#

Package Sealed Yes No	Samples Sealed Yes No
Received on Ice Yes No	Samples Intact Yes No
Temperature °C of Cooler	
Within Hold Time Yes No	Preserv. Indicated Yes No NA
pH Check OK Yes No NA	Res Cl₂ Check OK Yes No NA
Sample Labels and COC Agree Yes No	COC not present

Sampler Name: James Panucci
Signature: [signature]
Project Name: LL 6, 9 + WS Drums
Project Number: 83074
Project Location: RVAAP
Date Required Hard Copy: 21 Days Fax: 14 Days
Lab PM: Eric Lang

Refrig # / # / Cont. / Volume / Preserv

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	Comp/Grab	TAL Metals	PCB	[illegible]	TCLP Metals	Additional Analyses / Remarks
		LL6-SW-2536-320	12-12-03	1345	W	G	X	X	X		2536 [illegible]
		LL6-Floor Sweep-001	12-12-03	1400	SO	C	[illegible]	X	X	X	LL6 Floor Sweepings
		LL9-Floor Sweep-001	12-12-03	1400	SO	C	[illegible]	X	X	X	LL9 Floor Sweepings

TCLP Not Required

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME
[signature]	MKM	12-12-03	1500				

COMMENTS: No TAL on solids [illegible] TCLP Metals on solids [initials]

Date Received / /
Courier: Hand Delivered
Bill of Lading

Matrix Key
WW = Wastewater
W = Water
S = Soil
SL = Sludge
MS = Miscellaneous
OL = Oil
A = Air
SE = Sediment
SO = Solid
DS = Drum Solid
DL = Drum Liquid
L = Leachate
WI = Wipe
O = ____

Container Key
1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other

Preservative Key
1. HCl, Cool to 4°
2. H2SO4, Cool to 4°
3. HNO3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. Cool to 4°
7. None

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LABORATORY TEST RESULTS

Job Number: 215166

Date:02/21/2003

CUSTOMER: MKM Engineers, Inc. PROJECT: RAVENNA - LL6, 9, WS ATTN: Brian Stockwell

Customer Sample ID: LL6-SW-2F36-SW
Date Sampled.....: 02/12/2003
Time Sampled.....: 10:15
Sample Matrix.....: Water

Laboratory Sample ID: 215166-1
Date Received.....: 02/13/2003
Time Received.....: 11:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DF	DATE/TIME	TECH
7041	Antimony (GFAA)											
	Antimony	61			12	15	5	ug/L	76064		02/18/03 1146	daj
7421	Lead (GFAA)											
	Lead	12			1.9	2.0	1	ug/L	76181		02/19/03 1816	daj
6010B	Metals Analysis (ICAP Trace)											
	Cadmium	2.0	U		0.44	2.0	1	ug/L	75973		02/17/03 1941	tds
	Chromium	10	U		1.5	10	1	ug/L	75973		02/17/03 1941	tds

* In Description = Dry Wgt.

Chain of Custody Record

SEVERN TRENT SERVICES

Severn Trent Laboratories, Inc.

STL-4124 (1200)

Client: [illegible]	Project Manager: brian Stackel	Date: 9/16/03	Chain of Custody Number: 370943
Address: 5445 Spring	Telephone Number (Area Code)/Fax Number: 330-358-2934 / 330-854-2924	Lab Number:	Page ____ of ____
City: Canfield	State: OH	Zip Code: 44406	Site Contact: B Stackel	Lab Contact:
Project Name and Location (State): Lake Erie Shipyard - Ohio	Carrier/Waybill Number:	Analysis (Attach list if more space is needed)
Contract/Purchase Order/Quote No.		

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Solid	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	NONE	Cyanide Amenable	Special Instructions/ Conditions of Receipt
Lke-SW-2536-SW	9/16/03	1015		X									X	X	Sample meth is Fed Submission Environmental Lab. Use Attached Sheet.

Possible Hazard Identification

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal

☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required

☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☒ 14 Days ☐ 21 Days ☐ Other ____ Fax & Hard Copy

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By: [signature]	09.16.03	1730	1. Received By		
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments

DISTRIBUTION: WHITE - Stays with the Sample; CANARY - Returned to Client with Report; PINK - Field Copy

AMA Analytical Services, Inc.

A Specialized Environmental Laboratory

CERTIFICATE OF ANALYSIS

NVLAP
NY ELAP
AIHA

Client:	GPL Environmental Services, Inc.	Job Name:	Not Provided	Chain Of Custody:	110354
Address:	202 Perry Parkway	Job Location:	Not Provided	Date Analyzed:	02/19/2003
	Gaithersburg, Maryland 20877	Job Number:	302082	Person Submitting:	Deborah Griffiths
		P.O. Number:	302082		
Attention:	Deborah Griffiths				

Summary of Results of Water Borne Asbestos Analysis by TEM - USEPA and NY ELAP Method 198.2

AMA Sample Number	Client Sample Number	Sample Type	Sample Aliquot (ml)	Filter Collection Area (mm²)	Filter Area Analyzed (mm²)	Sensitivity (MFL) Total Fibers	Sensitivity (MFL) Long Fibers	Fiber Count Total Fibers	Fiber Count Long Fibers	Total Fiber Conc. (MFL) Mean	Total Fiber Conc. (MFL) 95 % UCL	Total Fiber Conc. (MFL) 95 % LCL	Long Fiber Conc. (MFL) Mean	Long Fiber Conc. (MFL) 95 % UCL	Long Fiber Conc. (MFL) 95 % LCL	Comments
0326513	LL6-SW-2F36-SW	Not Provided	50	1260	0.1276	0.197	0.197	3 Chry	NAD	<1.731	1.731	N/A	< 0.729	0.729	N/A	

Please Note: EPA requires analysis of 'long' asbestos fibers (>10 um), where as New York State ELAP 198.2 requires analysis of 'long' and 'short' asbestos fibers (>0.5um). EPA also recently promulgated an MCL (maximum containment level) of 7 MFL (millions of fibers per liter) for long (>10um) asbestos fibers for primary drinking water samples.

Limit of Detection: The Limit of Detection (LOD) for this method is equal to four asbestos fibers. If the sample had no asbestos detected (NAD) the mean asbestos concentration is reported as less than the 95% UCL (upper confidence limit), which is 369 % of the analytical sensitivity. If 1 to 3 fibers were detected, the mean asbestos concentration is reported as less than the 95 % UCL. A lower confidence limit (LCL) does not apply (N/A) for samples in which three or fewer asbestos fibers were detected.

Analytical Sensitivity: Typical analytical sensitivities for drinking water samples should be < 10 MFL for 'total' asbestos and <0.2 MFL for 'long' asbestos fibers. Analytical sensitivities may be much higher for non-drinking water samples due to the high concentration of suspended particulate which requires using small aliquots to make usable sample preparations.

Method of Analysis: The method of analysis used is the New York ELAP 198.2 as revised on 6/01/95. This method is based on the Chatfield and Dillion "Analytical Method for the Determination of Asbestos", 1983 (EPA-600/4-84-043) and complies with both USEPA 100.1 and New York State regulations.

Asbestos Types: Chry = Chrysotile; Amos = Amosite; Croc = Crocidolite; Trem = Tremolite; Actn = Actinolite; Anth = Anthophyllite

G. Edward Carney

An AIHA (#8863), NVLAP (# 101143), & New York ELAP (#10920) Accredited Laboratory
4475 Forbes Blvd. • Lanham, MD 20706 • (301) 459-2640 • Toll Free (800) 346-0961 • Fax (301) 459-2643

GPL Laboratories

[redacted]

ECL WORK ORDER NUMBER:

COMPANY NAME: MKM Engineers, Inc.

PURCHASE ORDER NO.

QUOTATION #

PROJECT NAME / LOCATION / NO.: LLG, 94-W5 Demo / RVAAP-Ohio

SAMPLERS. (Signature)

SAMPLERS. (Print Name): James Panozzo

DATE	TIME	COMP.	GRAB	STATION LOCATION STATION NO.	# of CONT.	H_2SO_4	HNO_3	NaOH	UNPRESERVED	OTHER	PARAMETER: As, Ba, Sb	REMARKS
02/12/03	1015		X	LL6-SW-2F36-SW	2				X		X	

Turnaround Requirement (surcharges may apply)

Authorized by: Signature

- Same Day
- 24 Hour
- 48 Hour
- 72 Hour
- Standard — Fax 14 Days, Hard 21 Days

Relinquished By: (signature)	Received By: (signature)	Relinquished By: (signature)	Received By: (signature)	Relinquished By: (signature)
Printed Name: James Panozzo	Printed Name	Printed Name	Printed Name	Printed Name: Chino
Date: 02/12/03 Time: 1430	Date / Time	Date / Time	Date / Time	Date: 2/13/03 Time: 9:30

RECEIVED IN LABORATORY BY: Chino Date 2/13/03 Time 9:30

COMMENTS

DISTRIBUTION: Orig-Accompanies Shipment Yellow-Transporter Pink-Accounting

302082

STL Chicago is part of Severn Trent Laboratories, Inc.

SAMPLE INFORMATION
Date: 12/05/2002

Job Number.: 213716
Customer...: MKM Engineers, Inc.
Attn.....: Brian Stockwell

Project Number.....: 20002825
Customer Project ID....: LL6
Project Description....: Ravenna - LL6, 9, WS Demo

Laboratory Sample ID	Customer Sample ID	Sample Matrix	Date Sampled	Time Sampled	Date Received	Time Received
213716-1	LL6-SW-TC1-SW	Water	11/20/2002	13:50	11/21/2002	09:20
213716-2	LL6-SW-SP1-SW	Water	11/20/2002	14:30	11/21/2002	09:20

LABORATORY TEST RESULTS

Job Number: 213716

Date:12/05/2002

CUSTOMER: MKM Engineers, Inc.

PROJECT: LL6

ATTN: Brian Stockwell

Customer Sample ID: LL6-SW-TC1-SW
Date Sampled.....: 11/20/2002
Time Sampled.....: 13:50
Sample Matrix.....: Water

Laboratory Sample ID: 213716-1
Date Received.....: 11/21/2002
Time Received.....: 09:20

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8330	Explosives by 8330 (HPLC)											
	HMX	0.39	U		0.22	0.39	1.00000	ug/L	70945		11/23/02 0529	san
	RDX	0.16	J	a	0.13	0.16	1.00000	ug/L	70945		11/23/02 0529	san
	1,3,5-Trinitrobenzene	0.16	U		0.080	0.16	1.00000	ug/L	70945		11/23/02 0529	san
	1,3-Dinitrobenzene	0.16	U		0.053	0.16	1.00000	ug/L	70945		11/23/02 0529	san
	Nitrobenzene	0.16	U		0.092	0.16	1.00000	ug/L	70945		11/23/02 0529	san
	2,4,6-TNT	0.16	U		0.068	0.16	1.00000	ug/L	70945		11/23/02 0529	san
	Tetryl	0.31	U		0.22	0.31	1.00000	ug/L	70945		11/23/02 0529	san
	2,4-Dinitrotoluene	0.16	U		0.042	0.16	1.00000	ug/L	70945		11/23/02 0529	san
	2,6-Dinitrotoluene	0.31	U		0.21	0.31	1.00000	ug/L	70945		11/23/02 0529	san
	2-Nitrotoluene	0.31	U		0.16	0.31	1.00000	ug/L	70945		11/23/02 0529	san
	4-Nitrotoluene	0.78	U		0.34	0.78	1.00000	ug/L	70945		11/23/02 0529	san
	3-Nitrotoluene	0.31	U		0.10	0.31	1.00000	ug/L	70945		11/23/02 0529	san
7041	Antimony (GFAA)											
	Antimony	3.0	U		2.5	3.0	1	ug/L	70844		12/03/02 2232	daj
7060A	Arsenic (GFAA)											
	Arsenic	2.0	U		2.0	2.0	1	ug/L	70677		12/03/02 1016	daj
7421	Lead (GFAA)											
	Lead	2.0	U		1.9	2.0	1	ug/L	70897		12/04/02 1141	daj
7841	Thallium (GFAA)											
	Thallium	2.0	U		2.0	2.0	1	ug/L	70829		12/03/02 0927	daj
7470A	Mercury (CVAA)											
	Mercury	0.20	U		0.049	0.20	1	ug/L	70305		11/26/02 1536	gok

* In Description = Dry Wgt.

Job Number: 213716

LABORATORY TEST RESULTS

Date:12/05/2002

CUSTOMER: MKM Engineers, Inc. PROJECT: LL6 ATTN: Brian Stockwell

Customer Sample ID: LL6-SW-TC1-SW
Date Sampled.....: 11/20/2002
Time Sampled.....: 13:50
Sample Matrix.....: Water

Laboratory Sample ID: 213716-1
Date Received.....: 11/21/2002
Time Received.....: 09:20

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
6010B	Metals Analysis (ICAP Trace)											
	Aluminum	72		B	24	200	1	ug/L	70379		11/28/02 0904	tds
	Barium	11			1.5	10	1	ug/L	70379		11/28/02 0904	tds
	Beryllium	4.0	U		0.17	4.0	1	ug/L	70379		11/28/02 0904	tds
	Cadmium	2.0	U		0.44	2.0	1	ug/L	70379		11/28/02 0904	tds
	Calcium	34000			24	100	1	ug/L	70379		11/28/02 0904	tds
	Chromium	10	U		1.5	10	1	ug/L	70379		11/28/02 0904	tds
	Cobalt	5.0	U		1.0	5.0	1	ug/L	70379		11/28/02 0904	tds
	Copper	34			1.6	10	1	ug/L	70379		11/28/02 0904	tds
	Iron	96			40	50	1	ug/L	70564		12/02/02 1334	tds
	Magnesium	3200			12	100	1	ug/L	70379		11/28/02 0904	tds
	Manganese	7.8		B	0.71	10	1	ug/L	70379		11/28/02 0904	tds
	Nickel	2.5		B	1.9	10	1	ug/L	70379		11/28/02 0904	tds
	Potassium	9500			110	500	1	ug/L	70379		11/28/02 0904	tds
	Selenium	5.0	U		5.0	5.0	1	ug/L	70379		11/28/02 0904	tds
	Silver	5.0	U		3.1	5.0	1	ug/L	70379		11/28/02 0904	tds
	Sodium	3400			500	1000	1	ug/L	70497		11/29/02 1347	tds
	Vanadium	5.0	U		2.1	5.0	1	ug/L	70379		11/28/02 0904	tds
	Zinc	95			10	10	1	ug/L	70379		11/28/02 0904	tds

* In Description = Dry Wgt.

STL CHICAGO

Client Sample ID: LL6-SW-TC1-SW

HPLC

Lot-Sample #...: G2K230182-001	Work Order #...: FDR181AF		Matrix.....: WATER
Date Sampled...: 11/20/02	Date Received..: 11/23/02		
Prep Date.....: 11/25/02	Analysis Date..: 12/03/02		
Prep Batch #...: 2330297			
Dilution Factor: 1	Method.....: SW846 8330		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Nitroglycerin	ND	0.65	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
3,4-Dinitrotoluene	98	(35 - 165)

STL CHICAGO

Client Sample ID: LL6-SW-TC1-SW

Trace Level Organic Compounds

Lot-Sample #...: G2K230182-001 Work Order #...: FDR181AD Matrix.....: WATER
Date Sampled...: 11/20/02 Date Received..: 11/23/02
Prep Date.....: 12/16/02 Analysis Date..: 12/23/02
Prep Batch #...: 2350352
Dilution Factor: 1

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
Nitroguanidine	ND	20	ug/L	NONE UV/HPLC per

STL CHICAGO

Client Sample ID: LL6-SW-TC1-SW

General Chemistry

Lot-Sample #...: G2K230182-001 Work Order #...: FDR18 Matrix.....: WATER
Date Sampled...: 11/20/02 13:50 Date Received..: 11/23/02 09:50

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Perchlorate	ND	4.0	ug/L	EPA-DW1 314.0	12/16/02	2352203

Dilution Factor: 1 Analysis Time..: 11:52 MDL.....: 1.5

STL CHICAGO

Client Sample ID: LL6-SW-TC1-SW

General Chemistry

Lot-Sample #...: G2K230182-001 Work Order #...: FDR18 Matrix.....: WATER
Date Sampled...: 11/20/02 Date Received..: 11/23/02

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrocellulose	ND	0.50	mg/L	MCAWW 353.2	12/11-12/13/02	2345462

Dilution Factor: 1

STL
Committed To *Your* Success

Chicago Laboratory
2417 Bond Street
University Park, IL 60466
Phone: 708-534-5200
Fax: 708-534-5211

Report To:
Contact: Brian Stockwell
Company: MKM Engineers, Inc
Address: 8451 SR 5
Ravenna, Ohio 44266
Phone: 330-358-2920
Fax: 330-358-2924
E-Mail:

Bill To:
Contact:
Company:
Address: SAME
Phone:
Fax:
PO#: Quote:

Shaded Areas For Internal Use Only ___ of ___

Lab Lot #

Package Sealed Yes No	Samples Sealed Yes No
Received on Ice Yes No	Samples Intact Yes No
Temperature °C	of Cooler

Sampler Name: James Pandzo
Signature:
Project Name: ~~LL6 Rows Demo~~ (DEP) Except LL6
Project Number: 02074
Project Location: RVAAP
Lab PM: Eric Lang
Date Required Hard Copy: 21 Days
Fax: 14 Days

Refrg #														
# / Cont.	2/4	2/4	2/4	1/1										
Volume	1L	1L	1L	1L										
Preserv			2											

Within Hold Time Yes No	Preserv. indicated Yes No NA
pH Check ok Yes No NA	Res. Cl_2 Check ok Yes No NA

Sample Labels and COC Agree Yes No COC not present

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	Comp/Grab	Explosives	Propellants	TAL Metals	Perchlorates	Additional Analyses / Remarks
		LL6-SW-TC1-SW	11/20/02	1350	W	G	X	X	X	X	Test chamber sample
		LL6-SW-SP1-SW	11/20/02	1430	W	G	X	X	X	X	Sump sample
											CLP Not Required
											Please send COC's

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME
	MKM	11/20/02	1500				
RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME

Matrix Key
WW = Wastewater
W = Water
S = Soil
SL = Sludge
MS = Miscellaneous
OL = Oil
A = Air
SE = Sediment
SO = Solid
DS = Drum Solid
DL = Drum Liquid
L = Leachate
WI = Wipe
O = ___

Container Key
1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other ___

Preservative Key
1. HCl, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn Acetate, Cool to 4°
6. Cool to 4°
7. None

COMMENTS: Water samples from LL#6 Str chamber & sump

Date Received / /
Courier: Hand Delivered ☐
Bill of Lading:

ENVIRONMENTAL CONTROL LABORATORIES

Mr. Brian Stockwell
MKM Engineers, Inc.

8451 State Rte. 5
Ravenna, OH 44266

E. C. Lab #: 0305-21003
Received Date: 5/21/03
Report Date: 5/29/03

Purchase Order #:

Subject: LL6 & 9 DEMO

Sample No: 001
Client I.D. LL6SW-TCI-0002
Sample Date: 5/20/2003
Matrix: Aqueous

Analyte	Method	Detection Limit	Results	Units	Analysis Date
TPH, Diesel	8015M	2.0	BDL	mg/L	5/28/03

Sample No: 002
Client I.D. LL9SW-DT29-0002
Sample Date: 5/20/2003
Matrix: Aqueous

Analyte	Method	Detection Limit	Results	Units	Analysis Date
TPH, Diesel	8015M	2.0	BDL	mg/L	5/28/03

Sample No: 003
Client I.D. LL6-WPDG-001-WC
Sample Date: 5/20/2003
Matrix: Solid

Analyte	Method	Detection Limit	Results	Units	Analysis Date
TCLP METALS*					5/27/03
Lead	6010B	0.050	BDL	mg/L	5/27/03

Note:BDL(Below Detection Limit)

Environmental Control Labs

SEVERN TRENT **STL**

~~STL Chicago~~
~~2417 Bond Street~~
~~University Park, IL 60466~~
~~Phone: 708-534-5200~~
~~Fax: 708-534-5211~~

EC Labs
38818 Taylor Pkwy.
N. Ridgeville, OH
44039

Report To:

Contact: Brian Stockwell
Company: MKM Engineers, Inc.
Address: 8451 St. Rte. 5
Ravenna, Ohio 44266
Phone: 330-358-2920
Fax: 330-358-2924
E-Mail:

Bill To:

Contact:
Company: SAME
Address:
Phone:
Fax: P.O.# to be fowarded
PO#: Quote:

Shaded Areas For Internal Use Only ____ of ____

Lab Lot# 0305-21003

Package Sealed	Samples Sealed
Yes No	Yes No
Received on Ice	**Samples Intact**
Yes No	Yes No

Temperature °C of Cooler

Within Hold Time	Preserv. Indicated
Yes No	Yes No NA
pH Check OK	**Res Cl_2 Check OK**
Yes No NA	Yes No NA

Sample Labels and COC Agree
Yes No COC not present

Sampler Name: James Panozzo
Signature:
Project Name: LL6+9 Demo
Project Number: 02074
Project Location: RVAAP
Date Required Hard Copy: Normal
Fax: ___/___/___
Lab PM: Ron Scheidel

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	Comp/Grab	TPH-DRO	TCLP Lead	Refrg #	# / Cont.	Volume	Preserv	Additional Analyses / Remarks
		LL6SW-TC1-0002	5-20-03	1350	W	G	X						
		LL9SW-DT29-0002	5-20-03	1340	W	G	X						
		LL6-WPDG-001-WC	5-19-03	1430	SO	G		X					

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME
	MKM	5-20-03	1600	Rhonda Hoenes		5.21.03	11:20am
RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME

Matrix Key

WW = Wastewater	SE = Sediment
W = Water	SO = Solid
S = Soil	DS = Drum Solid
SL = Sludge	DL = Drum Liquid
MS = Miscellaneous	L = Leachate
OL = Oil	WI = Wipe
A = Air	O = _____

Container Key

1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other _____

Preservative Key

1. HCl, Cool to 4°
2. H2SO4, Cool to 4°
3. HNO3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. Cool to 4°
7. None

COMMENTS

Date Received / /
Courier: **Hand Delivered** ☐
Bill of Lading

AMA Analytical Services, Inc.

A Specialized Environmental Laboratory

CERTIFICATE OF ANALYSIS

NVLAP
NY ELAP
AIHA

Client:	GPL Environmental Services, Inc.	**Job Name:**	Not Provided	**Chain Of Custody:**	105963
Address:	202 Perry Parkway	**Job Location:**	Not Provided	**Date Analyzed:**	11/12/02
	Gaithersburg, Maryland 20877	**Job Number:**	211020	**Person Submitting:**	Debbie Griffiths
		P.O. Number:	211020		
Attention:	Debbie Griffiths				

Summary of Results of Water Borne Asbestos Analysis by TEM - USEPA and NY ELAP Method 198.2

AMA Sample Number	Client Sample Number	Sample Type	Sample Aliquot (ml)	Filter Collection Area (mm²)	Filter Area Analyzed (mm²)	Sensitivity (MFL)		Fiber Count		Total Fiber Conc. (MFL)			Long Fiber Conc. (MFL)			Comments
						Total Fibers	Long Fibers	Total Fibers	Long Fibers	Mean	95 % UCL	95 % LCL	Mean	95 % UCL	95 % LCL	
0309036	LL6-SW-TC1-SW 1	Not Provided	1	1260	0.114	11.053	11.053	NAD	NAD	<40.773	40.773	N/A	< 40.773	40.773	N/A	
0309037	LL6-SW-TC1-SW 2	Not Provided	1	1260	0.114	11.053	11.053	NAD	NAD	<40.773	40.773	N/A	< 40.773	40.773	N/A	

Please Note: EPA requires analysis of 'long' asbestos fibers (>10 um), where as New York State ELAP 198.2 requires analysis of 'long' and 'short' asbestos fibers (>0.5um). EPA also recently promulgated an MCL (maximum containment level) of 7 MFL (millions of fibers per liter) for long (>10um) asbestos fibers for primary drinking water samples.

Limit of Detection: The Limit of Detection (LOD) for this method is equal to four asbestos fibers. If the sample had no asbestos detected (NAD) the mean asbestos concentration is reported as less than the 95% UCL (upper confidence limit), which is 369 % of the analytical sensitivity. If 1 to 3 fibers were detected, the mean asbestos concentration is reported as less than the 95 % UCL. A lower confidence limit (LCL) does not apply (N/A) for samples in which three or fewer asbestos fibers were detected.

Analytical Sensitivity: Typical analytical sensitivities for drinking water samples should be < 10 MFL for 'total' asbestos and <0.2 MFL for 'long' asbestos fibers. Analytical sensitivities may be much higher for non-drinking water samples due to the high concentration of suspended particulate which requires using small aliquots to make usable sample preparations.

Method of Analysis: The method of analysis used is the New York ELAP 198.2 as revised on 6/01/95. This method is based on the Chatfield and Dillion "Analytical Method for the Determination of Asbestos", 1983 (EPA-600/4-84-043) and complies with both USEPA 100.1 and New York State regulations.

Asbestos Types: Chry = Chrysotile; Amos = Amosite; Croc = Crocidolite; Trem = Tremolite; Actn = Actinolite; Anth = Anthophyllite

Andreas Saldivar

An AIHA (#8863), NVLAP (# 101143), & New York ELAP (#10920) Accredited Laboratory

4475 Forbes Blvd. • Lanham, MD 20706 • (301) 459-2640 • Toll Free (800) 346-0961 • Fax (301) 459-2643

AMA Analytical Services, Inc.

AIHA (#8863) NVLAP (#1143) NY ELAP (10920)
4475 Forbes Blvd. • Lanham, MD 20706
(301) 459-2640 • (800) 346-0961 • Fax (301) 459-2643

CHAIN OF CUSTODY

(Please Refer To This Number For Inquires) 105963

MAILING ADDRESS:

1. Submittal Date: 11-7-02 — Job Name/location:
2. Client Name: GPC — Job #: 21020 — P.O. #: 21020
3. Street/RFD/P.O. Box: — Bill To:
4. City, State, Zip: — Phone #: — Fax:
5. Contact Person: Debbie Gnikatlas — Submitted By: _____ (Print) _____ (Signature)
6. **DATE & TIME RESULTS REQUIRED:** 11 / 12 / 02, **Time:** 10:15 AM PM ☐ **IMMED.** ☐ **24HR** ☐ **48HR** ☑ **72HR** ☐ **5-DAY** OTHER(Specify):

SAMPLE DATA:

1. Analysis Type: ☐ Asbestos ☐ Lead ☐ NOB-Whole(PLM/TEM) ☐ NOB-Whole(PLM Only) ☐ NOB-Whole(TEM Only) ☐ NOB-Res. Ash(TEM) ☐ TCLP for Pb ☐ Other(specify):
2. Total Number Of Samples: TEM 2 PCM _____ PLM _____ LEAD _____ OTHER (Specify) Wattle
3. ELECTRON MICROSCOPY SAMPLES:
   A. Filter Type: PC ☐ MCE ☐ **B.** Porosity: _____ Micron **C.** Diameter ☐ 37mm ☐ 25mm
4. LEAD SAMPLES Wipe Type: ☐ Pace ☐ Palintest ☐ Ghost ☐ Lynx Products ☐ Other (specify)
5. Release Criteria/Analytical Sensitivity: 0.010 f/cc ☐ 0.005 f/cc ☐ AHERA ☐ %ASBESTOS ☐ S/FT² ☐ OTHER ☐
6. Field Sheet Attached? ☐ YES ☐ NO If No Then Please Complete The Following:

SAMPLE ANALYSIS INFORMATION					ANALYSIS					MATRIX				CLIENT CONTACT (LABORATORY STAFF ONLY)
CLIENT ID NUMBER	SAMPLE LOCATION	DATE	VOLUME (LITERS)	WIPE AREA	TEM	PCM	PLM	LEAD	OTHER	AIR	BLANK	BULK	WIPE	
														Date/Time: 11/08 Contact: DG By: MO
														spoke w/ Debbie DL samples submitted & informed that H2O was ran
														Date/Time: Contact: By:
														Date/Time: Contact: By:

REPORTING DATA:

1. Verbal Results To Whom? Name: _____ Phone: _____ Beeper: _____
2. Date Written Results Required ____ / ____ / ____

LABORATORY STAFF ONLY: (CUSTODY)

1. Date/Time RCVD: 11 / 7 / 02 @ 1015 Via: _____ By (Print): _____ Sign: _____
2. Date/Time Analyzed: 11 / 12 / 02 @ 0800 By (Print): _____ Sign: _____
3. Results Reported To: _____ Via: FAX Date: 11 / 12 / 02 Time: 0830 Initials: _____
4. Comments: _____

TABLE 1.0
RAVENNA ARMY AMMUNITION PLANT
LOAD LINE 6 DEMO
TEST CHAMBER AND SUMP SURFACE WATER RESULTS

ANALYTE, UNITS, METHOD NO.	Surface Water Background Criteria mg/L	Region 9 PRG Data (Tap Water ug/L)	LL6-SW-TC1-SW (concrete test chamber -pyramid shape)	LL6-SW-SP1-SW (Sump at bldg 2F-3)
Sample Date			11/20/2002	11/20/2002
Explosives 8330 ug/L				
HMX	--	1800	BDL	1.8
RDX	--	0.61	0.16 (J)(a)	0.14 (J)(a)
1,3,5-Trinitrotoluene	--	--	BDL	BDL
1,3-Dinitrobenzene	--	3.60	BDL	BDL
Nitrobenzene	--	3.40	BDL	BDL
2,4,6-Trinitrtoluene	--	2.20	BDL	BDL
Tetryl	--	360	BDL	BDL
2,4-Dinitrotoluene	--	73	BDL	BDL
2,6-Dinitrotoluene	--	36	BDL	BDL
2-Nitrotoluene	--	61	BDL	BDL
4-Nitrtoluene	--	61	BDL	BDL
3-Nitrotoluene	--	61	BDL	BDL
TAL Metals 6010B ug/L				
Silver	0.00	180	BDL	BDL
Aluminum	3370	36000	72 (B)	13000
Arsenic	3.20	0.05	BDL	**530**
Barium	47.50	2600	11	900
Beryllium	0.00	73	BDL	0.56 (B)
Calcium	41400	--	**34000**	**140000**
Cadmium	0.00	18	BDL	14
Cobolt	0.00	2200	BDL	12
Chromium	0.00	--	BDL	**580**
Copper	7.90	1400	34	**1700**
Iron	2560	11000	96	**30000 (H)**
Mercury	0.00	11	BDL	**23**
Potassium	3170	--	**9500**	**7400**
Magnesium	10800	--	**3200**	**31000**
Manganese	391	880	7.8 (B)	**1000**
Sodium	21300	--	**3400**	**4600**
Nickel	0.00	730	2.5 (B)	150
Lead	0.00	--	BDL	**28000**
Antimony	0.00	15	BDL	**30**
Selenium	0.00	180	BDL	6.0
Thallium	0.00	2.40	BDL	BDL
Vanadium	0.00	260	BDL	30
Zinc	42	11000	95	1700
Perchlorates ug/L				
Perchlorates ug/L	--	--	ND	ND
Propellants 8330 mg/L				
Nitroglycerin	--	4.80	ND	ND
Nitroguanidine	--	3600	ND	ND
Nitrocellulose	--	--	ND	ND
Asbestos MFL				
Long Fiber Concentration	**EPA limit for drinking water = 7 MFL for long asbestos fibers**		NAD	1436

-- = Data not available
BRL = Below Reporting Limit
ND = Not detected
NAD = No asbestos detected
MFL = millions of fibers per Liter
PRGs = Preliminary Remediation Goals
mg/kg = milligrams per kilogram (parts per million - ppm)
ug/L = micrograms per Liter (parts per billion - ppb)

= concentration greater than background
BOLD = concentration greater than Region 9 PRG data
J Qualifier = Result is an estimated value below the reporting limit or a tenetively identified compound (TIC).
B Qualifier = Result is less than reporting limit, but greater than Method detection limit.
a Flag = Concentration os below the method Reporting Limit (RL).
H Flag = Alternate peak selection upon analytical review.

AMA Analytical Services, Inc.

A Specialized Environmental Laboratory

CERTIFICATE OF ANALYSIS

NVLAP
NY ELAP
AIHA

Client:	MKM Engineers	**Job Name:**	Ravenna Army Ammunition Plant-LI 6 & 9 Demo	**Chain Of Custody:**	114724
Address:	4153 Blue Bonnet Drive Stafford, Texas 77477	**Job Location:**	Not Provided	**Date Analyzed:**	5/22/03
		Job Number:	02074	**Person Submitting:**	James Panozzo
		P.O. Number:	LA 0503-02074		
Attention:	Brian Stockwell				

Summary of Results of Water Borne Asbestos Analysis by TEM - USEPA and NY ELAP Method 198.2

AMA Sample Number	Client Sample Number	Sample Type	Sample Aliquot (ml)	Filter Collection Area (mm²)	Filter Area Analyzed (mm²)	Sensitivity (MFL) Total Fibers	Sensitivity (MFL) Long Fibers	Fiber Count Total Fibers	Fiber Count Long Fibers	Total Fiber Conc. (MFL) Mean	Total Fiber Conc. (MFL) 95 % UCL	Total Fiber Conc. (MFL) 95 % LCL	Long Fiber Conc. (MFL) Mean	Long Fiber Conc. (MFL) 95 % UCL	Long Fiber Conc. (MFL) 95 % LCL	Comments
0346880	LL9SW-007-0002-SW	Not Provided	0.5	1260	0.119	21.176	21.176		1 Chry		N/A	N/A	< 117.995	117.995	N/A	
0346881	LL9SW-008-0002-SW	Not Provided	0.5	1260	0.119	21.176	21.176		9 Chry		N/A	N/A	190.588	361.800	87.141	
0346882	LL9SW-011-0001-SW	Not Provided	0.5	1260	0.119	21.176	21.176		1 Chry		N/A	N/A	< 117.995	117.995	N/A	
0346883	LL9SW-012-0001-SW	Not Provided	0.5	1260	0.119	21.176	21.176		11 Chry		N/A	N/A	232.941	416.816	116.280	

An AIHA (#6863), NVLAP (# 101143), & New York ELAP (#10920) Accredited Laboratory
4475 Forbes Blvd. • Lanham, MD 20706 • (301) 459-2640 • Toll Free (800) 346-0961 • Fax (301) 459-2643

AMA Analytical Services, Inc.
A Specialized Environmental Laboratory

CERTIFICATE OF ANALYSIS

NVLAP
NY ELAP
AIHA

Client:	MKM Engineers	Job Name:	Ravenna Army Ammunition Plant-LI 6 & 9 Demo	Chain Of Custody:	114724
Address:	4153 Blue Bonnet Drive Stafford, Texas 77477	Job Location:	Not Provided	Date Analyzed:	5/22/03
		Job Number:	02074	Person Submitting:	James Panozzo
		P.O. Number:	LA 0503-02074		
Attention:	Brian Stockwell				

Summary of Results of Water Borne Asbestos Analysis by TEM - USEPA and NY ELAP Method 198.2

AMA Sample Number	Client Sample Number	Sample Type	Sample Aliquot (ml)	Filter Collection Area (mm²)	Filter Area Analyzed (mm²)	Sensitivity (MFL) Total Fibers	Sensitivity (MFL) Long Fibers	Fiber Count Total Fibers	Fiber Count Long Fibers	Total Fiber Conc. (MFL) Mean	Total Fiber Conc. (MFL) 95 % UCL	Total Fiber Conc. (MFL) 95 % LCL	Long Fiber Conc. (MFL) Mean	Long Fiber Conc. (MFL) 95 % UCL	Long Fiber Conc. (MFL) 95 % LCL	Comments

Please Note: EPA requires analysis of 'long' asbestos fibers (>10 um), where as New York State ELAP 198.2 requires analysis of 'long' and 'short' asbestos fibers (>0.5um). EPA also recently promulgated an MCL (maximum containment level) of 7 MFL (millions of fibers per liter) for long (>10um) asbestos fibers for primary drinking water samples.

Limit of Detection: The Limit of Detection (LOD) for this method is equal to four asbestos fibers. If the sample had no asbestos detected (NAD) the mean asbestos concentration is reported as less than the 95% UCL (upper confidence limit), which is 369 % of the analytical sensitivity. If 1 to 3 fibers were detected, the mean asbestos concentration is reported as less than the 95 % UCL. A lower confidence limit (LCL) does not apply (N/A) for samples in which three or fewer asbestos fibers were detected.

Analytical Sensitivity: Typical analytical sensitivities for drinking water samples should be < 10 MFL for 'total' asbestos and <0.2 MFL for 'long' asbestos fibers. Analytical sensitivities may be much higher for non-drinking water samples due to the high concentration of suspended particulate which requires using small aliquots to make usable sample preparations.

Method of Analysis: The method of analysis used is the New York ELAP 198.2 as revised on 6/01/95. This method is based on the Chatfield and Dillion "Analytical Method for the Determination of Asbestos", 1983 (EPA-600/4-84-043) and complies with both USEPA 100.1 and New York State regulations.

Asbestos Types: Chry = Chrysotile; Amos = Amosite; Croc = Crocidolite; Trem = Tremolite; Actn = Actinolite; Anth = Anthophyllite

Luis Bustillos

An AIHA (#8863), NVLAP (# 101143), & New York ELAP (#10920) Accredited Laboratory
4475 Forbes Blvd. • Lanham, MD 20706 • (301) 459-2640 • Toll Free (800) 346-0961 • Fax (301) 459-2643

AMA Analytical Services, Inc.
A Specialized Environmental Laboratory

CERTIFICATE OF ANALYSIS

NVLAP
NY ELAP
AIHA

Client:	GPL Environmental Services, inc.	**Job Name:**	Not Provided	**Chain Of Custody:**	107223
Address:	202 Perry Parkway	**Job Location:**	Not Provided	**Date Analyzed:**	11/27/2002
	Gaithersburg, Maryland 20877	**Job Number:**	211126	**Person Submitting:**	Debbie Griffiths
		P.O. Number:	211126		
Attention:	Debbie Griffiths				

Summary of Results of Water Borne Asbestos Analysis by TEM - USEPA and NY ELAP Method 198.2

AMA Sample Number	Client Sample Number	Sample Type	Sample Aliquot (ml)	Filter Collection Area (mm²)	Filter Area Analyzed (mm²)	Sensitivity (MFL) Total Fibers	Sensitivity (MFL) Long Fibers	Fiber Count Total Fibers	Fiber Count Long Fibers	Total Fiber Conc. (MFL) Mean	Total Fiber Conc. (MFL) 95 % UCL	Total Fiber Conc. (MFL) 95 % LCL	Long Fiber Conc. (MFL) Mean	Long Fiber Conc. (MFL) 95 % UCL	Long Fiber Conc. (MFL) 95 % LCL	Comments
0312300	LL6-SW-SP1-SW	Not Provided	0.1	1260	0.0351	359	359	52 Chry	4 Chry	18667	24479	13941	1436	3677	391	

Please Note: EPA requires analysis of 'long' asbestos fibers (>10 um), where as New York State ELAP 198.2 requires analysis of 'long' and 'short' asbestos fibers (>0.5um). EPA also recently promulgated an MCL (maximum contaminent level) of 7 MFL (millions of fibers per liter) for long (>10um) asbestos fibers for primary drinking water samples.

Limit of Detection: The Limit of Detection (LOD) for this method is equal to four asbestos fibers. If the sample had no asbestos detected (NAD) the mean asbestos concentration is reported as less than the 95% UCL (upper confidence limit), which is 369 % of the analytical sensitivity. If 1 to 3 fibers were detected, the mean asbestos concentration is reported as less than the 95 % UCL. A lower confidence limit (LCL) does not apply (N/A) for samples in which three or fewer asbestos fibers were detected.

Analytical Sensitivity: Typical analytical sensitivities for drinking water samples should be < 10 MFL for 'total' asbestos and <0.2 MFL for 'long' asbestos fibers. Analytical sensitivities may be much higher for non-drinking water samples due to the high concentration of suspended particulate which requires using small aliquots to make usable sample preparations.

Method of Analysis: The method of analysis used is the New York ELAP 198.2 as revised on 6/01/95. This method is based on the Chatfield and Dillion "Analytical Method for the Determination of Asbestos", 1983 (EPA-600/4-84-043) and complies with both USEPA 100.1 and New York State regulations.

Asbestos Types: Chry = Chrysotile; Amos = Amosite; Croc = Crocidolite; Trem = Tremolite; Actn = Actinolite; Anth = Anthophyllite

Lois Bustillos

Job Number: 213716

LABORATORY TEST RESULTS

Date: 12/05/2002

CUSTOMER: MKM Engineers, Inc. PROJECT: LL6 ATTN: Brian Stockwell

Customer Sample ID: LL6-SW-SP1-SW
Date Sampled.....: 11/20/2002
Time Sampled.....: 14:30
Sample Matrix.....: Water

Laboratory Sample ID: 213716-2
Date Received.....: 11/21/2002
Time Received.....: 09:20

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8330	Explosives by 8330 (HPLC)											
	HMX	1.8			0.22	0.39	1.00000	ug/L	70945		11/23/02 0601	san
	RDX	0.14	J	a	0.13	0.16	1.00000	ug/L	70945		11/23/02 0601	san
	1,3,5-Trinitrobenzene	0.16	U		0.080	0.16	1.00000	ug/L	70945		11/23/02 0601	san
	1,3-Dinitrobenzene	0.16	U		0.053	0.16	1.00000	ug/L	70945		11/23/02 0601	san
	Nitrobenzene	0.16	U		0.092	0.16	1.00000	ug/L	70945		11/23/02 0601	san
	2,4,6-TNT	0.16	U		0.068	0.16	1.00000	ug/L	70945		11/23/02 0601	san
	Tetryl	0.31	U		0.22	0.31	1.00000	ug/L	70945		11/23/02 0601	san
	2,4-Dinitrotoluene	0.16	U		0.042	0.16	1.00000	ug/L	70945		11/23/02 0601	san
	2,6-Dinitrotoluene	0.31	U		0.21	0.31	1.00000	ug/L	70945		11/23/02 0601	san
	2-Nitrotoluene	0.31	U		0.16	0.31	1.00000	ug/L	70945		11/23/02 0601	san
	4-Nitrotoluene	0.78	U		0.34	0.78	1.00000	ug/L	70945		11/23/02 0601	san
	3-Nitrotoluene	0.31	U		0.10	0.31	1.00000	ug/L	70945		11/23/02 0601	san
7041	Antimony (SFAA)											
	Antimony	30			2.5	3.0	1	ug/L	70844		12/03/02 2331	daj
7060A	Arsenic (GFAA)											
	Arsenic	530			40	40	20	ug/L	70677		12/03/02 1149	daj
7421	Lead (GFAA)											
	Lead	28000			1900	2000	1000	ug/L	70897		12/04/02 1428	daj
7841	Thallium (GFAA)											
	Thallium	2.0	U		2.0	2.0	1	ug/L	70829		12/03/02 1128	daj
7470A	Mercury (CVAA)											
	Mercury	23			0.49	2.0	10	ug/L	70305		11/26/02 1622	gak

* In Description = Dry Wgt.

STL Chicago is part of Severn Trent Laboratories, Inc.

LABORATORY TEST RESULTS

Job Number: 213716

Date:12/05/2002

CUSTOMER: MKM Engineers, Inc. PROJECT: LL6 ATTN: Brian Stockwell

Customer Sample ID: LL6-SW-SP1-SW
Date Sampled.....: 11/20/2002
Time Sampled.....: 14:30
Sample Matrix.....: Water

Laboratory Sample ID: 213716-2
Date Received.....: 11/21/2002
Time Received.....: 09:20

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
60103	Metals Analysis (ICAP Trace)											
	Aluminum	13000			24	200	1	ug/L	70379		11/28/02 0910	tds
	Barium	900			1.5	10	1	ug/L	70379		11/28/02 0910	tds
	Beryllium	0.56	B		0.17	4.0	1	ug/L	70379		11/28/02 0910	tds
	Cadmium	14			0.44	2.0	1	ug/L	70379		11/28/02 0910	tds
	Calcium	140000			24	100	1	ug/L	70379		11/28/02 0910	tds
	Chromium	580			1.5	10	1	ug/L	70379		11/28/02 0910	tds
	Cobalt	12			1.0	5.0	1	ug/L	70379		11/28/02 0910	tds
	Copper	1700			1.6	10	1	ug/L	70379		11/28/02 0910	tds
	Iron	30000		H	40	50	1	ug/L	70379		11/28/02 0910	tds
	Magnesium	31000			12	100	1	ug/L	70379		11/28/02 0910	tds
	Manganese	1000			0.71	10	1	ug/L	70379		11/28/02 0910	tds
	Nickel	150			1.9	10	1	ug/L	70379		11/28/02 0910	tds
	Potassium	7400			110	500	1	ug/L	70379		11/28/02 0910	tds
	Selenium	6.0			5.0	5.0	1	ug/L	70379		11/28/02 0910	tds
	Silver	5.0	U		3.1	5.0	1	ug/L	70379		11/28/02 0910	tds
	Sodium	4600			500	1000	1	ug/L	70497		11/29/02 1353	tds
	Vanadium	30			2.1	5.0	1	ug/L	70379		11/28/02 0910	tds
	Zinc	1700			10	10	1	ug/L	70379		11/28/02 0910	tds

* In Description = Dry Wgt.

AMA Analytical Services, Inc.

A Specialized Environmental Laboratory

CERTIFICATE OF ANALYSIS

NVLAP
NY ELAP
AIHA

Client:	GPL Environmental Services, Inc.	**Job Name:**	Not Provided	**Chain Of Custody:**	107223
Address:	202 Perry Parkway	**Job Location:**	Not Provided	**Date Analyzed:**	11/27/2002
	Gaithersburg, Maryland 20877	**Job Number:**	211126	**Person Submitting:**	Debbie Griffiths
		P.O. Number:	211126		
Attention:	Debbie Griffiths				

Summary of Results of Water Borne Asbestos Analysis by TEM - USEPA and NY ELAP Method 198.2

AMA Sample Number	Client Sample Number	Sample Type	Sample Aliquot (ml)	Filter Collection Area (mm²)	Filter Area Analyzed (mm²)	Sensitivity (MFL) Total Fibers	Sensitivity (MFL) Long Fibers	Fiber Count Total Fibers	Fiber Count Long Fibers	Total Fiber Conc. (MFL) Mean	Total Fiber Conc. (MFL) 95 % UCL	Total Fiber Conc. (MFL) 95 % LCL	Long Fiber Conc. (MFL) Mean	Long Fiber Conc. (MFL) 95 % UCL	Long Fiber Conc. (MFL) 95 % LCL	Comments
0312300	LL6-SW-SP1-SW	Not Provided	0.1	1260	0.0351	359	359	52 Chry	4 Chry	18667	24479	13941	1436	3677	391	

Please Note: EPA requires analysis of 'long' asbestos fibers (>10 um), where as New York State ELAP 198.2 requires analysis of 'long' and 'short' asbestos fibers (>0.5um). EPA also recently promulgated an MCL (maximum contaminant level) of 7 MFL (millions of fibers per liter) for long (>10um) asbestos fibers for primary drinking water samples.

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Analytical Sensitivity: Typical analytical sensitivities for drinking water samples should be < 10 MFL for 'total' asbestos and <0.2 MFL for 'long' asbestos fibers. Analytical sensitivities may be much higher for non-drinking water samples due to the high concentration of suspended particulate which requires using small aliquots to make usable sample preparations.

Method of Analysis: The method of analysis used is the New York ELAP 198.2 as revised on 6/01/95. This method is based on the Chatfield and Dillion "Analytical Method for the Determination of Asbestos", 1983 (EPA-600/4-84-043) and complies with both USEPA 100.1 and New York State regulations.

Asbestos Types: Chry = Chrysotile; Amos = Amosite; Croc = Crocidolite; Tremo = Tremolite; Actn = Actinolite; Anth = Anthophyllite

Luis Bustillos

STL CHICAGO

Client Sample ID: LL6-SW-SP1-SW

HPLC

Lot-Sample #...: G2K230182-002	Work Order #...: FDR2E1AP	Matrix.....: WATER	
Date Sampled...: 11/20/02	Date Received..: 11/23/02		
Prep Date.....: 11/25/02	Analysis Date..: 12/03/02		
Prep Batch #...: 2330297			
Dilution Factor: 1	Method.....: SW846 8330		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Nitroglycerin	ND	0.65	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
3,4-Dinitrotoluene	90	(35 - 165)

STL CHICAGO

Client Sample ID: LL6-SW-SP1-SW

Trace Level Organic Compounds

Lot-Sample #...: G2KZ30182-002 Work Order #...: FDR2E1AD Matrix.....: WATER
Date Sampled...: 11/20/02 Date Received..: 11/23/02
Prep Date.....: 12/16/02 Analysis Date..: 12/24/02
Prep Batch #...: 2350352
Dilution Factor: 1

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
Nitroguanidine	ND	20	ug/L	NONE UV/HPLC per

STL CHICAGO

Client Sample ID: LL6-SW-SP1-SW

General Chemistry

Lot-Sample #...: G2K230182-002 Work Order #...: PDR2E Matrix.....: WATER
Date Sampled...: 11/20/02 14:30 Date Received..: 11/23/02 09:50

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Perchlorate	ND	4.0	ug/L	EPA-DW1 314.0	12/16/02	2352203

Dilution Factor: 1 Analysis Time..: 12:53 MDL.....: 1.5

STL CHICAGO

Client Sample ID: LL6-SW-SP1-SW

General Chemistry

Lot-Sample #...: G2K230182-002 Work Order #...: FDR2E Matrix.....: WATER
Date Sampled...: 11/20/02 Date Received..: 11/23/02

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrocellulose	ND	0.50	mg/L	MCAWW 353.2	12/11-12/13/02	2345462

Dilution Factor: 1

STL
Committed To Your Success

Chicago Laboratory
2417 Bond Street
University Park, IL 60466
Phone: 708-534-5200
Fax: 708-534-5211

Report To:
Contact: Brian Stockwell
Company: Nixon Engineering, Inc
Address: 8051 SR 5
Ravenna, Ohio 44266
Phone: 330-358-2720
Fax: 330-358-2734
E-Mail:

Bill To:
Contact:
Company:
Address: SAME
Phone:
Fax:
PO#: Quote:

Shaded Areas For Internal Use Only of

Lab Lot #

Package Sealed Yes No	Samples Sealed Yes No
Received on Ice Yes No	Samples Intact Yes No
Temperature °C	of Cooler
Within Hold Time Yes No	Preserv. Indicated Yes No NA
pH Check ok Yes No NA	Res. Cl_2 Check ok Yes No NA
Sample Labels and COC Agree Yes No	COC not present

Sampler Name: James Denozo
Signature:
Project Name: Ravenna Arsenal Explosive D/C
Project Number: 03074
Project Location: RVAAP
Date Required Hard Copy: 10 days
Fax: 10 days
Lab PM: Eric Lang

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	Comp/Grab	Explosives	Explosives	TAL Metals	Explosives	Refrg #	# Cont.	Volume	Preserv	Additional Analyses / Remarks
		LLb-SW-TC1-SW	11/10/02	1350	W	G	X	X	X	X		4	1L		Test trench sample
		LLb-SW-SR1-SW	11/10/02	1430	W	G	X	X	X	X		4	1L		Sump sample
															CLP Not Required
															Please send COC's

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME
	NAKM	11/10/02	1500				
RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME

Matrix Key
WW = Wastewater
W = Water
S = Soil
SL = Sludge
MS = Miscellaneous
OL = Oil
A = Air
SE = Sediment
SO = Solid
DS = Drum Solid
DL = Drum Liquid
L = Leachate
WI = Wipe
O = _____

Container Key
1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other _____

Preservative Key
1. HCl, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn Acetate, Cool to 4°
6. Cool to 4°
7. None

COMMENTS:
Water Samples from LLb-6
Step number 4 sump

Date Received / /
Courier: Hand Delivered
Bill of Lading:

STL
Committed To Your Success

GPL Laboratories, LLP
202 Perry Pkwy
Gaithersburg, MD
301-921-4300
301-840-1201

Chicago Laboratory
2417 Bond Street
University Park, IL 60466
Phone: 708-534-5200
Fax: 708-534-5211

Report To:
Contact: Brian Stockwell
Company: WRM Engineers, Inc.
Address: 8451 SR 5
Ravenna, Ohio 44266
Phone: 330-358-2920
Fax: 330-358-2924
E-Mail:

Bill To:
Contact:
Company:
Address:
Phone:
Fax:
PO#: Quote:

SAME

Shaded Areas For Internal Use Only of

Lab Lot #

Package Sealed Yes No	Samples Sealed Yes No
Received on Ice Yes No	Samples Intact Yes No
Temperature °C	of Cooler
Within Hold Time Yes No	Preserv. Indicated Yes No NA
pH Check ok Yes No NA	Res. Cl_2 Check ok Yes No NA
Sample Labels and COC Agree Yes No	COC not present

Sampler Name: James Pangia
Signature:
Project Name: SK Oil LLC
Project Number: 03074
Project Location: Rhoads
Lab PM: Debbie Griffiths
Date Required Hard Copy: 21 Days
Fax: 14 Days

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	Comp/Grab	Refrg #	# Cont.	Volume	Preserv.	Additional Analyses / Remarks
		LLG-SW-SP1-SW	11/20/02	1430	W	G		1			Sump Sample
											GLP Not Required
											Please send COC's

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME
	MKM	11/20/02	1500				
RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME

Matrix Key
WW = Wastewater
W = Water
S = Soil
SL = Sludge
MS = Miscellaneous
OL = Oil
A = Air
SE = Sediment
SO = Solid
DS = Drum Solid
DL = Drum Liquid
L = Leachate
WI = Wipe
O = _____

Container Key
1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other _____

Preservative Key
1. HCl, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn Acetate, Cool to 4°
6. Cool to 4°
7. None

COMMENTS:

Date Received
Courier: Hand Delivered
Bill of Lading:

TL Chicago is part of Severn Trent Laboratories, Inc.

Job Number: 217478

LABORATORY TEST RESULTS

Date:05/29/2003

CUSTOMER: MKM Engineers, Inc. PROJECT: RAVENNA - LL6, 9, WS ATTN: Brian Stockwell

Customer Sample ID: LL9SW-007-0002-SW
Date Sampled.....: 05/14/2003
Time Sampled.....: 11:40
Sample Matrix.....: Water

Laboratory Sample ID: 217478-1
Date Received.....: 05/15/2003
Time Received.....: 10:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8015B MODRO	IPH - Diesel Range Organics (DRO)											
	Diesel Range Organics (DRO)	3500			30	130	500.000	mg/L	84649		05/22/03 1412	mgk
8260B	Volatile Organics BTEX											
	Benzene	25	U		5.0	25	25.0000	ug/L	85157		05/27/03 1444	dct
	Toluene	25	U		5.2	25	25.0000	ug/L	85157		05/27/03 1444	dct
	Ethylbenzene	25	U		5.0	25	25.0000	ug/L	85157		05/27/03 1444	dct
	Xylenes (total)	69			7.0	25	25.0000	ug/L	85157		05/27/03 1444	dct

* In Description = Dry Wgt.

STL Chicago is part of Severn Trent Laboratories, Inc.

Job Number: 217478

LABORATORY TEST RESULTS

Date:05/29/2003

CUSTOMER: MKM Engineers, Inc. PROJECT: RAVENNA - LL8, 9, WS ATTN: Brian Stockwell

Customer Sample ID: LL9SW-008-0002-SW
Date Sampled.....: 05/14/2003
Time Sampled.....: 12:35
Sample Matrix.....: Water

Laboratory Sample ID: 217478-2
Date Received.....: 05/15/2003
Time Received.....: 10:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	QT	DATE/TIME	TECH
8015B MDRO	TPH - Diesel Range Organics (DRO)											
	Diesel Range Organics (DRO)	5300			60	260	1000.00	mg/L	84649		05/22/03 1451	mgk
8260B	Volatile Organics											
	Benzene	500	U		100	500	500.000	ug/L	85157		05/27/03 1512	dct
	Toluene	500	U		100	500	500.000	ug/L	85157		05/27/03 1512	dct
	Ethylbenzene	280	J		100	500	500.000	ug/L	85157		05/27/03 1512	dct
	Xylenes (total)	2200			140	500	500.000	ug/L	85157		05/27/03 1512	dct

* In Description = Dry Wgt.

STL Chicago is part of Severn Trent Laboratories, Inc.

LABORATORY TEST RESULTS

Job Number: 217478

Date:05/29/2003

CUSTOMER: MKM Engineers, Inc. PROJECT: RAVENNA - LL6, 9; MS ATTN: Brian Stockwell

Customer Sample ID: LL9SW-011-0001-SW
Date Sampled.....: 05/14/2003
Time Sampled.....: 11:15
Sample Matrix.....: Water

Laboratory Sample ID: 217478-3
Date Received.....: 05/15/2003
Time Received.....: 10:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8015B MODRO	TPH - Diesel Range Organics (DRO)											
	Diesel Range Organics (DRO)	560			15	64	500.000	mg/L	84649		05/22/03 1529	mgk
8330	Explosives by 8330 (HPLC)											
	HMX	2.0	U		1.1	2.0	5.00000	ug/L	85084		05/27/03 1515	san
	RDX	0.80	U		0.66	0.80	5.00000	ug/L	85084		05/27/03 1515	san
	1,3,5-Trinitrobenzene	0.80	U		0.40	0.80	5.00000	ug/L	85084		05/27/03 1515	san
	1,3-Dinitrobenzene	0.80	U		0.26	0.80	5.00000	ug/L	85084		05/27/03 1515	san
	Nitrobenzene	0.80	U		0.46	0.80	5.00000	ug/L	85084		05/27/03 1515	san
	2,4,6-TNT	0.80	U		0.34	0.80	5.00000	ug/L	85084		05/27/03 1515	san
	Tetryl	1.6	U		1.1	1.6	5.00000	ug/L	85084		05/27/03 1515	san
	2,4-Dinitrotoluene	0.80	U		0.21	0.80	5.00000	ug/L	85084		05/27/03 1515	san
	2,6-Dinitrotoluene	1.6	U		1.0	1.6	5.00000	ug/L	85084		05/27/03 1515	san
	2-Nitrotoluene	1.6	U		0.82	1.6	5.00000	ug/L	85084		05/27/03 1515	san
	4-Nitrotoluene	3.9	U		1.7	3.9	5.00000	ug/L	85084		05/27/03 1515	san
	3-Nitrotoluene	1.6	U		0.51	1.6	5.00000	ug/L	85084		05/27/03 1515	san
7041	Antimony (GFAA)											
	Antimony	4.3			2.5	3.0	1	ug/L	84974		05/23/03 1203	daj
7841	Thallium (GFAA)											
	Thallium	10	U		10	10	5	ug/L	85143		05/27/03 2018	daj
7470A	Mercury (CVAA)											
	Mercury	150			2.4	10	50	ug/L	85086		05/27/03 1736	gok
6010B	Metals Analysis (ICAP Trace)											
	Aluminum	42000			24	200	1	ug/L	84678		05/22/03 2015	tds
	Arsenic	460			5.2	10	1	ug/L	84678		05/22/03 2015	tds

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 217478

Date:05/29/2003

CUSTOMER: MKM Engineers, Inc. PROJECT: RAVENNA - LL6, 9, WS ATTN: Brian Stockwell

Customer Sample ID: LL9SW-011-0001-SW
Date Sampled.....: 05/14/2003
Time Sampled.....: 11:15
Sample Matrix.....: Water

Laboratory Sample ID: 217478-3
Date Received.....: 05/15/2003
Time Received.....: 10:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Barium	570			1.5	10	1	ug/L	84678		05/22/03 2015	tds
	Beryllium	1.3	B		0.17	4.0	1	ug/L	84678		05/22/03 2015	tds
	Cadmium	15			0.44	2.0	1	ug/L	84678		05/22/03 2015	tds
	Calcium	84000			24	100	1	ug/L	84678		05/22/03 2015	tds
	Chromium	490			1.5	10	1	ug/L	84678		05/22/03 2015	tds
	Cobalt	32			1.0	5.0	1	ug/L	84678		05/22/03 2015	tds
	Copper	850			1.6	10	1	ug/L	84678		05/22/03 2015	tds
	Iron	79000			40	50	1	ug/L	84678		05/22/03 2015	tds
	Lead	57000			2.9	5.0	1	ug/L	84912		05/23/03 2126	tds
	Magnesium	37000			12	100	1	ug/L	84678		05/22/03 2015	tds
	Manganese	1800			0.71	10	1	ug/L	84678		05/22/03 2015	tds
	Nickel	460			1.9	10	1	ug/L	84678		05/22/03 2015	tds
	Potassium	13000			110	500	1	ug/L	84678		05/22/03 2015	tds
	Selenium	9.1			5.0	5.0	1	ug/L	84912		05/23/03 2126	tds
	Silver	5.0	U		3.1	5.0	1	ug/L	84678		05/22/03 2015	tds
	Sodium	3900			500	1000	1	ug/L	84678		05/22/03 2015	tds
	Vanadium	65			2.1	5.0	1	ug/L	84912		05/23/03 2126	tds
	Zinc	2700			10	10	1	ug/L	84678		05/22/03 2015	tds
8260B	Volatile Organics											
	Benzene	100	U		20	100	100.000	ug/L	85157		05/27/03 1546	dct
	Toluene	100	U		21	100	100.000	ug/L	85157		05/27/03 1546	dct
	Ethylbenzene	100	U		20	100	100.000	ug/L	85157		05/27/03 1546	dct
	Xylenes (total)	100	U		28	100	100.000	ug/L	85157		05/27/03 1546	dct

* In Description = Dry Wgt.

Job Number: 217478

LABORATORY TEST RESULTS

Date:05/29/2003

CUSTOMER: MKM Engineers, Inc. PROJECT: RAVENNA - LL6, 9, WS ATTN: Brian Stockwell

Customer Sample ID: LL9SW-012-0001-SW
Date Sampled.....: 05/14/2003
Time Sampled.....: 12:05
Sample Matrix.....: Water

Laboratory Sample ID: 217478-4
Date Received.....: 05/15/2003
Time Received.....: 10:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8015B MDRO	TPH - Diesel Range Organics (DRO)											
	Diesel Range Organics (DRO)	0.12	U		0.028	0.12	1.00000	mg/L	84649		05/22/03 1608	mgk
8330	Explosives by 8330 (HPLC)											
	HMX	0.52	U		0.30	0.52	1.00000	ug/L	85084		05/28/03 0027	san
	RDX	0.21	U		0.18	0.21	1.00000	ug/L	85084		05/28/03 0027	san
	1,3,5-Trinitrobenzene	0.21	U		0.11	0.21	1.00000	ug/L	85084		05/28/03 0027	san
	1,3-Dinitrobenzene	0.21	U		0.071	0.21	1.00000	ug/L	85084		05/28/03 0027	san
	Nitrobenzene	0.21	U		0.12	0.21	1.00000	ug/L	85084		05/28/03 0027	san
	2,4,6-TNT	0.21	U		0.091	0.21	1.00000	ug/L	85084		05/28/03 0027	san
	Tetryl	0.41	U		0.29	0.41	1.00000	ug/L	85084		05/28/03 0027	san
	2,4-Dinitrotoluene	0.21	U		0.056	0.21	1.00000	ug/L	85084		05/28/03 0027	san
	2,6-Dinitrotoluene	0.41	U		0.28	0.41	1.00000	ug/L	85084		05/28/03 0027	san
	2-Nitrotoluene	0.41	U		0.22	0.41	1.00000	ug/L	85084		05/28/03 0027	san
	4-Nitrotoluene	1.0	U		0.45	1.0	1.00000	ug/L	85084		05/28/03 0027	san
	3-Nitrotoluene	0.41	U		0.14	0.41	1.00000	ug/L	85084		05/28/03 0027	san
7041	Antimony (GFAA)											
	Antimony	5.3			2.5	3.0	1	ug/L	85089		05/27/03 1637	daj
7841	Thallium (GFAA)											
	Thallium	2.0	U		2.0	2.0	1	ug/L	84933		05/23/03 1521	daj
7470A	Mercury (CVAA)											
	Mercury	0.38			0.049	0.20	1	ug/L	85086		05/27/03 1722	gok
6010B	Metals Analysis (ICAP Trace)											
	Aluminum	8100			24	200	1	ug/L	84678		05/22/03 2021	tds
	Arsenic	310			5.2	10	1	ug/L	84678		05/22/03 2021	tds

* In Description = Dry Wgt.

TL Chicago is part of Severn Trent Laboratories, Inc.

Job Number: 217478

LABORATORY TEST RESULTS

Date:05/29/2003

CUSTOMER: MKM Engineers, Inc. PROJECT: RAVENNA - LL6, 9, WS ATTN: Brian Stockwell

Customer Sample ID: LL9SW-012-0001-SW
Date Sampled.....: 05/14/2003
Time Sampled.....: 12:05
Sample Matrix.....: Water

Laboratory Sample ID: 217478-4
Date Received.....: 05/15/2003
Time Received.....: 10:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Barium	400			1.5	10	1	ug/L	84678		05/22/03 2021	tds
	Beryllium	0.22	B		0.17	4.0	1	ug/L	84678		05/22/03 2021	tds
	Cadmium	5.6			0.44	2.0	1	ug/L	84678		05/22/03 2021	tds
	Calcium	140000			24	100	1	ug/L	84678		05/22/03 2021	tds
	Chromium	270			1.5	10	1	ug/L	84678		05/22/03 2021	tds
	Cobalt	8.5			1.0	5.0	1	ug/L	84678		05/22/03 2021	tds
	Copper	1000			1.6	10	1	ug/L	84678		05/22/03 2021	tds
	Iron	13900			40	50	1	ug/L	84678		05/22/03 2021	tds
	Lead	7900			2.9	5.0	1	ug/L	84678		05/22/03 2021	tds
	Magnesium	22000			12	100	1	ug/L	84678		05/22/03 2021	tds
	Manganese	900			0.71	10	1	ug/L	84678		05/22/03 2021	tds
	Nickel	160			1.9	10	1	ug/L	84678		05/22/03 2021	tds
	Potassium	46000			110	500	1	ug/L	84678		05/22/03 2021	tds
	Selenium	5.0	U		5.0	5.0	1	ug/L	84912		05/23/03 2141	tds
	Silver	5.0	U		3.1	5.0	1	ug/L	84678		05/22/03 2021	tds
	Sodium	20000			500	1000	1	ug/L	84678		05/22/03 2021	tds
	Vanadium	21			2.1	5.0	1	ug/L	84912		05/23/03 2141	tds
	Zinc	910			10	10	1	ug/L	84678		05/22/03 2021	tds
8260B	Volatile Organics											
	Benzene	1.0	U		0.20	1.0	1.00000	ug/L	85157		05/27/03 2217	dct
	Toluene	1.0	U		0.21	1.0	1.00000	ug/L	85157		05/27/03 2217	dct
	Ethylbenzene	1.0	U		0.20	1.0	1.00000	ug/L	85157		05/27/03 2217	dct
	Xylenes (total)	1.0	U		0.28	1.0	1.00000	ug/L	85157		05/27/03 2217	dct

* In Description = Dry Wgt.

Job Number: 217478

LABORATORY TEST RESULTS

Date:05/29/2003

CUSTOMER: MKM Engineers, Inc. PROJECT: RAVENNA - LL6, 9, US ATTN: Brian Stockwell

Customer Sample ID: LL6-SW-SP1-SW
Date Sampled.....: 05/14/2003
Time Sampled.....: 13:10
Sample Matrix.....: Water

Laboratory Sample ID: 217478-5
Date Received.....: 05/15/2003
Time Received.....: 10:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8015B MDRO	TPH - Diesel Range Organics (DRO)											
	Diesel Range Organics (DRO)	0.57			0.031	0.13	1.00000	mg/L	84649		05/22/03 1646	mgk
8260B	Volatile Organics											
	Benzene	1.0	U		0.20	1.0	1.00000	ug/L	85159		05/28/03 0944	dct
	Toluene	1.0	U		0.21	1.0	1.00000	ug/L	85159		05/28/03 0944	dct
	Ethylbenzene	1.0	U		0.20	1.0	1.00000	ug/L	85159		05/28/03 0944	dct
	Xylenes (total)	1.0	U		0.28	1.0	1.00000	ug/L	85159		05/28/03 0944	dct

* In Description = Dry Wgt.

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.	Manifest Document No.	2. Page 1 of 1	Information in the shaded areas is not required by Federal law.
OH5210020736	H-0116		

3. Generator's Name and Mailing Address
Ravenna Army Arsenal
8451 State Route 5
Ravenna, OH 44266
4. Generator's Phone ( )

A. State Manifest Document Number

B. State Generator's ID

5. Transporter 1 Company Name: ENVIRITE OF OHIO INC
6. US EPA ID Number: OHD980569892
C. State Transporter's ID
D. Transporter's Phone: 800-858-9423

7. Transporter 2 Company Name
8. US EPA ID Number
E. State Transporter's ID
F. Transporter's Phone

9. Designated Facility Name and Site Address
Envirite of Ohio, Inc.
2650 Central Avenue, SE
Canton, OH 44707
10. US EPA ID Number: OHD980568992
G. State Facility's ID
H. Facility's Phone: (330) 456-6238

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	HM	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. RQ, Hazardous waste liquid, n.o.s., (contains lead), 9, NA3082, PGIII (D008)	X	001	T	01,100	G	D008
b.						
c.						
d.						

J. Additional Descriptions for Materials Listed Above
ERG#: 171 C6456

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
Emergency contact and phone number:

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimized the present and future threat to human health and the environment; **OR**, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name	Signature	Month	Day	Year
Mark Patterson		10	22	03

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
		10	22	03

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year

T/S/D/F COPY

referenced

herein,

tion 7, and other
waste stream, so
ection 8 only for

mplete section
9
10
9
11
12

WEIGHT TALLY NUMBER

REMARKS:

RAVENNA
C6456
7006
42800 lb 06:21 PM 10/22/03
42780 lb Gross
8780 lb Net
34000 lb Tare
06:21 PM 10/22/03

☐ LPU ☒ SPU

ECTION 7

f Notification/
rtification
in the blank)

section 9
section ___

ENVIRITE OF OHIO, INC., WEIGHER

BRECHBUHLER SCALES

					See section ___
					See section ___

SECTION 8 **Underlying Hazardous Constituents (UHCs)** (For each waste stream for which they must be identified, please identify all UHCs, or indicate that they are identified in an attachment to this form.

SECTION 9 To be land disposed, this waste must meet applicable land disposal restrictions treatment standards in 40 CFR 268 Subpart D.

Printed Name: Mark Patterson Signature: Mark Patt Date: 10-22-03

SECTION 10 I certify under penalty of law that I have personally examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 40 CFR part 268 subpart D. I believe that the information I submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment.

Printed Name: Signature: Date:

SECTION 11 I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268.40 to remove the hazardous characteristic. This decharacterized waste contains underlying hazardous constituents that require further treatment to meet universal treatment standards. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment.

Printed Name: Signature: Date:

SECTION 12 I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268.40 to remove the hazardous characteristic and that underlying hazardous constituents, as defined in § 268.2(i) have been treated on-site to meet the § 268.48 Universal Treatment Standards. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment

Printed Name: Signature: Date:

CARRIER

2050 CENTRAL AVENUE S.E.
CANTON OH 44707
330-456-6238

Central Dispatch Number
(800) 858-9423

EPA ID: OHD980568992
ICC: MC 311576

Bol No.: 51530 C
Load No.:
Stream No.: C# 64156
Date: 10-22-03

TO CONSIGNEE: ENVIRITE OF OHIO INC
STREET: 2050 CENTRAL AVENUE
DESTINATION: CANTON OHIO 44707

FROM SHIPPER: RAVENNA ARMY ARSENAL
STREET: 8451 STATE ROUTE 5
ORIGIN: RAVENNA STATE: OHIO ZIP: 44266

No. Shipping Units	HM	Kind of Packages, Description of Articles (IF HAZARDOUS MATERIALS - PROPER SHIPPING NAME)	HAZARD CLASS	I.D. Number	PACKING GROUP	WEIGHT (subject to correction)
1. 1	X	RQ, HAZARDOUS WASTE LIQUID, NOS (CONTAINS LEAD)	9	NA 3082	III	GAL 1100
2.						
3.						

IF PRODUCT TEMPERATURE IS OVER 130°F, CALL DISPATCH

DRIVER: T R HARDING
TRUCK #: 205805
TRAILER #: 7006-CS
BOX #
SPOTTED
REMOVED

Miles		Pump Used (Y) N	Liner Used Y N	
Finish	611730	P/U Date 10-22-03	Del. Date	Gross Wt.
Start	611642	P/U Time	Del. Time	Tare Wt.
TOTAL	88	In 8:45 Out 4:30	In 6:30 Out	Net Wt.

Special Instruction & Explain Delay at Shippers: TANK CLEAN OUT 75 61

Special Instruction & Explain Delay at Consignee

This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.
I have inspected the trailer and certify it acceptable for loading and verify that the times and explanation listed above are correct.

I have inspected the trailer and certify it completely empty and verify that the times and explanation listed above are correct.

Shipper Signature X: Mark Patta
Loading Date: 10-22-03
Driver Signature X: T R HARDING

Consignee Signature X
Unloading Date
Driver Signature X

CARRIER - ENVIRITE OF OHIO, INC. - CANTON, OH 44707

CARRIER - ENVIRITE OF OHIO, INC. - CANTON, OH 44707

WHITE — CANARY — PINK — Transporter — GOLDENROD — Shipper

...ignated Generator's Certification

...may also be used – press down hard.

...Federal regulations require generators and transporters of hazardous waste and owners or operators of hazardous waste treatment, storage, and disposal facilities to use this form (8700-22) and, if necessary, the continuation sheet (Form 8700-22A) for both inter- and intrastate transportation.

...Federal regulations also require generators and transporters of hazardous waste and owners or operators of hazardous waste treatment, storage and disposal facilities to

The generator must read, sign (by hand), and date the certification statement. If a mode *other than* highway is used, the word "highway" should be lined out and the appropriate mode (rail, water, or air) inserted in the space below. If another mode *in addition to* the highway mode is used, enter the appropriate additional mode (e.g., *and rail*) in the space below.

Primary exporters shipping hazardous wastes to a facility located outside of the United States must add to the end of the first sentence of the certification the following words: