SDMS DocID 457924

INDUSTRI-PLEX SITE REMEDIAL TRUST

Via US Mail

August 25, 2009

S... Center
S... Industri-plex Site
I... 87
C... 457924

Joseph F. LeMay, P.E.
Remedial Project Manager
US EPA, Office of Site Remediation and Restoration
1 Congress St.
Suite 1100 (HBO)
Boston, MA 02114-2023

Dear Mr. LeMay:

Enclosed are two (2) copies of the final report, "Control Vault Modifications", prepared by Maverick Construction Management Services, Inc. This report describes the modifications to the control vaults on the East Hide Pile at the Industri-Plex Site that were made during late 2008 and completed in 2009.

This report documents the changes to the vault structure, the process used to permanently seal the vaults and the elevation survey that confirms that the replacement cover meets the required design specifications.

Should you have any questions, please call.

Sincerely,

Timothy M. Cosgrave
ISRT Project Coordinator

cc: with enclosure
J. McWeeney, MassDEP
C. Dickerson, SMC
R. Cooper, Monsanto

Completion Report

Control Vault Modifications

Industri-plex Site
Woburn, MA

Date: July 16, 2009

Prepared For: Industri-plex Site Remedial Trust
Woburn, MA

Prepared By: MAVERICK
Construction Management Services, Inc.

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1.0 INTRODUCTION

This Completion Report documents the Control Vault Modification Project performed on the East Hide Pile from December 1 to 19, 2008. The project entailed accessing the existing gas control vaults, removing the flame arrestors from within the vault piping, abandoning the vaults with stone backfill, and covering over the former vault area with an extension of the impermeable cover system. The purpose of the project was to assist in the elimination of potential migration of hide pile gas into the vaults with resulting nuisance odors. The work was performed in accordance with Maverick Construction Management Services Inc's (Maverick's) December 1, 2008 Construction Work Plan (CWP). The project required the disturbance and modification of the alternate cover system on Class C land within the bounds of the Industri-plex Site. Maverick performed all intrusive work down to the existing impermeable cover and then prepared the open excavations for its subcontractor, East Coast Liner, to install new geosynthetic materials. Maverick performed all work in accordance with applicable OSHA health and safety requirements, the December 2008 Site Specific Health and Safety Plan (HASP), and the CWP. Maverick served as the Independent Professional (i.e. hazardous waste site cleanup professional/professional engineer) and the Site Health and Safety Officer (SHSO) for work in Class C land.

1.1 Site Description

The Industri-plex Site is a 245-acre Superfund site that underwent remediation in the 1990's. The Industri-plex Site Remedial Trust (ISRT) entered into a Consent Decree with the US EPA to remediate the site. Remediation included the installation of an engineered cover, or approved equivalent cover, in areas that contained contaminated soil in excess of the action levels in the Consent Decree.

Additional background information is available upon request from the Industri-plex Site.

1.2 Associated Project Documents

The following plans were developed for this project and are summarized below.

1.2.1 Health and Safety Plan

The Health and Safety Plan (HASP) for this project was prepared in accordance with the requirements of Title 29, Code of Federal Regulations (CFR) Part 1910.120 to protect onsite personnel, visitors and the public from physical harm and exposure to hazardous materials during activities at the Site. The HASP was taken into consideration in developing the CWP and determining what equipment was required for activities at the Site. Where possible, personnel were separated from potential hazards when equipment could be used to conduct the task.

Air monitoring was conducted in accordance with the HASP and the CWP. The objective of the HASP was to prevent support area personnel and nearby residents from being exposed to airborne hazardous substances at concentrations greater than applicable standards. The HASP outlined the instrumentation and procedures for monitoring and recording the concentrations of airborne dust during the excavation activities. Data collected was used to form the basis for any modifications of work practices and/or engineering controls to reduce emissions.

2.0 PROJECT ORGANIZATION AND RESPONSIBITIES

Maverick and its subcontractor, East Coast Liner, performed the control vault modification work. Maverick served as the Construction Manager and Site Health and Safety Officer (SHSO) for the work described below.

2.1 Key Personnel

The key personnel and their contact information for this project were:

OU1 Project Coordinator
Harvard Project Services LLC
Tim Cosgrave
Office: 978-772-1105

The OU1 Project Coordinator was responsible for managing the Industri-plex Site activities on behalf of the ISRT.

Construction Manager
Maverick Construction Management Services, Inc.
John Fiore & Tim Joness
Office: 508-721-2227
Cellular: 781-389-0514

The Construction Manager was the person responsible for the implementation and direction of field operations to ensure that the work was conducted in accordance with the requirements of the CWP. The Construction Manager interacted closely with the OU1 Project Coordinator and was onsite full time during the control vault modification work.

Health and Safety Officer
Maverick Construction Management Services, Inc.
Tim Joness & Ken Lafferty
Office: 508-721-2227
Cellular: 978-888-4084

The Site Health and Safety Officer (SHSO) was responsible for directing the implementation of the Site Health and Safety Plan (HASP). The SHSO conducted initial site-specific training and implemented the air monitoring program, evaluated site hazards, determined levels of protection, and recommended other protective measures to the Construction Manager. The SHSO was onsite full time during the control vault modification work.

2.2 Communication/Coordination

Prior to commencing the work, the Construction Manager and the OU1 Project Coordinator met to discuss the following topics:

- Project Overview
- Roles and responsibilities
- Lines of communication
- Contact information
- Notification requirements
- Project schedule
- Working hours
- Safety requirements
- Project documentation

Due to the short duration of the project, no weekly or routine construction meetings were held.

2.3 Project Field Personnel

Maverick and East Coast Liner's field personnel completed health and safety training in accordance with 29 CFR 1910.120. All field personnel received a site orientation and were familiarized with the HASP prior to commencement of work.

3.0 SCOPE OF WORK

3.1 Objective and Approach

The East Hide Pile is covered with an impermeable liner and contains a gas collection system that is connected to a gas destruction system. As part of this system, a network of control vaults were installed to house the HDPE header piping, pressure operating valves and flame arrestors. The vaults are located half below and half above the impermeable cover. The impermeable cover is attached to the outside of the vaults by a batten strip.

The HDPE header piping located below the liner enters and exits the vault through the side walls below the liner. The pressure operating valves located in the vaults were found to be inoperable and were removed several years ago during modifications intended to optimize the system. Only HDPE manifold piping and redundant flame arrestors remain in the vaults. Leaks around the pipe penetrations in the vaults have been a source of odor since operation of the system began. These penetrations have been resealed on prior occasions and continue to fail, most likely due to settlement of the hide pile. The flame arrestors are redundant because the system is adequately protected with a flame arrestor at the thermal oxidizing unit which is the only possible ignition source. The work was performed to prevent fugitive emissions of hide pile gas by sealing the control vaults under the impermeable cover.

3.2 Mobilization and Site Setup

Prior to mobilization, the OU1 Project Coordinator notified Joseph LeMay, Project Manager for the US Environmental Protection Agency (US EPA) Region I and Jennifer McWeeney, Project Manager for the MassDEP.

Maverick and its subcontractor, East Coast Liner mobilized the following personnel and equipment to perform the work:

Personnel

- Construction Manager
- Health & Safety Officer
- Equipment Operators
- Laborers

Equipment

- Air Monitoring & Health & Safety Equipment
- CAT 305 Mini-Excavator
- (2) CAT 287 Track Skid Steers
- Service and Pickup Trucks
- Large Plate Compactor
- Geomembrane seaming equipment

3.3 Construction Activities

The control vault modifications were performed as specified in the CWP and the actual sequence and details of the work are described below:

1. Prior to opening the vaults or removing the flame arrestors, the thermal oxidizer was operated for several hours to minimize the potential for hide pile gas emissions. When shutdown, lock out / tag out procedures were followed with the thermal oxidizer.

2. First, the East Hide Pile soil cover was carefully excavated 5 feet beyond the exterior of all 9 vaults and down to the existing geocomposite drainage layer. The excavation was performed using a CAT 305 Mini-Excavator with a straight edge bucket and laborers using hand shovels to prevent any damage to the geocomposite. The excavated soil was segregated (topsoil versus cover soil), stockpiled, and covered adjacent to each vault work area. Air monitoring was conducted while this work was performed.

3. Once the geocomposite was fully exposed and cleaned off, all of the vault covers were removed and the vault was allowed to vent. The vault covers were transported by low ground pressure, rubber tracked CAT 287 Skid Steers and dumped in a roll-off container for offsite disposal. Each vault space was monitored for oxygen and LEL levels and the air monitoring indicated that each vault space was safe for cutting. A laborer then cut the side walls of each vault down to the batten strip connection with the existing impermeable geomembrane cover. These pieces from the vault were also dumped in the roll-off container for offsite disposal.

4. Prior to disconnecting the flame arrestor from the piping within the first vault, two laborers were outfitted in Level B PPE with supplied air breathing apparatus. The flame arrestor was disconnected while air monitoring was conducted within the vault space. The air monitoring indicated that VOC, CO and H2S concentrations were zero. Operating the thermal oxidizer immediately prior to performing this task and the shallow (less than 3 feet deep), well ventilated vault space contributed to the safe atmosphere. The flame arrestor was lifted out of the vault using the CAT 305 Mini-Excavator and the ends of the piping within the vault were temporarily capped. The flame arrestor was placed on the asphalt roadway adjacent to the TOU Building. The ends of the flame arrestor were unbolted and the inner lining was removed and dumped in the roll-off container for offsite disposal. The flame arrestor (i.e. the outer casing) was reassembled and reconnected to the piping within the vault. This work in the first vault was again performed in Level B PPE with supplied air breathing apparatus. When the caps were removed from the piping to reconnect the flame arrestor, air monitoring results again indicated no concentrations of VOCs, CO or H2S.

This task of disconnecting the flame arrestor, removing its inner lining and then reconnecting the flame arrestor casing to the piping was repeated for the remaining 8 vaults. However based on the air monitoring results, the SHSO determined that Level C PPE could be used by the laborers when disconnecting and reconnecting the flame arrestor within the vaults.

5. The interior of each vault was then filled with AASHTO No. 8 aggregate. The corners of the each vault were located using a global positioning system (GPS). The vaults were designated by number with Vault 1 located nearest and Vault 9 located furthest from the TOU Building. The northing and easting coordinates and the elevations of each vault corner are shown in Table 1. These coordinates have been used to prepare the as-built drawings prepared by Meridian as shown in Appendix D (Drawing #'s 1-10). A small wedge of cover soil (approximately 3 feet wide) was then placed around and against the exterior of the vault side walls. This wedge and the AASHTO No. 8 aggregate formed a smooth transition of backfill over the former vault. The backfill was carefully compacted to minimize the potential for settlement.

6. East Coast Liner mobilized on December 15, 2008, once the vaults had been backfilled and the areas were prepared for geosynthetic installation. East Coast Liner first cut and folded back the geocomposite to expose the underlying geomembrane. In Vault Nos. 8 & 9 geogrid was present above the geocomposite and this material was also folded back to expose the geomembrane. East Coast Liner then placed a cushion layer of 16-ounce non-woven geotextile over the vault backfill and then placed a new piece of 60-mil textured HDPE geomembrane over the former vault. The new piece of geomembrane was welded to the existing geomembrane around the perimeter of the former vault. East Coast Liner then folded the existing geocomposite back over the geomembrane and added a new piece of geocomposite to cover over the former vault. In Vault Nos. 8 & 9, the geogrid was folded back over the geocomposite.

   Material certificates for the non-woven geotextile, the 60-mil textured HDPE geomembrane and the geocomposite are included in Appendix A. Destruct samples of the geomembrane welded seams were sent to TRI and the test results are included in Appendix B. The geosynthetics were installed in accordance with the remedial design specifications included in the CWP and the geomembrane welded seams exceeded the minimum specified strengths.

7. Once the former vault areas had been sealed under the impermeable cover, Maverick backfilled with the cover soil and topsoil that had been temporarily stockpiled adjacent to the excavations. The backfill was compacted using a vibratory plate compactor. A minimum 12 inches of cover soil and 4 inches of topsoil was placed above the geocomposite. Maverick confirmed the minimum alternate cover system thickness of 16 inches by placing PVC pipe within the backfill. The pipe was placed directly on top of the geocomposite at the approximate former vault corners and the backfill was carefully placed

around the pipe to final grade. GPS was used to collect coordinates and elevations at the bottom of each pipe (i.e. the top of the geocomposite) and at final grade adjacent to each pipe. These northing and easting coordinates and elevations are shown in Table 1. The data indicates that the cover soil and topsoil thickness exceeds the specified 16 inches.

8. In December 2008 Maverick neatly graded all disturbed areas on the East Hide Pile. In April 2009 Maverick performed final restoration by placing additional topsoil over the disturbed areas, and performed seeding and mulching in accordance with the remedial design specifications. The topsoil used for final restoration was obtained from a virgin residential source of stripped topsoil in Waltham, MA. A representative sample of the topsoil was chemically analyzed and the test results (included in Appendix E) were submitted to the USEPA. Based on the analytical data, the USEPA accepted the topsoil for use on the Industri-Plex Site. The USEPA's acceptance e-mail is also included in Appendix F. Not all topsoil delivered to the Site was placed during restoration of the East Hide Pile. Approximately 100 cy of topsoil was stockpiled behind the Thermal Oxidation Unit Building for future cover maintenance activities onsite.

3.4 Air Monitoring

Continuous air monitoring was performed during the work as described in the CWP and the HASP. As previously discussed, no VOC, CO, H2S or combustible concentrations were encountered in the work zone or at upwind and downwind locations during the project. By operating the thermal oxidizer overnight and before various tasks, odors were also minimized during the work.

4.0 CLOSURE PROCESS AND COMPLETION REPORT DOCUMENTATION

At the conclusion of the work in December, the site was inspected by the Construction Manager. All temporary site services and materials had been removed from the site and all equipment and personnel were demobilized. In July 2009 the site was again inspected by the construction manager and good vegetative growth was observed over the East Hide Pile work areas.

This completion report documents the intrusive activities performed at the Industri-plex Site. The table and the appendices attached hereto are provided to complete the documentation of the Control Vault Modification Project.

Tables

Industri-Plex
Control Vault Modification

	Vault Corners				Top of Membrane				Ground Surface				
	Point No.	Northing	Easting	Elevation	Point No.	Northing	Easting	Elevation	Point No.	Northing	Easting	Elevation	Soil Cover Thickness (Feet)
VAULT 1-1	4	6911.836	3944.645	112.269	80	6911.955	3945.062	112.471	147	6912.153	3944.309	114.461	1.99
VAULT 1-2	5	6919.866	3941.587	112.182	81	6920.262	3941.845	112.365	146	6919.574	3940.998	114.354	1.989
VAULT 1-3	6	6916.963	3933.919	112.232	82	6916.66	3934.968	112.523	145	6916.287	3934.685	114.862	2.339
VAULT 1-4	7	6908.896	3936.905	112.233	83	6908.672	3937.625	112.522	149	6909.663	3937.227	114.566	2.044
VAULT 2-1	8	6898.48	3892.744	114.649	84	6898.198	3892.236	114.75	143	6898.956	3892.231	116.636	1.886
VAULT 2-2	9	6906.694	3890.041	114.516	87	6905.754	3889.128	114.786	142	6905.805	3888.553	116.606	1.82
VAULT 2-3	10	6904.086	3882.099	114.474	86	6903.72	3882.766	114.684	141	6903.195	3882.222	117.018	2.334
VAULT 2-4	11	6895.67	3884.841	114.34	85	6895.072	3885.11	114.568	144	6896.018	3884.842	116.57	2.002
VAULT 3-1	12	6876.027	3845.258	113.507	88	6876.252	3844.691	113.962	140	6876.623	3844.632	115.735	1.773
VAULT 3-2	13	6884.436	3842.619	113.602	91	6884.192	3841.591	113.934	138	6883.62	3841.219	115.875	1.941
VAULT 3-3	14	6881.847	3834.608	113.689	90	6882.833	3834.256	113.951	137	6881.966	3834.872	115.846	1.895
VAULT 3-4	15	6873.3	3837.14	113.512	89	6873.618	3838.038	113.927	139	6874.246	3838.02	115.856	1.929
VAULT 4-1	16	6863.974	3794.828	112.887	92	6862.867	3794.381	113.089	134	6863.52	3793.523	115.476	2.387
VAULT 4-2	17	6872.325	3792.137	113.178	95	6872.709	3791.92	113.264	135	6872.15	3791.013	115.549	2.285
VAULT 4-3	18	6869.862	3784.155	113.016	94	6870.187	3784.159	113.15	136	6870.181	3785.079	115.404	2.254
VAULT 4-4	19	6861.482	3786.759	112.912	93	6861.323	3786.756	113.078	133	6862.353	3787.576	115.433	2.355
VAULT 5-1	20	6843.289	3747.134	111.037	96	6842.644	3747.684	111.169	132	6843.536	3746.76	113.048	1.879
VAULT 5-2	21	6851.509	3744.461	111.05	99	6851.598	3745.084	111.181	131	6851.165	3744.417	113.342	2.161
VAULT 5-3	22	6849.05	3736.568	110.829	98	6849.378	3737.33	111.208	130	6849.693	3738.141	113.127	1.919
VAULT 5-4	23	6840.708	3739.287	110.971	97	6840.635	3740.502	111.189	129	6841.364	3740.585	112.873	1.684
VAULT 6-1	24	6831.118	3697.175	109.711	100	6831.164	3697.479	109.873	127	6830.841	3697.716	111.907	2.034
VAULT 6-2	25	6839.354	3694.589	109.744	103	6839.343	3694.908	109.866	126	6838.92	3693.929	111.773	1.907
VAULT 6-3	26	6836.939	3686.667	109.646	102	6836.564	3686.694	109.941	125	6836.338	3688.101	111.854	1.913
VAULT 6-4	27	6828.684	3689.323	109.777	101	6828.564	3689.769	109.915	128	6828.648	3690.057	111.808	1.893
VAULT 7-1	28	6810.26	3648.656	108.369	104	6810.131	3647.857	108.509	123	6810.447	3647.69	110.475	1.966
VAULT 7-2	29	6818.495	3646.053	108.357	107	6818.312	3646.106	108.494	122	6818.146	3645.279	110.257	1.763
VAULT 7-3	30	6816.064	3638.329	108.115	106	6815.662	3638.096	108.225	121	6815.7	3638.517	110.201	1.976
VAULT 7-4	31	6807.795	3640.693	108.108	105	6807.43	3640.092	108.279	124	6808.13	3641.049	110.038	1.759
VAULT 8-1	32	6798.683	3596.748	106.097	108	6798.202	3596.447	106.187	151	6798.517	3595.703	108.033	1.846
VAULT 8-2	33	6806.871	3594.176	106.096	111	6806.258	3594.735	106.258	154	6806.16	3593.784	108.354	2.096
VAULT 8-3	34	6804.557	3586.362	105.777	110	6804.192	3587.433	106.048	153	6803.741	3586.848	108.046	1.998
VAULT 8-4	35	6796.231	3588.735	105.722	109	6797.1	3589.584	105.917	152	6797.348	3588.764	107.72	1.803
VAULT 9-1	36	6778.601	3588.927	102.02	114	6778.756	3588.045	102.115	119	6780.145	3588.034	104.405	2.29
VAULT 9-2	37	6786.358	3586.583	102	112	6786.009	3584.233	102.794	118	6786.338	3584.811	104.839	2.045
VAULT 9-3	38	6784.168	3578.31	102.136	116	6783.912	3578.427	102.392	117	6784.318	3579.076	104.384	1.992
VAULT 9-4	39	6776.423	3580.521	102.204	115	6776.267	3580.875	102.288	120	6777.07	3580.873	104.129	1.841

NON Woven Geotextile

TENCATE MIRAFI®

1160N/15/150 SY1

Length (Meters)	45.72	Length (FT)	150.00
Width (Meters)	4.57	Width (Inches)	180.00
Area (Sq Meters)	209.03	Area (Sq. Yards)	250.00
Gross KGS	112.04	Gross LBS	247.00
Net Kilograms	103.42	Net Pounds	228.00
Lot ID	12541A	Pack Date	20080924

921433680

921433680

60ml Textured Geomembrane
(Solmax)

SOLMAX INTERNATIONAL
2801, Boul. Marie-Victorin
Varennes, Quebec, Canada, J3X 1P7
Tel.: 1-450-929-1234
Tel.: 1-800-571-3904
Fax: 1-450-929-2547

Manufacturing Quality Control Test Results - Rolls

Solmax Accepted Quality Department

Product : Solmax 460T-1000

Project Name : Woburn, MA
Project Number : 9554
Ref. Number : 101688 *Invoice Number :* 203562

Properties		Thickness ave / min.	Geomembrane Density	Carbon Black Content	Carbon Black Dispersion	Yield Strength	Yield Elong.	Break Strength	Break Elong.	Tear Resistance	Puncture Resistance	Dimension Stability	Asperity Height in / out
Unit		mils	g/cc	%	Cat. 1 and Cat. 2	ppi	%	ppi	%	lbs	lbs	%	mils
Test Method		D5994	D1505	D4218	D5596	D6693 Tensile Properties (D 638, Type IV)				D1004	D4833	D1204	GRI-GM-12
Frequency		Each roll	1/2 ro	1/2 ro	1/6 ro	1/2 ro				1/6 ro	1/6 ro	1/6 ro	Each roll
Specification		57 / 51	>0.94	>2.0 / <3.0	Cat 1 Cat 2	132	13	132	150	45	120	±2	10
1-74170	MD	61 / 58	0.946	2.5	10 / 10 Views	179.6	16.3	218	550	57.0	153.7	-0.46	15.9 / 16.0
	XD					181.5	15.0	205	539	55.0		0.05	

SOLMAX INTERNATIONAL
2801, Boul. Marie-Victorin
Varennes, Quebec, Canada, J3X 1P7
Tel.: 1-450-929-1234
Tel.: 1-800-571-3904
Fax: 1-450-929-2547

List of Geomembrane Rolls

MF-QQ 51
Rev. 05: 21 mars 2006

solmax ACCEPTED Quality Department

Project Name: Woburn, MA
Project Number: 9554
Reference Number: 101688
Invoice Number: 203562

Roll Number	Product Code	Resin Lot Number	Manufactured Date	SP-NCTL ASTM D5397 (hr) Specification	Result	Roll Tested
1-74170	Solmax 460T-1000	8281241	19-oct-08	>300	400	1-74132

Quantity (rolls): 1

Resin Certification

Resin Lot	Melt Index ASTM D1238 g/10min	Density ASTM D1505 g/cc	OIT ASTM D3895 min	HP-OIT ASTM D5885 min
8281241	0.100	0.938	120	N/A

Chevron Phillips Chemical Company LP

CoA Date: 09/23/2008

Certificate of Analysis

Shipped To: SOLMAX
2801 BOUL MARIE-VICTORIN
VARENNES QC J3X 1P7
CANADA

Recipient: Giguere
Fax:

CPC Delivery #: 87740717
PO #: 102710
Weight: 183900 LB
Ship Date: 09/23/2008
Package: BULK
Mode: Hopper Car
Car #: GOCX058038

Product:
MARLEX POLYETHYLENE K306 BULK

OIT>120 minutes (nominal value, not tested on every lot).

Lot Number: 8281241

Property	Test Method	Value	Unit
Melt Index	ASTM D1238	0.100	g/10mi
HLMI Flow Rate	ASTM D1238	12.00	g/10mi
Density	ASTM D1505	0.9380	g/cm3
Production Date		09/11/2008	

The data set forth herein have been carefully compiled by Chevron Phillips Chemical Company LP.
However, there is no warranty of any kind, either expressed or implied, applicable to its use, and the user assumes all risk and liability in connection therewith.

Troy Griffin
Quality Systems Coordinator

For CoA questions contact Tom Scheirman at 832-813-4637

Geocomposite
(Skaps)

SKAPS Industries

January 12, 2009

IWT / Cargo Guard
PO Box 454
Waretown NJ 08758

RE: Woburn MA

Dear Sir/Madam:

This is to certify that Transnet 330-2-8 is resistant to degradation due to ultraviolet exposure and resists commonly encountered soil chemicals, insects, mildew, and is non-biodegradable. SKAPS further certifies that products delivered to the project site will have chemical, physical, and manufacturing property values equal to or greater than those specified below:

NET PROPERTY	TEST METHOD	UNITS	MINIMUM AVERAGE ROLL VALUE
Mass Per Unit Area	ASTM D-5261	lbs/ft^2	0.340
Thickness	ASTM D-5199	mils	.330 +/- .03
Density of Polymer	ASTM D-1505	g/cm^2	0.94
Carbon Black	ASTM D-1603	%	2-3
Ply Adhesion	ASTM D-413	lb/in	1
Tensile Strength	ASTM D-4595	lb	75
Transmissivity (composite)	ASTM D-4716	m^2/sec	$1x10^{-3}$*

*Transmissivity measured using water at 20 Degrees C with a gradient of 0.01, between steel plates, under a confining pressure of 1,000psf, after 15 minutes. Values may vary based on dimension of the transmissivity specimen and specific laboratory.

GE-180 is a superior quality, nonwoven geotextile and conforms to the physical property values below:

FABRIC PROPERTY	TEST METHOD	UNITS	MINIMUM AVERAGE ROLL VALUE
Weight	ASTM D-5261	oz	8.0
Grab Tensile	ASTM D-4632	lbs	225
Grab Elongation	ASTM D-4632	%	50
Trap Tear	ASTM D-4533	lbs	90
Puncture	ASTM D-4833	lbs	130
Mullen Burst	ASTM D-3786	psi	425
Water Flow Rate	ATMD D-4491	gpm/ft^2	100
Permittivity*	ASTM D-4491	sec^{-1}	1.26
Permeability*	ASTM D-4491	cm/sec	0.30
AOS	ASTM D-4751	US Sieve	80
UV Resistance	ASTM D-4355	% hours	70 @ 500

*At time of manufacturing. Handling may change these properties.

Regards,

Brent Beckham

Appendix B

December 17, 2008

Mail To:

Mr. Tim Joness
Maverick Contruction Management
P.O. Box 60700
King of Prussia, PA 19406

E-mail: jfiore@maverick-cm.com
CC E-mail: acaribo@maverick-cm.com - Amanda Caribo

Bill To:

<= Same

Dear Mr. Joness:

Thank you for consulting TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**Industri-Plex Superfund Site**
TRI Job Reference Number:	E2324-12-04
Material(s) Tested:	3 Heat Fusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/D 3083/D 413)

Codes	
AD	Adhesion failure (100% Peel)
BRK	Break in sheeting away from Seam edge
SE	Break in sheeting at edge of seam
AD-BRK	Break in sheeting after some adhesion failure - partial peel
SIP	Separation in the plane of the sheet (leaving the bond intact)
FTB	Film tearing bond (all non "AD" failures)
NON-FTB	100% peel

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

Melissa Hunter

Melissa Hunter
Project Manager
Geosynthetic Services Division
www.GeosyntheticTesting.com

GeosyntheticTesting.com
9063 Bee Caves Road / Austin, TX 78733 / 512 263 2101 / fax: 512 263 2558

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Maverick Construction Management
Project: Industri-Plex Suferfund Site

Material: 60 mil HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/D 3083/D413)
TRI Log #: E2324-12-04

PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	MEAN	PROJ. SPEC.
Sample ID: DS-1							
Weld: Single Extrusion							
						Peel	
Peel Strength (ppi)	166	164	163	168	174	167	90 min
Peel Incursion (%)	<10	<10	<10	<10	<10		
Peel Locus of Failure Code	SE	SE	SE	SE	SE		
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
						Shear	
Shear Strength (ppi)	200	189	184	187	191	190	120 min
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		
Sample ID: DS-2							
Weld: Single Extrusion							
						Peel	
Peel Strength (ppi)	166	162	140	142	157	153	90 min
Peel Incursion (%)	<10	<10	<10	<10	<10		
Peel Locus of Failure Code	SE	SE	SE	SE	SE		
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
						Shear	
Shear Strength (ppi)	183	183	180	188	182	183	120 min
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		
Sample ID: DS-3							
Weld: Single Extrusion							
						Peel	
Peel Strength (ppi)	115	115	111	102	115	112	90 min
Peel Incursion (%)	<10	<10	<10	<10	<10		
Peel Locus of Failure Code	SE	SE	SE	SE	SE		
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
						Shear	
Shear Strength (ppi)	195	180	190	179	184	186	120 min
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		

The testing is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

GeosyntheticTesting.com
9063 Bee Caves Road / Austin, TX 78733 / 512 263 2101 / fax: 512 263 2558

Appendix C

CAT

CAT

CAT
287B
CAT

287B

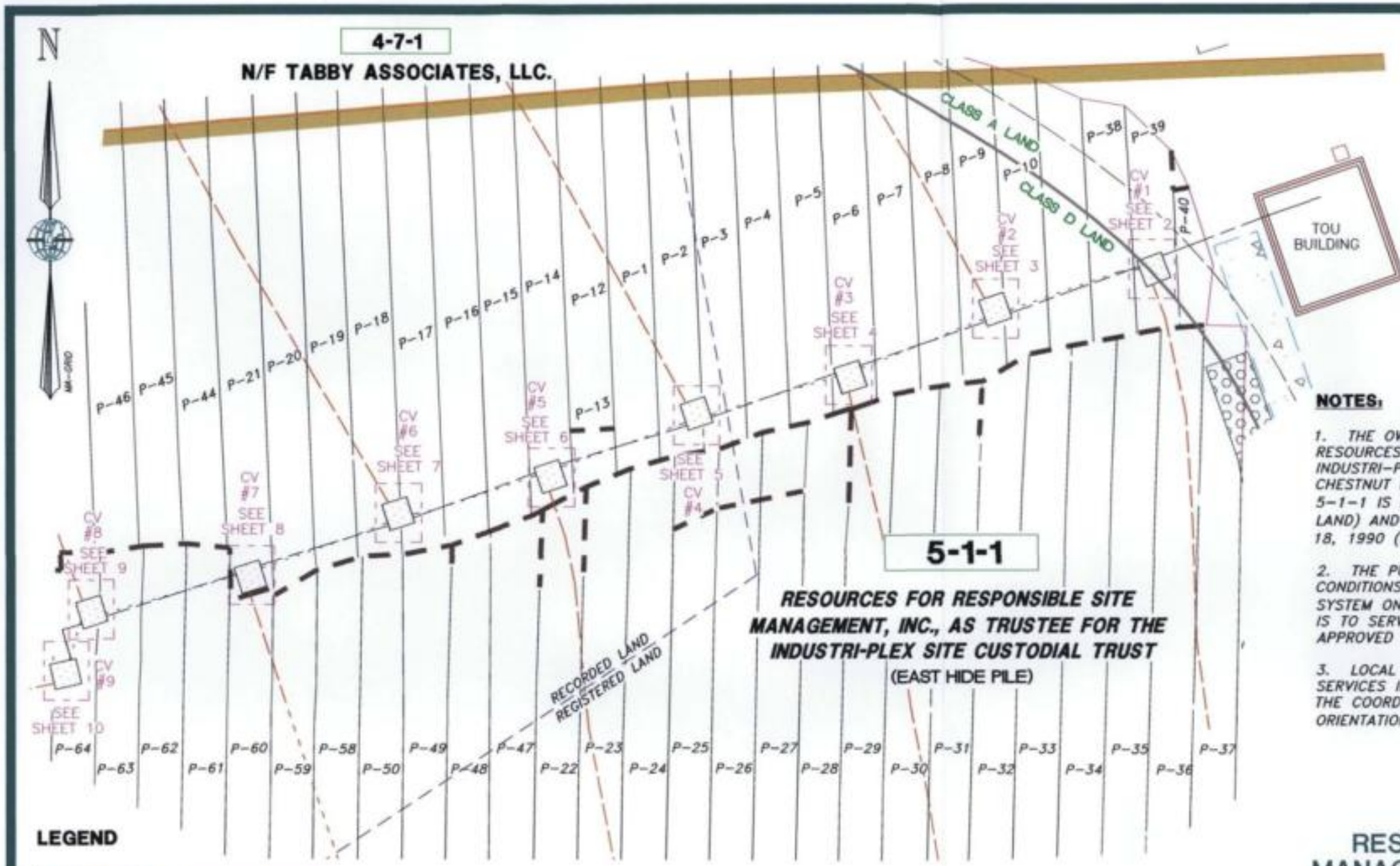
CAT

L.B. WHITE
TRADESMAN KI50

MASTER

DEMATEC
ES-P-12

Appendix D



LOCUS: 1"=800' ±

NOTES:

1. THE OWNER OF RECORD FOR LOT 5-1-1 IS (NOW OR FORMERLY) RESOURCES FOR RESPONSIBLE SITE MANAGEMENT, TRUSTEE OF THE INDUSTRI-PLEX SITE INTERIM CUSTODIAL TRUST - P.O. BOX 487 CHESTNUT HILL , MASSACHUSETTS 02467. DEED REFERENCE TO PARCEL 5-1-1 IS BOOK 19866 PAGE 258 DATED MAY 16, 1989 (RECORDED LAND) AND CERTIFICATE #188268 BOOK 1071 PAGE 118 DATED JULY 18, 1990 (REGISTERED LAND).

2. THE PURPOSE OF THIS PLAN IS TO DEPICT THE RECORD CONDITIONS OF COVER MODIFICATIONS MADE TO THE GAS COLLECTION SYSTEM ON TAX MAP PARCEL 5-1-1 (EAST HIDE PILE). THIS PLAN SET IS TO SERVE AS AN ADDENDUM TO THE COVER CERTIFICATION REPORT APPROVED BY U.S.E.P.A. ON SEPT. 28, 2008.

3. LOCAL FIELD COORDINATES WERE PROVIDED TO MERIDIAN LAND SERVICES INC. BY MAVERICK CONSTRUCTION MANAGEMENT SERVICES INC. THE COORDINATES WERE TRANSLATED & ROTATED TO THE PROJECT ORIENTATION USING A "BEST FIT" METHOD BETWEEN EXISTING VAULTS.

LEGEND

- PROPERTY BOUNDARY
- TRANSITION ZONE
- LAND CLASS LINE
- PROPOSED LATERAL-NOT FIELD LOCATED
- EDGE OF HDPE
- EXTRUSION SEAMS
- LATERAL PIPES
- MAIN MANIFOLD PIPE
- LIMITS OF ASBUILT RIPRAP
- ASBUILT CONTROL VAULT (CV#)

REFERENCE PLAN:

1. "INDUSTRI-PLEX SITE - OU-1 COVER CERTIFICATION REPORT - WOBURN, MASSACHUSETTS - RECORD DRAWINGS - ATTACHMENT 1 (VOLUME A)", SCALE: AS SHOWN, DATED SEPTEMBER 30, 2008 BY MERIDIAN LAND SERVICES INC.

GRAPHIC SCALE

40' 20' 0 40' 80' 120'

REV.	DATE	DESCRIPTION	C/O	DR	CK

RECORD DRAWING ADDENDUM

RESOURCES FOR RESPONSIBLE SITE MANAGEMENT, INC., AS TRUSTEE FOR THE INDUSTRI-PLEX SITE CUSTODIAL TRUST

TAX MAP PARCEL 5-1-1
EAST HIDE PILE
WOBURN, MASSACHUSETTS

SCALE: 1" = 40' FEBRUARY 5, 2009

MERIDIAN Land Services, Inc.
OFFICE: 31 OLD NASHUA ROAD, AMHERST, NEW HAMPSHIRE 03031
MAILING ADDRESS: PO BOX 118, MILFORD, NEW HAMPSHIRE 03055-0118
TEL 603-673-1441 FAX 603-673-1584 MERIDIAN@MERIDIANLANDSERVICES.COM
ENGINEERS - LAND SURVEYORS - SCIENTISTS - LAND PLANNERS

FILE: 290012116.dwg	PROJECT NO. 2900.00	SHEET NO. 1 OF 10

Aug 25, 2009 - 7:51am MDP Land Desktop 2004 - LDT4
H:\ms\0290012-MB\2900.12\AS-BUILTS\0-PARCEL-1_ADDENDUM\

CONTROL VAULT #1

MAVERICK CONSTRUCTION MANAGEMENT SERVICES, INC. POINTS TABLE

Maverick Point Number	MLS Point Number	Northing	Easting	Subgrade (Membrane) Elev. Feet	Finish Grade Elev. Feet	Horiz. Offset Between Grades	Total Depth Inches	Point Desc.
80	53080	554744.4	696493.7	112.47	114.46	0.78	23.88	Vault 1-1
81	53081	554752.7	696490.5	112.37	114.35	1.09	23.76	Vault 1-2
82	53082	554749.1	696483.6	112.52	114.86	0.47	28.08	Vault 1-3
83	53083	554741.1	696486.2	112.52	114.57	1.07	24.60	Vault 1-4

* HORIZONTAL & VERTICAL POSITIONS REPRESENTED ABOVE ARE PER MAVERICK CONSTRUCTION MANAGEMENT SERVICES, INC.

MERIDIAN
Land Services, Inc.
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AS-BUILT ADDENDUM

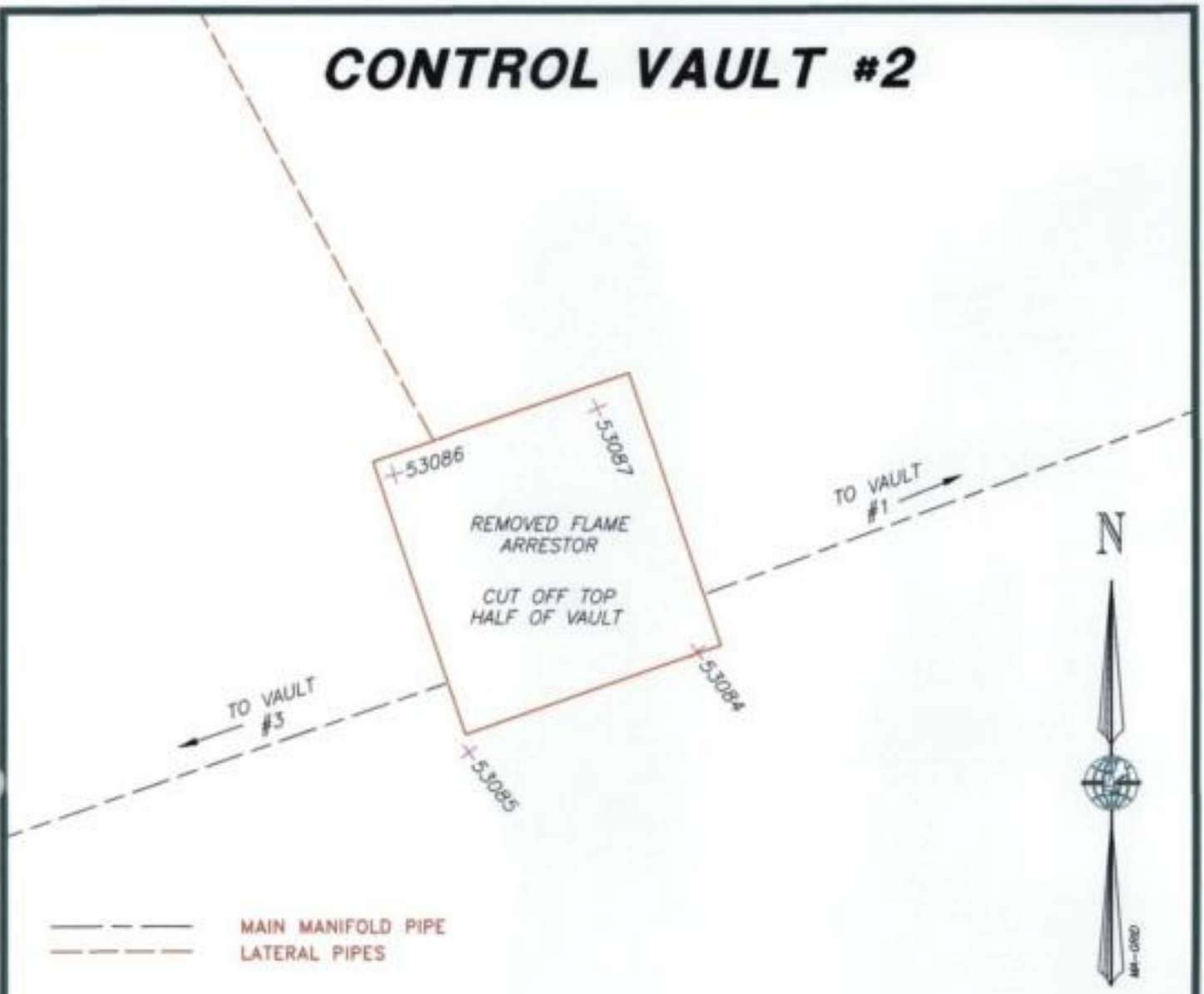
INDUSTRIPLEX SITE REMEDIAL TRUST

WOBURN, MASSACHUSETTS

SCALE: 1"= 5' FEBRUARY 10, 2009

FILE: 29001286.dwg SHEET NO. 2 OF 10

CONTROL VAULT #2



MAVERICK CONSTRUCTION MANAGEMENT SERVICES, INC. POINTS TABLE

Maverick Point Number	MLS Point Number	Northing	Easting	Subgrade (Membrane) Elev. Feet	Finish Grade Elev. Feet	Horiz. Offset Between Grades	Total Depth Inches	Point Desc.
84	53143	554731.4	696440.8	114.75	116.64	0.76	22.68	Vault 2-1
85	53144	554728.5	696433.4	114.57	116.57	0.98	24.00	Vault 2-4
86	53141	554735.6	696430.8	114.68	117.02	0.76	28.08	Vault 2-3
87	53142	554738.3	696437.2	114.79	116.61	0.58	21.84	Vault 2-2

* HORIZONTAL & VERTICAL POSITIONS REPRESENTED ABOVE ARE PER MAVERICK CONSTRUCTION MANAGEMENT SERVICES, INC.

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AS-BUILT ADDENDUM

INDUSTRIPLEX SITE REMEDIAL TRUST

WOBURN, MASSACHUSETTS

SCALE: 1"= 5' FEBRUARY 10, 2009

FILE: 29001211 6.dwg SHEET NO. 3 OF 10

CONTROL VAULT #3

MAVERICK CONSTRUCTION MANAGEMENT SERVICES, INC. POINTS TABLE

Maverick Point Number	MLS Point Number	Northing	Easting	Subgrade (Membrane) Elev. Feet	Finish Grade Elev. Feet	Horiz. Offset Between Grades	Total Depth Inches	Point Desc.
88	53140	554709.1	696393.2	113.96	115.74	0.38	21.36	Vault 3-1
89	53139	554706.7	696386.6	113.93	115.86	0.63	23.16	Vault 3-4
90	53137	554714.5	696383.5	113.95	115.85	1.06	22.80	Vault 3-3
91	53138	554716.1	696389.8	113.93	115.88	0.68	23.40	Vault 3-2

* HORIZONTAL & VERTICAL POSITIONS REPRESENTED ABOVE ARE PER MAVERICK CONSTRUCTION MANAGEMENT SERVICES, INC.

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AS-BUILT ADDENDUM

INDUSTRIPLEX SITE REMEDIAL TRUST

WOBURN, MASSACHUSETTS

SCALE: 1"= 5' FEBRUARY 10, 2009

FILE: 29001216.dwg SHEET NO. 4 OF 10

CONTROL VAULT #4

MAVERICK CONSTRUCTION MANAGEMENT SERVICES, INC. POINTS TABLE

Maverick Point Number	MLS Point Number	Northing	Easting	Subgrade (Membrane) Elev. Feet	Finish Grade Elev. Feet	Horiz. Offset Between Grades	Total Depth Inches	Point Desc.
92	53134	554696.0	696342.1	113.09	115.48	1.08	28.68	Vault 4-1
93	53133	554694.9	696336.2	113.08	115.43	1.32	28.20	Vault 4-4
94	53136	554702.7	696333.7	113.15	115.40	0.92	27.00	Vault 4-3
95	53135	554704.7	696339.6	113.26	115.55	1.07	27.48	Vault 4-2

* HORIZONTAL & VERTICAL POSITIONS REPRESENTED ABOVE ARE PER MAVERICK CONSTRUCTION MANAGEMENT SERVICES, INC.

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AS-BUILT ADDENDUM

INDUSTRIPLEX SITE REMEDIAL TRUST

WOBURN, MASSACHUSETTS

SCALE: 1"= 5' FEBRUARY 10, 2009

FILE: 29001216.dwg SHEET NO. 5 OF 10

CONTROL VAULT #5

MAVERICK CONSTRUCTION MANAGEMENT SERVICES, INC. POINTS TABLE

Maverick Point Number	MLS Point Number	Northing	Easting	Subgrade (Membrane) Elev. Feet	Finish Grade Elev. Feet	Horiz. Offset Between Grades	Total Depth Inches	Point Desc.
96	53132	554676.1	696295.3	111.17	113.05	1.28	22.56	Vault 5-1
97	53129	554673.9	696289.2	111.19	112.87	0.73	20.16	Vault 5-4
98	53130	554682.2	696586.7	111.20	113.13	0.87	23.16	Vault 5-3
99	53131	554683.7	696293.0	111.18	113.34	0.80	25.92	Vault 5-2

* HORIZONTAL & VERTICAL POSITIONS REPRESENTED ABOVE ARE PER MAVERICK CONSTRUCTION MANAGEMENT SERVICES, INC.

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AS-BUILT ADDENDUM

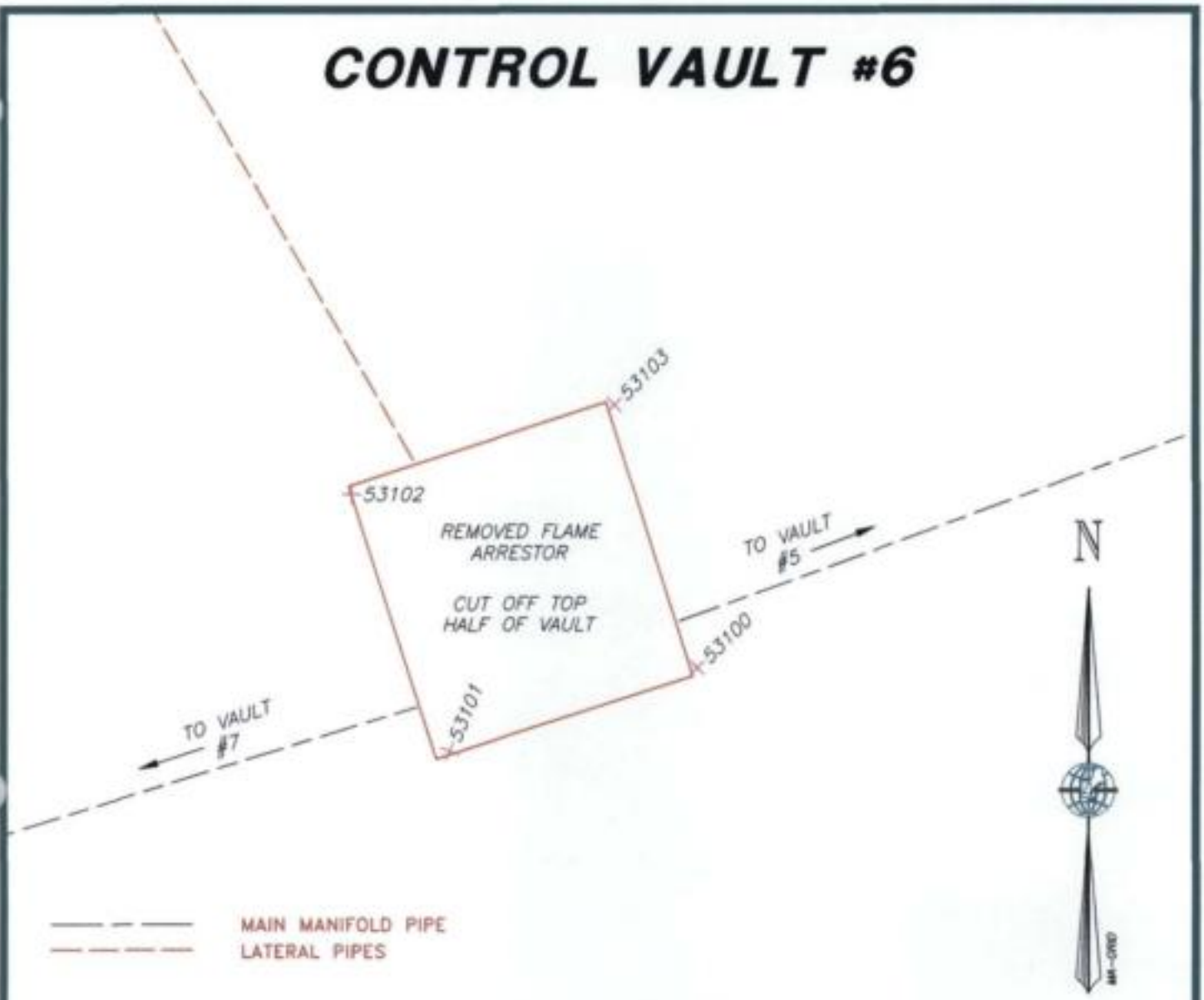
INDUSTRIPLEX SITE REMEDIAL TRUST

WOBURN, MASSACHUSETTS

SCALE: 1"= 5' FEBRUARY 10, 2009

FILE: 29001216.dwg SHEET NO. 6 OF 10

CONTROL VAULT #6



MAVERICK CONSTRUCTION MANAGEMENT SERVICES, INC. POINTS TABLE

Maverick Point Number	MLS Point Number	Northing	Easting	Subgrade (Membrane) Elev. Feet	Finish Grade Elev. Feet	Horiz. Offset Between Grades	Total Depth Inches	Point Desc.
100	53127	554663.4	696246.3	109.87	111.91	0.39	24.48	Vault 6-1
101	53128	554661.2	696238.6	109.92	111.81	0.30	22.68	Vault 6-4
102	53125	554668.9	696236.7	109.94	111.85	1.43	22.92	Vault 6-3
103	53126	554671.5	696242.5	109.87	111.77	1.01	22.80	Vault 6-2

* HORIZONTAL & VERTICAL POSITIONS REPRESENTED ABOVE ARE PER MAVERICK CONSTRUCTION MANAGEMENT SERVICES, INC.

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AS-BUILT ADDENDUM

INDUSTRIPLEX SITE REMEDIAL TRUST

WOBURN, MASSACHUSETTS

SCALE: 1"= 5' FEBRUARY 10, 2009

FILE: 29001286.dwg SHEET NO. 7 OF 10

CONTROL VAULT #7

MAVERICK CONSTRUCTION MANAGEMENT SERVICES, INC. POINTS TABLE

Maverick Point Number	MLS Point Number	Northing	Easting	Subgrade (Membrane) Elev. Feet	Finish Grade Elev. Feet	Horiz. Offset Between Grades	Total Depth Inches	Point Desc.
104	53123	554643.0	696196.2	108.51	110.48	0.36	23.64	Vault 7-1
105	53124	554640.7	696189.6	108.28	110.04	1.19	21.12	Vault 7-4
106	53121	554648.3	696187.1	108.23	110.20	0.42	23.64	Vault 7-3
107	53122	554650.7	696193.8	108.49	110.26	0.84	21.24	Vault 7-2

* HORIZONTAL & VERTICAL POSITIONS REPRESENTED ABOVE ARE PER MAVERICK CONSTRUCTION MANAGEMENT SERVICES, INC.

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AS-BUILT ADDENDUM

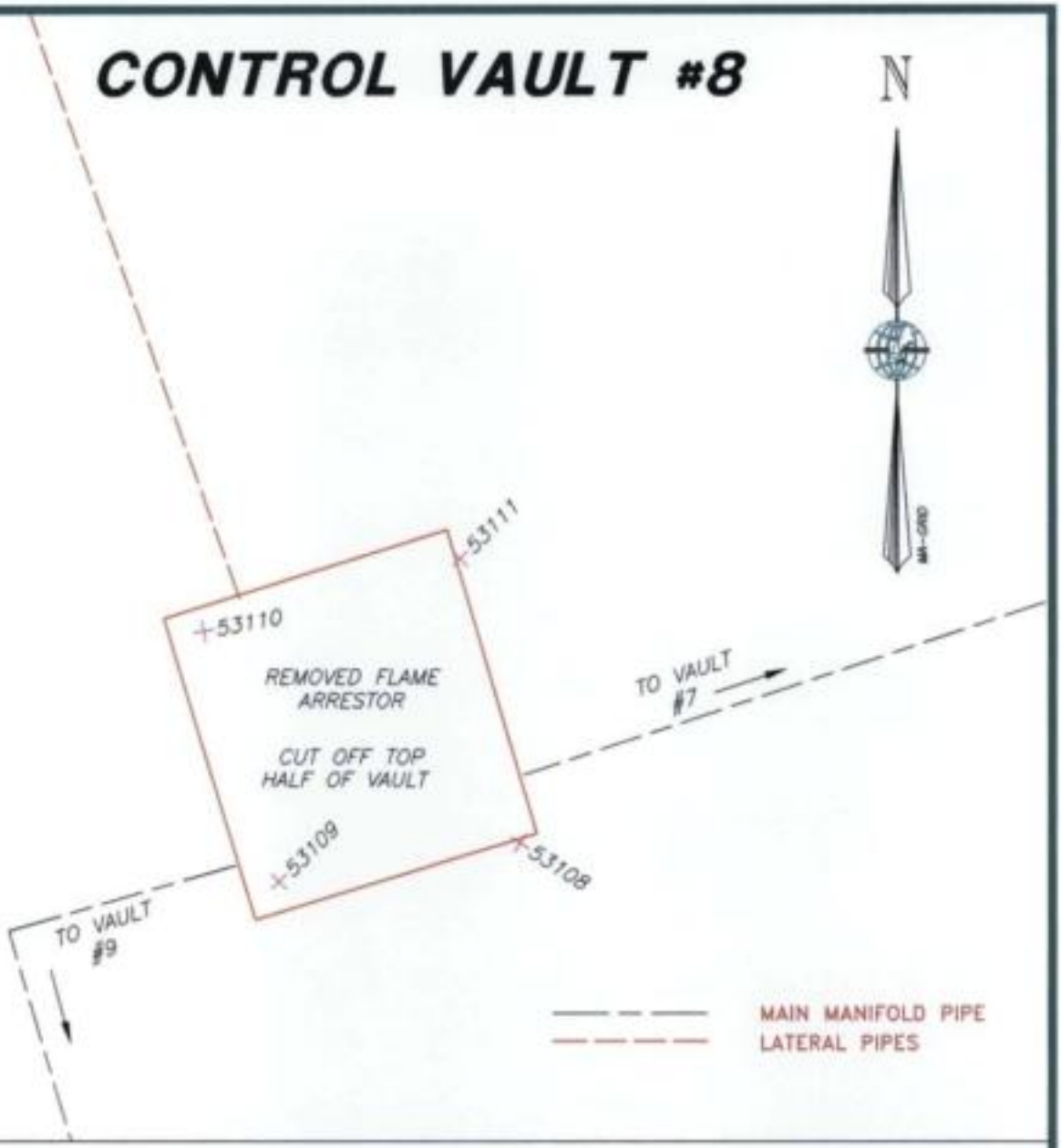
INDUSTRIPLEX SITE REMEDIAL TRUST

WOBURN, MASSACHUSETTS

SCALE: 1"= 5' FEBRUARY 10, 2009

FILE: 29001216.dwg SHEET NO. 8 OF 10

CONTROL VAULT #8



MAVERICK CONSTRUCTION MANAGEMENT SERVICES, INC. POINTS TABLE

Maverick Point Number	MLS Point Number	Northing	Easting	Subgrade (Membrane) Elev. Feet	Finish Grade Elev. Feet	Horiz. Offset Between Grades	Total Depth Inches	Point Desc.
108	53151	554631.1	696144.2	106.19	108.03	0.81	22.08	Vault 8-1
109	53152	554630.0	696137.3	105.92	107.72	0.86	21.60	Vault 8-4
110	53153	554636.4	696135.4	106.05	108.05	0.74	24.00	Vault 8-3
111	53154	554638.8	696142.3	106.26	108.35	0.96	25.08	Vault 8-2

* HORIZONTAL & VERTICAL POSITIONS REPRESENTED ABOVE ARE PER MAVERICK CONSTRUCTION MANAGEMENT SERVICES, INC.

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Land Services, Inc.
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TEL 603-673-1441 FAX 603-673-1584
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AS-BUILT ADDENDUM

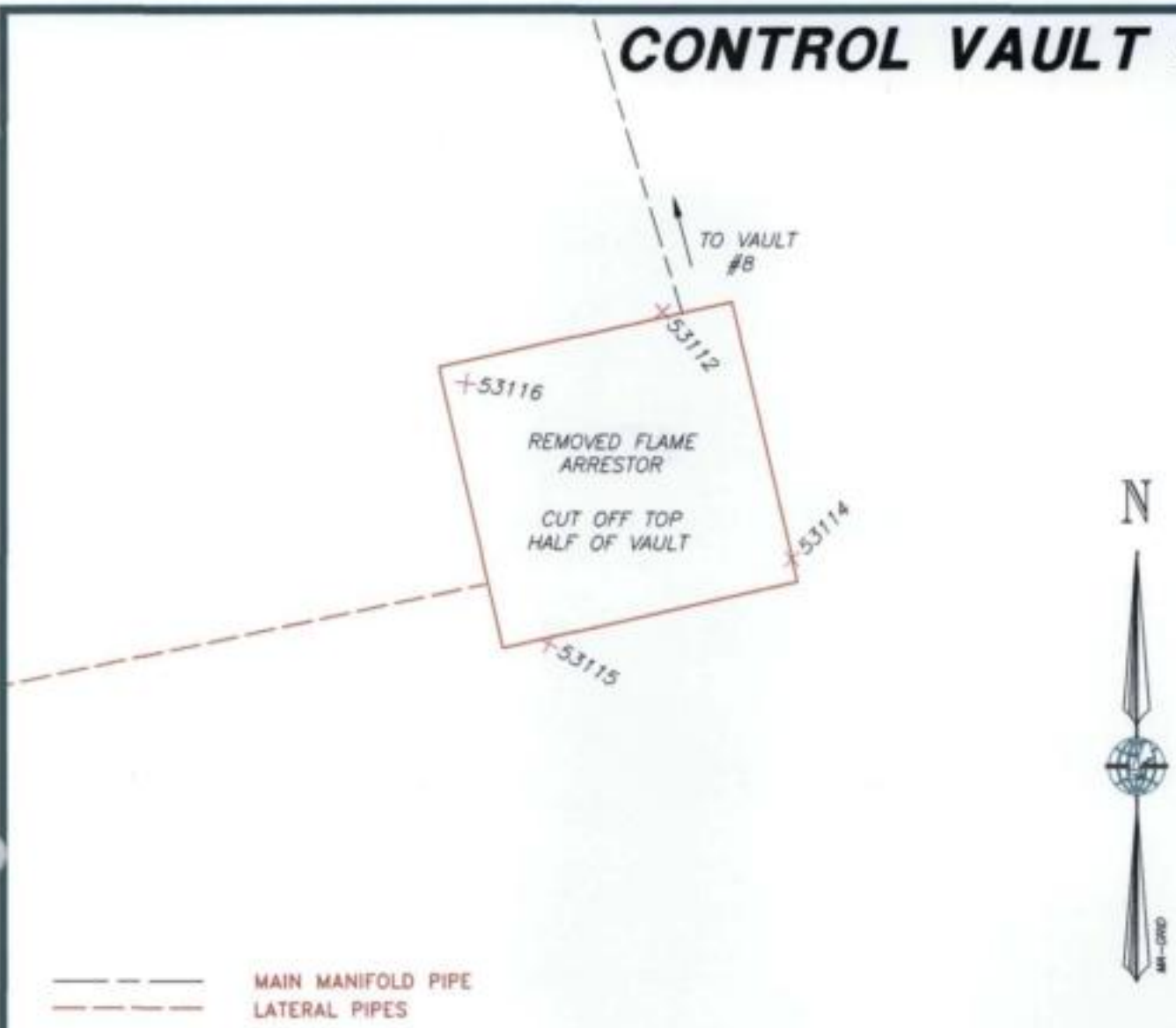
INDUSTRIPLEX SITE REMEDIAL TRUST

WOBURN, MASSACHUSETTS

SCALE: 1"= 5' FEBRUARY 10, 2009

FILE: 29001216.dwg SHEET NO. 9 OF 10

CONTROL VAULT #9



MAVERICK CONSTRUCTION MANAGEMENT SERVICES, INC. POINTS TABLE

Maverick Point Number	MLS Point Number	Northing	Easting	Subgrade (Membrane) Elev. Feet	Finish Grade Elev. Feet	Horiz. Offset Between Grades	Total Depth Inches	Point Desc.
112	53118	554619.0	696133.4	102.79	104.84	0.67	24.60	Vault 9-2
114	53119	554612.8	696136.6	102.12	104.41	1.39	27.48	Vault 9-1
115	53120	554609.7	696129.4	102.29	104.13	0.80	22.08	Vault 9-4
116	53117	554616.9	696127.6	102.39	104.38	0.77	23.88	Vault 9-3

* HORIZONTAL & VERTICAL POSITIONS REPRESENTED ABOVE ARE PER MAVERICK CONSTRUCTION MANAGEMENT SERVICES, INC.

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AS-BUILT ADDENDUM

INDUSTRIPLEX SITE REMEDIAL TRUST

WOBURN, MASSACHUSETTS

SCALE: 1"= 5' FEBRUARY 10, 2009

FILE: 29001296.dwg SHEET NO. 10 OF 10

Appendix E

Report Date:
06-Nov-08 16:37

☑ Final Report
☐ Re-Issued Report
☐ Revised Report

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

Laboratory Report

Maverick Construction Management Services
P.O. Box 393
Auburn, MA 01501
Attn: John Fiore

Project: 112 Commerce Way - Woburn, MA
Project [none]

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SA86958-01	TS-081104-CIN	Soil	04-Nov-08 16:00	05-Nov-08 10:10

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.
Spectrum Analytical holds certification in the State of Massachusetts for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of Massachusetts does not offer certification for all analytes.
Please note that this report contains 38 pages of analytical data plus Chain of Custody document(s).
This report may not be reproduced, except in full, without written approval from Spectrum Analytical, Inc.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87600/E87936
Maine # MA138
New Hampshire # 2538
New Jersey # MA011/MA012
New York # 11393/11840
Pennsylvania # 68-04426/68-02924
Rhode Island # 98
USDA # S-51435
Vermont # VT-11393

Authorized by:

Hanibal C. Tayeh, Ph.D.
President/Laboratory Director

Technical Reviewer's Initial:

Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Spectrum is currently accredited for the specific method or analyte indicated. Please refer to our "Quality" web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (NY-11840, FL-E87936 and NJ-MA012).

CASE NARRATIVE:

The samples were received 14.8 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 2.0 degrees Celsius was used immediately upon receipt of the samples.

MADEP has published a list of analytical methods (CAM) which provides a series of recommended protocols for the acquisition, analysis and reporting of analytical data in support of MCP decisions. "Presumptive Certainty" can be established only for those methods published by the MADEP in the MCP CAM. The compounds and/or elements reported were specifically requested by the client on the Chain of Custody and in some cases may not include the full analyte list as defined in the method.

According to WSC-CAM 5/2004 Rev.4, Table 11 A-1, recovery for some VOC analytes have been deemed potentially difficult.

The client requested reporting limits (S-1/GW-1) were not able to be achieved for all analytes in the SW846 8260 analysis due to the submittal of only a high level (methanol) soil sample for analysis.

See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

SW846 6010B

Duplicates:

8110305-DUP1 *Source: SA86958-01*

The RPD exceeded the QC control limits; however precision is demonstrated with acceptable RPD values for MS/MSD.

Arsenic
Lead

SW846 8081A

Blanks:

8110310-BLK1

An unknown peak was found in the primary coulmn only for the blank, lcs, and lcsd but not in the samples.

Alachlor

Laboratory Control Samples:

8110310-BS1

An unknown peak was found in the primary coulmn only for the blank, lcs, and lcsd but not in the samples.

Alachlor

8110310-BSD1

An unknown peak was found in the primary coulmn only for the blank, lcs, and lcsd but not in the samples.

Alachlor

SW846 8081A

Spikes:

8110310-MS1 *Source: SA86958-01*

The recovery for this analyte is affected by the determination of chlordane found in the sample.

Dieldrin
Dieldrin [2C]
Endosulfan I [2C]
Heptachlor epoxide
Heptachlor epoxide [2C]

8110310-MSD1 *Source: SA86958-01*

The recovery for this analyte is affected by the determination of chlordane found in the sample.

Alachlor [2C]
Dieldrin [2C]
Endosulfan I [2C]
Heptachlor epoxide
Heptachlor epoxide [2C]

The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.

alpha-Chlordane
alpha-Chlordane [2C]
gamma-Chlordane
gamma-Chlordane [2C]

Duplicates:

8110310-DUP1 *Source: SA86958-01*

RPD out of acceptance range. The batch is accepted based upon LCS and/or LCSD recovery.

alpha-Chlordane
alpha-Chlordane [2C]
Chlordane
Chlordane [2C]
gamma-Chlordane

SW846 8151A

Laboratory Control Samples:

8110309-BSD1

The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.

Dalapon

SW846 8260B

Samples:

SA86958-01 *TS-081104-CIN*

The VOC preserved soil sample is not within the 1:1 weight to volume ratio as recommended by SW846 methods 5030 and 5035 but may be within the 1:1 volume to volume ratio. This variance may affect the final reporting limit.

VOC Soil Extraction

VOC Soil Extraction

Samples:

SA86958-01	*TS-081104-CIN*

Field extracted

VOC Extraction

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TS-081104-CIN SA86958-01	[none]	Soil	04-Nov-08 16:00	05-Nov-08

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
	VOC Extraction	Field extracted		N/A		1	VOC Soil Extraction	05-Nov-08	05-Nov-08	8110331	
Volatile Organic Compounds			VC10			Initial weight: 23.59 g					
Prepared by method SW846 5030 Soil (high level)											
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	BRL		µg/kg dry	48.6	50	SW846 8260B	05-Nov-08	06-Nov-08	8110346	
67-64-1	Acetone	BRL		µg/kg dry	486	50	"	"	"	"	
107-13-1	Acrylonitrile	BRL		µg/kg dry	48.6	50	"	"	"	"	
71-43-2	Benzene	BRL		µg/kg dry	48.6	50	"	"	"	"	
108-86-1	Bromobenzene	BRL		µg/kg dry	48.6	50	"	"	"	"	
74-97-5	Bromochloromethane	BRL		µg/kg dry	48.6	50	"	"	"	"	
75-27-4	Bromodichloromethane	BRL		µg/kg dry	48.6	50	"	"	"	"	
75-25-2	Bromoform	BRL		µg/kg dry	48.6	50	"	"	"	"	
74-83-9	Bromomethane	BRL		µg/kg dry	97.2	50	"	"	"	"	
78-93-3	2-Butanone (MEK)	BRL		µg/kg dry	486	50	"	"	"	"	
104-51-8	n-Butylbenzene	BRL		µg/kg dry	48.6	50	"	"	"	"	
135-98-8	sec-Butylbenzene	BRL		µg/kg dry	48.6	50	"	"	"	"	
98-06-6	tert-Butylbenzene	BRL		µg/kg dry	48.6	50	"	"	"	"	
75-15-0	Carbon disulfide	BRL		µg/kg dry	243	50	"	"	"	"	
56-23-5	Carbon tetrachloride	BRL		µg/kg dry	48.6	50	"	"	"	"	
108-90-7	Chlorobenzene	BRL		µg/kg dry	48.6	50	"	"	"	"	
75-00-3	Chloroethane	BRL		µg/kg dry	97.2	50	"	"	"	"	
67-66-3	Chloroform	BRL		µg/kg dry	48.6	50	"	"	"	"	
74-87-3	Chloromethane	BRL		µg/kg dry	97.2	50	"	"	"	"	
95-49-8	2-Chlorotoluene	BRL		µg/kg dry	48.6	50	"	"	"	"	
106-43-4	4-Chlorotoluene	BRL		µg/kg dry	48.6	50	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	BRL		µg/kg dry	97.2	50	"	"	"	"	
124-48-1	Dibromochloromethane	BRL		µg/kg dry	48.6	50	"	"	"	"	
106-93-4	1,2-Dibromoethane (EDB)	BRL		µg/kg dry	48.6	50	"	"	"	"	
74-95-3	Dibromomethane	BRL		µg/kg dry	48.6	50	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	BRL		µg/kg dry	48.6	50	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	BRL		µg/kg dry	48.6	50	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	BRL		µg/kg dry	48.6	50	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	BRL		µg/kg dry	97.2	50	"	"	"	"	
75-34-3	1,1-Dichloroethane	BRL		µg/kg dry	48.6	50	"	"	"	"	
107-06-2	1,2-Dichloroethane	BRL		µg/kg dry	48.6	50	"	"	"	"	
75-35-4	1,1-Dichloroethene	BRL		µg/kg dry	48.6	50	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	BRL		µg/kg dry	48.6	50	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	BRL		µg/kg dry	48.6	50	"	"	"	"	
78-87-5	1,2-Dichloropropane	BRL		µg/kg dry	48.6	50	"	"	"	"	
142-28-9	1,3-Dichloropropane	BRL		µg/kg dry	48.6	50	"	"	"	"	
594-20-7	2,2-Dichloropropane	BRL		µg/kg dry	48.6	50	"	"	"	"	
563-58-6	1,1-Dichloropropene	BRL		µg/kg dry	48.6	50	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	BRL		µg/kg dry	48.6	50	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	BRL		µg/kg dry	48.6	50	"	"	"	"	
100-41-4	Ethylbenzene	BRL		µg/kg dry	48.6	50	"	"	"	"	
87-68-3	Hexachlorobutadiene	BRL		µg/kg dry	48.6	50	"	"	"	"	
591-78-6	2-Hexanone (MBK)	BRL		µg/kg dry	486	50	"	"	"	"	
98-82-8	Isopropylbenzene	BRL		µg/kg dry	48.6	50	"	"	"	"	
99-87-6	4-Isopropyltoluene	BRL		µg/kg dry	48.6	50	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	BRL		µg/kg dry	48.6	50	"	"	"	"	
108-10-1	4-Methyl-2-pentanone (MIBK)	BRL		µg/kg dry	486	50	"	"	"	"	
75-09-2	Methylene chloride	BRL		µg/kg dry	486	50	"	"	"	"	
91-20-3	Naphthalene	BRL		µg/kg dry	48.6	50	"	"	"	"	

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* Reportable Detection Limit BRL = Below Reporting Limit

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TS-081104-CIN SA86958-01	[none]	Soil	04-Nov-08 16:00	05-Nov-08

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Compounds			VC10								
Prepared by method SW846 5030 Soil (high level)					Initial weight: 23.59 g						
103-65-1	n-Propylbenzene	BRL		µg/kg dry	48.6	50	SW846 8260B	05-Nov-08	06-Nov-08	8110346	
100-42-5	Styrene	BRL		µg/kg dry	48.6	50	"	"	"	"	
630-20-6	1,1,1,2-Tetrachloroethane	BRL		µg/kg dry	48.6	50	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	BRL		µg/kg dry	48.6	50	"	"	"	"	
127-18-4	Tetrachloroethene	BRL		µg/kg dry	48.6	50	"	"	"	"	
108-88-3	Toluene	BRL		µg/kg dry	48.6	50	"	"	"	"	
87-61-6	1,2,3-Trichlorobenzene	BRL		µg/kg dry	48.6	50	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	BRL		µg/kg dry	48.6	50	"	"	"	"	
108-70-3	1,3,5-Trichlorobenzene	BRL		µg/kg dry	48.6	50	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	BRL		µg/kg dry	48.6	50	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	BRL		µg/kg dry	48.6	50	"	"	"	"	
79-01-6	Trichloroethene	BRL		µg/kg dry	48.6	50	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	BRL		µg/kg dry	48.6	50	"	"	"	"	
96-18-4	1,2,3-Trichloropropane	BRL		µg/kg dry	48.6	50	"	"	"	"	
95-63-6	1,2,4-Trimethylbenzene	BRL		µg/kg dry	48.6	50	"	"	"	"	
108-67-8	1,3,5-Trimethylbenzene	BRL		µg/kg dry	48.6	50	"	"	"	"	
75-01-4	Vinyl chloride	BRL		µg/kg dry	48.6	50	"	"	"	"	
179601-23-1	m,p-Xylene	BRL		µg/kg dry	97.2	50	"	"	"	"	
95-47-6	o-Xylene	BRL		µg/kg dry	48.6	50	"	"	"	"	
109-99-9	Tetrahydrofuran	BRL		µg/kg dry	486	50	"	"	"	"	
60-29-7	Ethyl ether	BRL		µg/kg dry	48.6	50	"	"	"	"	
994-05-8	Tert-amyl methyl ether	BRL		µg/kg dry	48.6	50	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	BRL		µg/kg dry	48.6	50	"	"	"	"	
108-20-3	Di-isopropyl ether	BRL		µg/kg dry	48.6	50	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	BRL		µg/kg dry	486	50	"	"	"	"	
123-91-1	1,4-Dioxane	BRL		µg/kg dry	972	50	"	"	"	"	
110-57-6	trans-1,4-Dichloro-2-butene	BRL		µg/kg dry	243	50	"	"	"	"	
64-17-5	Ethanol	BRL		µg/kg dry	19400	50	"	"	"	"	
Surrogate recoveries:											
460-00-4	*4-Bromofluorobenzene*	*111*		*70-130 %*			"	"	"	"	
2037-26-5	*Toluene-d8*	*103*		*70-130 %*			"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*119*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*103*		*70-130 %*			"	"	"	"	
Semivolatile Organic Compounds by GCMS											
Semivolatile Organic Compounds by SW846 8270C											
Prepared by method SW846 3545A											
83-32-9	Acenaphthene	BRL		µg/kg dry	197	1	SW846 8270C	05-Nov-08	05-Nov-08	8110269	
208-96-8	Acenaphthylene	BRL		µg/kg dry	197	1	"	"	"	"	
62-53-3	Aniline	BRL		µg/kg dry	197	1	"	"	"	"	
120-12-7	Anthracene	BRL		µg/kg dry	197	1	"	"	"	"	
1912-24-9	Atrazine	BRL		µg/kg dry	197	1	"	"	"	"	
103-33-3	Azobenzene/Diphenyldiazine	BRL		µg/kg dry	197	1	"	"	"	"	
92-87-5	Benzidine	BRL		µg/kg dry	197	1	"	"	"	"	
56-55-3	Benzo (a) anthracene	BRL		µg/kg dry	197	1	"	"	"	"	
50-32-8	Benzo (a) pyrene	BRL		µg/kg dry	197	1	"	"	"	"	
205-99-2	Benzo (b) fluoranthene	BRL		µg/kg dry	197	1	"	"	"	"	
191-24-2	Benzo (g,h,i) perylene	BRL		µg/kg dry	197	1	"	"	"	"	
207-08-9	Benzo (k) fluoranthene	BRL		µg/kg dry	197	1	"	"	"	"	
65-85-0	Benzoic acid	BRL		µg/kg dry	197	1	"	"	"	"	
100-51-6	Benzyl alcohol	BRL		µg/kg dry	197	1	"	"	"	"	

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Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TS-081104-CIN SA86958-01	[none]	Soil	04-Nov-08 16:00	05-Nov-08

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Semivolatile Organic Compounds by GCMS											
Semivolatile Organic Compounds by SW846 8270C											
Prepared by method SW846 3545A											
111-91-1	Bis(2-chloroethoxy)methane	BRL		µg/kg dry	197	1	SW846 8270C	05-Nov-08	05-Nov-08	8110269	
111-44-4	Bis(2-chloroethyl)ether	BRL		µg/kg dry	197	1	"	"	"	"	
108-60-1	Bis(2-chloroisopropyl)ether	BRL		µg/kg dry	197	1	"	"	"	"	
117-81-7	Bis(2-ethylhexyl)phthalate	BRL		µg/kg dry	197	1	"	"	"	"	
101-55-3	4-Bromophenyl phenyl ether	BRL		µg/kg dry	197	1	"	"	"	"	
85-68-7	Butyl benzyl phthalate	BRL		µg/kg dry	197	1	"	"	"	"	
86-74-8	Carbazole	BRL		µg/kg dry	197	1	"	"	"	"	
59-50-7	4-Chloro-3-methylphenol	BRL		µg/kg dry	197	1	"	"	"	"	
106-47-8	4-Chloroaniline	BRL		µg/kg dry	197	1	"	"	"	"	
91-58-7	2-Chloronaphthalene	BRL		µg/kg dry	197	1	"	"	"	"	
95-57-8	2-Chlorophenol	BRL		µg/kg dry	197	1	"	"	"	"	
7005-72-3	4-Chlorophenyl phenyl ether	BRL		µg/kg dry	197	1	"	"	"	"	
218-01-9	Chrysene	BRL		µg/kg dry	197	1	"	"	"	"	
53-70-3	Dibenzo (a,h) anthracene	BRL		µg/kg dry	197	1	"	"	"	"	
132-64-9	Dibenzofuran	BRL		µg/kg dry	197	1	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	BRL		µg/kg dry	197	1	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	BRL		µg/kg dry	197	1	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	BRL		µg/kg dry	197	1	"	"	"	"	
91-94-1	3,3'-Dichlorobenzidine	BRL		µg/kg dry	197	1	"	"	"	"	
120-83-2	2,4-Dichlorophenol	BRL		µg/kg dry	197	1	"	"	"	"	
84-66-2	Diethyl phthalate	BRL		µg/kg dry	197	1	"	"	"	"	
131-11-3	Dimethyl phthalate	BRL		µg/kg dry	197	1	"	"	"	"	
105-67-9	2,4-Dimethylphenol	BRL		µg/kg dry	197	1	"	"	"	"	
84-74-2	Di-n-butyl phthalate	BRL		µg/kg dry	197	1	"	"	"	"	
534-52-1	4,6-Dinitro-2-methylphenol	BRL		µg/kg dry	197	1	"	"	"	"	
51-28-5	2,4-Dinitrophenol	BRL		µg/kg dry	197	1	"	"	"	"	
121-14-2	2,4-Dinitrotoluene	BRL		µg/kg dry	197	1	"	"	"	"	
606-20-2	2,6-Dinitrotoluene	BRL		µg/kg dry	197	1	"	"	"	"	
117-84-0	Di-n-octyl phthalate	BRL		µg/kg dry	197	1	"	"	"	"	
206-44-0	Fluoranthene	BRL		µg/kg dry	197	1	"	"	"	"	
86-73-7	Fluorene	BRL		µg/kg dry	197	1	"	"	"	"	
118-74-1	Hexachlorobenzene	BRL		µg/kg dry	197	1	"	"	"	"	
87-68-3	Hexachlorobutadiene	BRL		µg/kg dry	197	1	"	"	"	"	
77-47-4	Hexachlorocyclopentadiene	BRL		µg/kg dry	197	1	"	"	"	"	
67-72-1	Hexachloroethane	BRL		µg/kg dry	197	1	"	"	"	"	
193-39-5	Indeno (1,2,3-cd) pyrene	BRL		µg/kg dry	197	1	"	"	"	"	
90-12-0	1-Methylnaphthalene	BRL		µg/kg dry	197	1	"	"	"	"	
78-59-1	Isophorone	BRL		µg/kg dry	197	1	"	"	"	"	
91-57-6	2-Methylnaphthalene	BRL		µg/kg dry	197	1	"	"	"	"	
95-48-7	2-Methylphenol	BRL		µg/kg dry	197	1	"	"	"	"	
108-39-4, 106-44-5	3 & 4-Methylphenol	BRL		µg/kg dry	197	1	"	"	"	"	
91-20-3	Naphthalene	BRL		µg/kg dry	197	1	"	"	"	"	
88-74-4	2-Nitroaniline	BRL		µg/kg dry	197	1	"	"	"	"	
99-09-2	3-Nitroaniline	BRL		µg/kg dry	197	1	"	"	"	"	
100-01-6	4-Nitroaniline	BRL		µg/kg dry	789	1	"	"	"	"	
98-95-3	Nitrobenzene	BRL		µg/kg dry	197	1	"	"	"	"	
88-75-5	2-Nitrophenol	BRL		µg/kg dry	197	1	"	"	"	"	
100-02-7	4-Nitrophenol	BRL		µg/kg dry	789	1	"	"	"	"	
62-75-9	N-Nitrosodimethylamine	BRL		µg/kg dry	197	1	"	"	"	"	
621-64-7	N-Nitrosodi-n-propylamine	BRL		µg/kg dry	197	1	"	"	"	"	

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Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TS-081104-CIN SA86958-01	[none]	Soil	04-Nov-08 16:00	05-Nov-08

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Semivolatile Organic Compounds by GCMS											
Semivolatile Organic Compounds by SW846 8270C											
Prepared by method SW846 3545A											
86-30-6	N-Nitrosodiphenylamine	BRL		µg/kg dry	197	1	SW846 8270C	05-Nov-08	05-Nov-08	8110269	
87-86-5	Pentachlorophenol	BRL		µg/kg dry	197	1	"	"	"	"	
85-01-8	Phenanthrene	BRL		µg/kg dry	197	1	"	"	"	"	
108-95-2	Phenol	BRL		µg/kg dry	197	1	"	"	"	"	
129-00-0	Pyrene	BRL		µg/kg dry	197	1	"	"	"	"	
110-86-1	Pyridine	BRL		µg/kg dry	197	1	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	BRL		µg/kg dry	197	1	"	"	"	"	
95-95-4	2,4,5-Trichlorophenol	BRL		µg/kg dry	197	1	"	"	"	"	
88-06-2	2,4,6-Trichlorophenol	BRL		µg/kg dry	197	1	"	"	"	"	
82-68-8	Pentachloronitrobenzene	BRL		µg/kg dry	197	1	"	"	"	"	
95-94-3	1,2,4,5-Tetrachlorobenzene	BRL		µg/kg dry	197	1	"	"	"	"	
Surrogate recoveries:											
321-60-8	*2-Fluorobiphenyl*	*41*		*30-130 %*			"	"	"	"	
367-12-4	*2-Fluorophenol*	*36*		*15-110 %*			"	"	"	"	
4165-60-0	*Nitrobenzene-d5*	*41*		*30-130 %*			"	"	"	"	
4165-62-2	*Phenol-d5*	*37*		*15-110 %*			"	"	"	"	
1718-51-0	*Terphenyl-d14*	*42*		*30-130 %*			"	"	"	"	
118-79-6	*2,4,6-Tribromophenol*	*36*		*15-110 %*			"	"	"	"	
Semivolatile Organic Compounds by GC											
Organochlorine Pesticides SW846 8081A											
Prepared by method SW846 3545A											
319-84-6	alpha-BHC	BRL		µg/kg dry	12.1	1	SW846 8081A	05-Nov-08	05-Nov-08	8110310	
319-85-7	beta-BHC	BRL		µg/kg dry	12.1	1	"	"	"	"	
319-86-8	delta-BHC	BRL		µg/kg dry	12.1	1	"	"	"	"	
58-89-9	gamma-BHC (Lindane)	BRL		µg/kg dry	12.1	1	"	"	"	"	
76-44-8	Heptachlor	BRL		µg/kg dry	12.1	1	"	"	"	"	
309-00-2	Aldrin	BRL		µg/kg dry	12.1	1	"	"	"	"	
1024-57-3	Heptachlor epoxide	BRL		µg/kg dry	12.1	1	"	"	"	"	
959-98-8	Endosulfan I	BRL		µg/kg dry	12.1	1	"	"	"	"	
60-57-1	Dieldrin	BRL		µg/kg dry	12.1	1	"	"	"	"	
72-55-9	4,4'-DDE (p,p')	BRL		µg/kg dry	12.1	1	"	"	"	"	
72-20-8	Endrin	BRL		µg/kg dry	12.1	1	"	"	"	"	
33213-65-9	Endosulfan II	BRL		µg/kg dry	12.1	1	"	"	"	"	
72-54-8	4,4'-DDD (p,p')	BRL		µg/kg dry	12.1	1	"	"	"	"	
1031-07-8	Endosulfan sulfate	BRL		µg/kg dry	12.1	1	"	"	"	"	
50-29-3	4,4'-DDT (p,p')	BRL		µg/kg dry	12.1	1	"	"	"	"	
72-43-5	Methoxychlor	BRL		µg/kg dry	12.1	1	"	"	"	"	
53494-70-5	Endrin ketone	BRL		µg/kg dry	12.1	1	"	"	"	"	
7421-93-4	Endrin aldehyde	BRL		µg/kg dry	12.1	1	"	"	"	"	
5103-71-9	alpha-Chlordane	91.4		µg/kg dry	12.1	1	"	"	"	"	
5566-34-7	gamma-Chlordane	59.8		µg/kg dry	12.1	1	"	"	"	"	
8001-35-2	Toxaphene	BRL		µg/kg dry	60.3	1	"	"	"	"	
57-74-9	Chlordane	338		µg/kg dry	60.3	1	"	"	"	"	
15972-60-8	Alachlor	BRL		µg/kg dry	24.1	1	"	"	"	"	
Surrogate recoveries:											
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr)*	*94*		*30-150 %*			"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr)*	*108*		*30-150 %*			"	"	"	"	
Polychlorinated Biphenyls by SW846 8082											
Prepared by method SW846 3545A											
12674-11-2	PCB 1016	BRL		µg/kg dry	23.8	1	SW846 8082	05-Nov-08	06-Nov-08	8110274	

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* Reportable Detection Limit BRL = Below Reporting Limit

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TS-081104-CIN SA86958-01	[none]	Soil	04-Nov-08 16:00	05-Nov-08

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Semivolatile Organic Compounds by GC											
Polychlorinated Biphenyls by SW846 8082											
Prepared by method SW846 3545A											
11104-28-2	PCB 1221	BRL		µg/kg dry	23.8	1	SW846 8082	05-Nov-08	06-Nov-08	8110274	
11141-16-5	PCB 1232	BRL		µg/kg dry	23.8	1	"	"	"	"	
53469-21-9	PCB 1242	BRL		µg/kg dry	23.8	1	"	"	"	"	
12672-29-6	PCB 1248	BRL		µg/kg dry	23.8	1	"	"	"	"	
11097-69-1	PCB 1254	BRL		µg/kg dry	23.8	1	"	"	"	"	
11096-82-5	PCB 1260	BRL		µg/kg dry	23.8	1	"	"	"	"	
37324-23-5	PCB 1262	BRL		µg/kg dry	23.8	1	"	"	"	"	
11100-14-4	PCB 1268	BRL		µg/kg dry	23.8	1	"	"	"	"	
Surrogate recoveries:											
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr)*	*105*		*30-150 %*			"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr)*	*114*		*30-150 %*			"	"	"	"	
Chlorinated Herbicides by SW846 8151A											
Prepared by method SW846 3550B											
93-76-5	2,4,5-T	BRL		µg/kg dry	6.70	1	SW846 8151A	05-Nov-08	06-Nov-08	8110309	
93-72-1	2,4,5-TP (Silvex)	BRL		µg/kg dry	6.70	1	"	"	"	"	
94-75-7	2,4-D	BRL		µg/kg dry	6.70	1	"	"	"	"	
94-82-6	2,4-DB	BRL		µg/kg dry	6.70	1	"	"	"	"	
75-99-0	Dalapon	BRL		µg/kg dry	6.70	1	"	"	"	"	
1918-00-9	Dicamba	BRL		µg/kg dry	6.70	1	"	"	"	"	
120-36-5	Dichlorprop	BRL		µg/kg dry	6.70	1	"	"	"	"	
88-85-7	Dinoseb	BRL		µg/kg dry	6.70	1	"	"	"	"	
94-74-6	MCPA	BRL		µg/kg dry	670	1	"	"	"	"	
94-81-5	MCPB	BRL		µg/kg dry	670	1	"	"	"	"	
93-65-2	MCPP	BRL		µg/kg dry	670	1	"	"	"	"	
Surrogate recoveries:											
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr)*	*82*		*30-150 %*			"	"	"	"	
Extractable Petroleum Hydrocarbons											
TPH 8100 by GC											
Prepared by method SW846 3550B											
8006-61-9	Gasoline	BRL		mg/kg dry	15.9	1	+SW846 8100Mod.	05-Nov-08	06-Nov-08	8110270	
68476-30-2	Fuel Oil #2	BRL		mg/kg dry	15.9	1	"	"	"	"	
68476-31-3	Fuel Oil #4	BRL		mg/kg dry	15.9	1	"	"	"	"	
68553-00-4	Fuel Oil #6	BRL		mg/kg dry	15.9	1	"	"	"	"	
M09800000	Motor Oil	BRL		mg/kg dry	15.9	1	"	"	"	"	
8032-32-4	Ligroin	BRL		mg/kg dry	15.9	1	"	"	"	"	
J00100000	Aviation Fuel	BRL		mg/kg dry	15.9	1	"	"	"	"	
	Hydraulic Oil	BRL		mg/kg dry	15.9	1	"	"	"	"	
	Dielectric Fluid	BRL		mg/kg dry	15.9	1	"	"	"	"	
	Unidentified	51.2		mg/kg dry	15.9	1	"	"	"	"	
	Other Oil	Calculated as		mg/kg dry	15.9	1	"	"	"	"	
	Total Petroleum Hydrocarbons	51.2		mg/kg dry	15.9	1	"	"	"	"	
Surrogate recoveries:											
3386-33-2	*1-Chlorooctadecane*	*85*		*40-140 %*			"	"	"	"	
Total Metals by EPA 6000/7000 Series Methods											
7440-22-4	Silver	BRL		mg/kg dry	1.73	1	SW846 6010B	05-Nov-08	06-Nov-08	8110305	
7440-38-2	Arsenic	4.55		mg/kg dry	1.73	1	"	"	"	"	
7440-39-3	Barium	39.9		mg/kg dry	1.15	1	"	"	"	"	
440-43-9	Cadmium	0.743		mg/kg dry	0.576	1	"	"	"	"	
7440-47-3	Chromium	12.2		mg/kg dry	1.15	1	"	"	"	"	

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Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TS-081104-CIN SA86958-01	[none]	Soil	04-Nov-08 16:00	05-Nov-08

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Total Metals by EPA 6000/7000 Series Methods											
7439-97-6	Mercury	0.0638		mg/kg dry	0.0334	1	SW846 7471A	05-Nov-08	05-Nov-08	8110308	
7439-92-1	Lead	34.9		mg/kg dry	1.73	1	SW846 6010B	"	06-Nov-08	8110305	
7782-49-2	Selenium	BRL		mg/kg dry	1.73	1	"	"	"	"	
General Chemistry Parameters											
	% Solids	83.0		%		1	SM2540 G Mod.	05-Nov-08	05-Nov-08	8110340	

Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 8110346 - SW846 5030 Soil (high level)										
Blank (8110346-BLK1)										
Prepared & Analyzed: 05-Nov-08										
1,1,2-Trichlorotrifluoroethane (Freon 113)	BRL		µg/kg wet	1.0						
Acetone	BRL		µg/kg wet	10.0						
Acrylonitrile	BRL		µg/kg wet	1.0						
Benzene	BRL		µg/kg wet	1.0						
Bromobenzene	BRL		µg/kg wet	1.0						
Bromochloromethane	BRL		µg/kg wet	1.0						
Bromodichloromethane	BRL		µg/kg wet	1.0						
Bromoform	BRL		µg/kg wet	1.0						
Bromomethane	BRL		µg/kg wet	2.0						
2-Butanone (MEK)	BRL		µg/kg wet	10.0						
n-Butylbenzene	BRL		µg/kg wet	1.0						
sec-Butylbenzene	BRL		µg/kg wet	1.0						
tert-Butylbenzene	BRL		µg/kg wet	1.0						
Carbon disulfide	BRL		µg/kg wet	5.0						
Carbon tetrachloride	BRL		µg/kg wet	1.0						
Chlorobenzene	BRL		µg/kg wet	1.0						
Chloroethane	BRL		µg/kg wet	2.0						
Chloroform	BRL		µg/kg wet	1.0						
Chloromethane	BRL		µg/kg wet	2.0						
2-Chlorotoluene	BRL		µg/kg wet	1.0						
4-Chlorotoluene	BRL		µg/kg wet	1.0						
1,2-Dibromo-3-chloropropane	BRL		µg/kg wet	2.0						
Dibromochloromethane	BRL		µg/kg wet	1.0						
1,2-Dibromoethane (EDB)	BRL		µg/kg wet	1.0						
Dibromomethane	BRL		µg/kg wet	1.0						
1,2-Dichlorobenzene	BRL		µg/kg wet	1.0						
1,3-Dichlorobenzene	BRL		µg/kg wet	1.0						
1,4-Dichlorobenzene	BRL		µg/kg wet	1.0						
Dichlorodifluoromethane (Freon12)	BRL		µg/kg wet	2.0						
1,1-Dichloroethane	BRL		µg/kg wet	1.0						
1,2-Dichloroethane	BRL		µg/kg wet	1.0						
1,1-Dichloroethene	BRL		µg/kg wet	1.0						
cis-1,2-Dichloroethene	BRL		µg/kg wet	1.0						
trans-1,2-Dichloroethene	BRL		µg/kg wet	1.0						
1,2-Dichloropropane	BRL		µg/kg wet	1.0						
1,3-Dichloropropane	BRL		µg/kg wet	1.0						
2,2-Dichloropropane	BRL		µg/kg wet	1.0						
1,1-Dichloropropene	BRL		µg/kg wet	1.0						
cis-1,3-Dichloropropene	BRL		µg/kg wet	1.0						
trans-1,3-Dichloropropene	BRL		µg/kg wet	1.0						
Ethylbenzene	BRL		µg/kg wet	1.0						
Hexachlorobutadiene	BRL		µg/kg wet	1.0						
2-Hexanone (MBK)	BRL		µg/kg wet	10.0						
Isopropylbenzene	BRL		µg/kg wet	1.0						
4-Isopropyltoluene	BRL		µg/kg wet	1.0						
Methyl tert-butyl ether	BRL		µg/kg wet	1.0						
4-Methyl-2-pentanone (MIBK)	BRL		µg/kg wet	10.0						
Methylene chloride	BRL		µg/kg wet	10.0						
Naphthalene	BRL		µg/kg wet	1.0						

Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 8110346 - SW846 5030 Soil (high level)										
Blank (8110346-BLK1)										
Prepared & Analyzed: 05-Nov-08										
n-Propylbenzene	BRL		µg/kg wet	1.0						
Styrene	BRL		µg/kg wet	1.0						
1,1,1,2-Tetrachloroethane	BRL		µg/kg wet	1.0						
1,1,2,2-Tetrachloroethane	BRL		µg/kg wet	1.0						
Tetrachloroethene	BRL		µg/kg wet	1.0						
Toluene	BRL		µg/kg wet	1.0						
1,2,3-Trichlorobenzene	BRL		µg/kg wet	1.0						
1,2,4-Trichlorobenzene	BRL		µg/kg wet	1.0						
1,3,5-Trichlorobenzene	BRL		µg/kg wet	1.0						
1,1,1-Trichloroethane	BRL		µg/kg wet	1.0						
1,1,2-Trichloroethane	BRL		µg/kg wet	1.0						
Trichloroethene	BRL		µg/kg wet	1.0						
Trichlorofluoromethane (Freon 11)	BRL		µg/kg wet	1.0						
1,2,3-Trichloropropane	BRL		µg/kg wet	1.0						
1,2,4-Trimethylbenzene	BRL		µg/kg wet	1.0						
1,3,5-Trimethylbenzene	BRL		µg/kg wet	1.0						
Vinyl chloride	BRL		µg/kg wet	1.0						
m,p-Xylene	BRL		µg/kg wet	2.0						
o-Xylene	BRL		µg/kg wet	1.0						
Tetrahydrofuran	BRL		µg/kg wet	10.0						
Ethyl ether	BRL		µg/kg wet	1.0						
Tert-amyl methyl ether	BRL		µg/kg wet	1.0						
Ethyl tert-butyl ether	BRL		µg/kg wet	1.0						
Di-isopropyl ether	BRL		µg/kg wet	1.0						
Tert-Butanol / butyl alcohol	BRL		µg/kg wet	10.0						
1,4-Dioxane	BRL		µg/kg wet	20.0						
trans-1,4-Dichloro-2-butene	BRL		µg/kg wet	5.0						
Ethanol	BRL		µg/kg wet	400						
Surrogate: 4-Bromofluorobenzene	*30.5*		µg/kg wet		*30.0*		*102*	*70-130*		
Surrogate: Toluene-d8	*30.5*		µg/kg wet		*30.0*		*102*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*32.0*		µg/kg wet		*30.0*		*107*	*70-130*		
Surrogate: Dibromofluoromethane	*30.5*		µg/kg wet		*30.0*		*102*	*70-130*		
LCS (8110346-BS1)										
Prepared & Analyzed: 05-Nov-08										
1,1,2-Trichlorotrifluoroethane (Freon 113)	24.0		µg/kg wet		20.0		120	70-130		
Acetone	14.9		µg/kg wet		20.0		75	0-168		
Acrylonitrile	21.6		µg/kg wet		20.0		108	70-130		
Benzene	18.8		µg/kg wet		20.0		94	70-130		
Bromobenzene	24.3		µg/kg wet		20.0		121	70-130		
Bromochloromethane	22.3		µg/kg wet		20.0		111	70-130		
Bromodichloromethane	23.7		µg/kg wet		20.0		119	70-130		
Bromoform	21.3		µg/kg wet		20.0		107	70-130		
Bromomethane	25.8		µg/kg wet		20.0		129	40.9-138		
2-Butanone (MEK)	20.6		µg/kg wet		20.0		103	29.8-145		
n-Butylbenzene	17.8		µg/kg wet		20.0		89	70-130		
sec-Butylbenzene	22.6		µg/kg wet		20.0		113	70-130		
tert-Butylbenzene	24.2		µg/kg wet		20.0		121	70-130		
Carbon disulfide	20.4		µg/kg wet		20.0		102	70-130		
Carbon tetrachloride	22.2		µg/kg wet		20.0		111	70-130		
Chlorobenzene	21.9		µg/kg wet		20.0		109	70-130		

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* Reportable Detection Limit BRL = Below Reporting Limit

Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 8110346 - SW846 5030 Soil (high level)										
LCS (8110346-BS1)										
Prepared & Analyzed: 05-Nov-08										
Chloroethane	17.8		µg/kg wet		20.0		89	47.5-130		
Chloroform	21.5		µg/kg wet		20.0		108	70-130		
Chloromethane	22.0		µg/kg wet		20.0		110	70-130		
2-Chlorotoluene	21.9		µg/kg wet		20.0		110	70-130		
4-Chlorotoluene	21.7		µg/kg wet		20.0		109	70-130		
1,2-Dibromo-3-chloropropane	19.1		µg/kg wet		20.0		95	70-130		
Dibromochloromethane	21.2		µg/kg wet		20.0		106	66.2-130		
1,2-Dibromoethane (EDB)	22.1		µg/kg wet		20.0		110	70-130		
Dibromomethane	20.3		µg/kg wet		20.0		102	70-130		
1,2-Dichlorobenzene	20.6		µg/kg wet		20.0		103	70-130		
1,3-Dichlorobenzene	23.6		µg/kg wet		20.0		118	70-130		
1,4-Dichlorobenzene	20.0		µg/kg wet		20.0		100	70-130		
Dichlorodifluoromethane (Freon12)	23.4		µg/kg wet		20.0		117	32-158		
1,1-Dichloroethane	21.3		µg/kg wet		20.0		106	70-130		
1,2-Dichloroethane	22.9		µg/kg wet		20.0		114	70-130		
1,1-Dichloroethene	21.2		µg/kg wet		20.0		106	70-130		
cis-1,2-Dichloroethene	21.4		µg/kg wet		20.0		107	70-130		
trans-1,2-Dichloroethene	20.7		µg/kg wet		20.0		103	70-130		
1,2-Dichloropropane	18.6		µg/kg wet		20.0		93	70-130		
1,3-Dichloropropane	20.6		µg/kg wet		20.0		103	70-130		
2,2-Dichloropropane	22.7		µg/kg wet		20.0		113	70-130		
1,1-Dichloropropene	19.8		µg/kg wet		20.0		99	70-130		
cis-1,3-Dichloropropene	19.5		µg/kg wet		20.0		97	70-130		
trans-1,3-Dichloropropene	20.3		µg/kg wet		20.0		102	70-130		
Ethylbenzene	21.0		µg/kg wet		20.0		105	70-130		
Hexachlorobutadiene	23.5		µg/kg wet		20.0		117	53.6-138		
2-Hexanone (MBK)	18.8		µg/kg wet		20.0		94	70-130		
Isopropylbenzene	20.5		µg/kg wet		20.0		103	70-130		
4-Isopropyltoluene	20.6		µg/kg wet		20.0		103	70-130		
Methyl tert-butyl ether	21.3		µg/kg wet		20.0		106	70-130		
4-Methyl-2-pentanone (MIBK)	19.1		µg/kg wet		20.0		95	53.5-137		
Methylene chloride	21.1		µg/kg wet		20.0		105	70-130		
Naphthalene	19.9		µg/kg wet		20.0		100	70-130		
n-Propylbenzene	20.1		µg/kg wet		20.0		101	70-130		
Styrene	22.4		µg/kg wet		20.0		112	70-130		
1,1,1,2-Tetrachloroethane	21.6		µg/kg wet		20.0		108	70-130		
1,1,2,2-Tetrachloroethane	18.9		µg/kg wet		20.0		95	70-130		
Tetrachloroethene	22.6		µg/kg wet		20.0		113	70-130		
Toluene	19.8		µg/kg wet		20.0		99	70-130		
1,2,3-Trichlorobenzene	21.7		µg/kg wet		20.0		108	70-130		
1,2,4-Trichlorobenzene	20.5		µg/kg wet		20.0		103	70-130		
1,3,5-Trichlorobenzene	20.4		µg/kg wet		20.0		102	70-130		
1,1,1-Trichloroethane	24.1		µg/kg wet		20.0		120	70-130		
1,1,2-Trichloroethane	19.6		µg/kg wet		20.0		98	70-130		
Trichloroethene	19.7		µg/kg wet		20.0		98	70-130		
Trichlorofluoromethane (Freon 11)	23.0		µg/kg wet		20.0		115	50.9-138		
1,2,3-Trichloropropane	24.0		µg/kg wet		20.0		120	70-130		
1,2,4-Trimethylbenzene	22.6		µg/kg wet		20.0		113	70-130		
1,3,5-Trimethylbenzene	23.1		µg/kg wet		20.0		116	70-130		

Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 8110346 - SW846 5030 Soil (high level)										
LCS (8110346-BS1)										
Prepared & Analyzed: 05-Nov-08										
Vinyl chloride	24.0		µg/kg wet		20.0		120	70-130		
m,p-Xylene	45.0		µg/kg wet		40.0		113	70-130		
o-Xylene	22.7		µg/kg wet		20.0		114	70-130		
Tetrahydrofuran	18.2		µg/kg wet		20.0		91	70-130		
Ethyl ether	20.1		µg/kg wet		20.0		100	61.4-130		
Tert-amyl methyl ether	17.5		µg/kg wet		20.0		88	70-130		
Ethyl tert-butyl ether	22.8		µg/kg wet		20.0		114	70-130		
Di-isopropyl ether	19.4		µg/kg wet		20.0		97	70-130		
Tert-Butanol / butyl alcohol	231		µg/kg wet		200		116	70-130		
1,4-Dioxane	194		µg/kg wet		200		97	48.3-142		
trans-1,4-Dichloro-2-butene	21.6		µg/kg wet		20.0		108	70-130		
Ethanol	437		µg/kg wet		400		109	70-130		
Surrogate: 4-Bromofluorobenzene	*31.6*		µg/kg wet		*30.0*		*105*	*70-130*		
Surrogate: Toluene-d8	*31.0*		µg/kg wet		*30.0*		*103*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*32.8*		µg/kg wet		*30.0*		*109*	*70-130*		
Surrogate: Dibromofluoromethane	*31.8*		µg/kg wet		*30.0*		*106*	*70-130*		
LCS Dup (8110346-BSD1)										
Prepared & Analyzed: 05-Nov-08										
1,1,2-Trichlorotrifluoroethane (Freon 113)	23.4		µg/kg wet		20.0		117	70-130	3	25
Acetone	18.9		µg/kg wet		20.0		95	0-168	24	50
Acrylonitrile	22.4		µg/kg wet		20.0		112	70-130	4	25
Benzene	18.8		µg/kg wet		20.0		94	70-130	0.3	25
Bromobenzene	22.4		µg/kg wet		20.0		112	70-130	8	25
Bromochloromethane	22.2		µg/kg wet		20.0		111	70-130	0.3	25
Bromodichloromethane	23.8		µg/kg wet		20.0		119	70-130	0.1	25
Bromoform	21.5		µg/kg wet		20.0		108	70-130	1	25
Bromomethane	25.5		µg/kg wet		20.0		128	40.9-138	0.9	50
2-Butanone (MEK)	22.7		µg/kg wet		20.0		113	29.8-145	10	50
n-Butylbenzene	18.4		µg/kg wet		20.0		92	70-130	3	25
sec-Butylbenzene	20.9		µg/kg wet		20.0		104	70-130	8	25
tert-Butylbenzene	22.5		µg/kg wet		20.0		112	70-130	8	25
Carbon disulfide	20.8		µg/kg wet		20.0		104	70-130	2	25
Carbon tetrachloride	21.8		µg/kg wet		20.0		109	70-130	2	25
Chlorobenzene	20.4		µg/kg wet		20.0		102	70-130	7	25
Chloroethane	18.6		µg/kg wet		20.0		93	47.5-130	5	50
Chloroform	21.9		µg/kg wet		20.0		109	70-130	2	25
Chloromethane	23.4		µg/kg wet		20.0		117	70-130	6	25
2-Chlorotoluene	21.2		µg/kg wet		20.0		106	70-130	3	25
4-Chlorotoluene	20.3		µg/kg wet		20.0		101	70-130	7	25
1,2-Dibromo-3-chloropropane	19.5		µg/kg wet		20.0		97	70-130	2	25
Dibromochloromethane	21.2		µg/kg wet		20.0		106	66.2-130	0.2	50
1,2-Dibromoethane (EDB)	22.1		µg/kg wet		20.0		111	70-130	0.2	25
Dibromomethane	20.6		µg/kg wet		20.0		103	70-130	1	25
1,2-Dichlorobenzene	19.7		µg/kg wet		20.0		99	70-130	4	25
1,3-Dichlorobenzene	21.6		µg/kg wet		20.0		108	70-130	9	25
1,4-Dichlorobenzene	19.6		µg/kg wet		20.0		98	70-130	2	25
Dichlorodifluoromethane (Freon12)	23.8		µg/kg wet		20.0		119	32-158	2	50
1,1-Dichloroethane	21.6		µg/kg wet		20.0		108	70-130	2	25
1,2-Dichloroethane	22.9		µg/kg wet		20.0		115	70-130	0.1	25
1,1-Dichloroethene	20.9		µg/kg wet		20.0		104	70-130	1	25

Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 8110346 - SW846 5030 Soil (high level)										
LCS Dup (8110346-BSD1)										
Prepared & Analyzed: 05-Nov-08										
cis-1,2-Dichloroethene	21.1		µg/kg wet		20.0		106	70-130	1	25
trans-1,2-Dichloroethene	20.6		µg/kg wet		20.0		103	70-130	0.5	25
1,2-Dichloropropane	19.0		µg/kg wet		20.0		95	70-130	2	25
1,3-Dichloropropane	20.4		µg/kg wet		20.0		102	70-130	0.9	25
2,2-Dichloropropane	21.9		µg/kg wet		20.0		110	70-130	3	25
1,1-Dichloropropene	20.0		µg/kg wet		20.0		100	70-130	1	25
cis-1,3-Dichloropropene	19.4		µg/kg wet		20.0		97	70-130	0.7	25
trans-1,3-Dichloropropene	19.4		µg/kg wet		20.0		97	70-130	4	25
Ethylbenzene	19.8		µg/kg wet		20.0		99	70-130	6	25
Hexachlorobutadiene	22.0		µg/kg wet		20.0		110	53.6-138	6	50
2-Hexanone (MBK)	21.0		µg/kg wet		20.0		105	70-130	11	25
Isopropylbenzene	18.9		µg/kg wet		20.0		95	70-130	8	25
4-Isopropyltoluene	20.3		µg/kg wet		20.0		101	70-130	2	25
Methyl tert-butyl ether	22.0		µg/kg wet		20.0		110	70-130	3	25
4-Methyl-2-pentanone (MIBK)	20.4		µg/kg wet		20.0		102	53.5-137	7	50
Methylene chloride	21.6		µg/kg wet		20.0		108	70-130	2	25
Naphthalene	20.3		µg/kg wet		20.0		102	70-130	2	25
n-Propylbenzene	19.3		µg/kg wet		20.0		96	70-130	4	25
Styrene	20.5		µg/kg wet		20.0		102	70-130	9	25
1,1,1,2-Tetrachloroethane	20.6		µg/kg wet		20.0		103	70-130	4	25
1,1,2,2-Tetrachloroethane	18.6		µg/kg wet		20.0		93	70-130	1	25
Tetrachloroethene	21.7		µg/kg wet		20.0		108	70-130	4	25
Toluene	19.3		µg/kg wet		20.0		97	70-130	3	25
1,2,3-Trichlorobenzene	21.4		µg/kg wet		20.0		107	70-130	1	25
1,2,4-Trichlorobenzene	20.3		µg/kg wet		20.0		101	70-130	1	25
1,3,5-Trichlorobenzene	19.9		µg/kg wet		20.0		100	70-130	3	25
1,1,1-Trichloroethane	23.5		µg/kg wet		20.0		118	70-130	2	25
1,1,2-Trichloroethane	19.7		µg/kg wet		20.0		98	70-130	0.6	25
Trichloroethene	20.1		µg/kg wet		20.0		100	70-130	2	25
Trichlorofluoromethane (Freon 11)	23.1		µg/kg wet		20.0		116	50.9-138	0.7	50
1,2,3-Trichloropropane	24.1		µg/kg wet		20.0		121	70-130	0.6	25
1,2,4-Trimethylbenzene	21.3		µg/kg wet		20.0		106	70-130	6	25
1,3,5-Trimethylbenzene	21.5		µg/kg wet		20.0		107	70-130	7	25
Vinyl chloride	24.2		µg/kg wet		20.0		121	70-130	0.9	25
m,p-Xylene	41.6		µg/kg wet		40.0		104	70-130	8	25
o-Xylene	20.8		µg/kg wet		20.0		104	70-130	9	25
Tetrahydrofuran	20.6		µg/kg wet		20.0		103	70-130	12	25
Ethyl ether	20.3		µg/kg wet		20.0		101	61.4-130	0.9	50
Tert-amyl methyl ether	15.8		µg/kg wet		20.0		79	70-130	10	25
Ethyl tert-butyl ether	22.0		µg/kg wet		20.0		110	70-130	4	25
Di-isopropyl ether	20.3		µg/kg wet		20.0		101	70-130	4	25
Tert-Butanol / butyl alcohol	250		µg/kg wet		200		125	70-130	8	25
1,4-Dioxane	226		µg/kg wet		200		113	48.3-142	15	25
trans-1,4-Dichloro-2-butene	19.5		µg/kg wet		20.0		98	70-130	10	25
Ethanol	507		µg/kg wet		400		127	70-130	15	30
Surrogate: 4-Bromofluorobenzene	*30.8*		µg/kg wet		*30.0*		*103*	*70-130*		
Surrogate: Toluene-d8	*30.8*		µg/kg wet		*30.0*		*103*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*34.3*		µg/kg wet		*30.0*		*114*	*70-130*		
Surrogate: Dibromofluoromethane	*32.3*		µg/kg wet		*30.0*		*108*	*70-130*		

Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 8110346 - SW846 5030 Soil (high level)										
Matrix Spike (8110346-MS1) Source: SA86844-01										
Prepared: 05-Nov-08 Analyzed: 06-Nov-08										
Benzene	18.0		µg/kg dry		20.0	BRL	90	70-130		
Chlorobenzene	21.6		µg/kg dry		20.0	BRL	108	70-130		
1,1-Dichloroethene	19.9		µg/kg dry		20.0	BRL	99	70-130		
Toluene	19.6		µg/kg dry		20.0	BRL	98	70-130		
Trichloroethene	19.5		µg/kg dry		20.0	BRL	98	70-130		
Surrogate: 4-Bromofluorobenzene	*31.6*		µg/kg dry		*30.0*		*105*	*70-130*		
Surrogate: Toluene-d8	*31.0*		µg/kg dry		*30.0*		*103*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*31.6*		µg/kg dry		*30.0*		*105*	*70-130*		
Surrogate: Dibromofluoromethane	*31.7*		µg/kg dry		*30.0*		*106*	*70-130*		
Matrix Spike Dup (8110346-MSD1) Source: SA86844-01										
Prepared: 05-Nov-08 Analyzed: 06-Nov-08										
Benzene	19.4		µg/kg dry		20.0	BRL	97	70-130	7	30
Chlorobenzene	22.2		µg/kg dry		20.0	BRL	111	70-130	3	30
1,1-Dichloroethene	21.5		µg/kg dry		20.0	BRL	108	70-130	8	30
Toluene	20.3		µg/kg dry		20.0	BRL	101	70-130	4	30
Trichloroethene	21.4		µg/kg dry		20.0	BRL	107	70-130	9	30
Surrogate: 4-Bromofluorobenzene	*31.2*		µg/kg dry		*30.0*		*104*	*70-130*		
Surrogate: Toluene-d8	*30.7*		µg/kg dry		*30.0*		*102*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*32.2*		µg/kg dry		*30.0*		*107*	*70-130*		
Surrogate: Dibromofluoromethane	*30.8*		µg/kg dry		*30.0*		*103*	*70-130*		

Semivolatile Organic Compounds by GCMS - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 8110269 - SW846 3545A										
Blank (8110269-BLK1)										
Prepared & Analyzed: 05-Nov-08										
Acenaphthene	BRL		µg/kg wet	330						
Acenaphthylene	BRL		µg/kg wet	330						
Aniline	BRL		µg/kg wet	330						
Anthracene	BRL		µg/kg wet	330						
Atrazine	BRL		µg/kg wet	330						
Azobenzene/Diphenyldiazine	BRL		µg/kg wet	330						
Benzidine	BRL		µg/kg wet	330						
Benzo (a) anthracene	BRL		µg/kg wet	330						
Benzo (a) pyrene	BRL		µg/kg wet	330						
Benzo (b) fluoranthene	BRL		µg/kg wet	330						
Benzo (g,h,i) perylene	BRL		µg/kg wet	330						
Benzo (k) fluoranthene	BRL		µg/kg wet	330						
Benzoic acid	BRL		µg/kg wet	330						
Benzyl alcohol	BRL		µg/kg wet	330						
Bis(2-chloroethoxy)methane	BRL		µg/kg wet	330						
Bis(2-chloroethyl)ether	BRL		µg/kg wet	330						
Bis(2-chloroisopropyl)ether	BRL		µg/kg wet	330						
Bis(2-ethylhexyl)phthalate	BRL		µg/kg wet	330						
4-Bromophenyl phenyl ether	BRL		µg/kg wet	330						
Butyl benzyl phthalate	BRL		µg/kg wet	330						
Carbazole	BRL		µg/kg wet	330						
4-Chloro-3-methylphenol	BRL		µg/kg wet	330						
4-Chloroaniline	BRL		µg/kg wet	330						
2-Chloronaphthalene	BRL		µg/kg wet	330						
2-Chlorophenol	BRL		µg/kg wet	330						
4-Chlorophenyl phenyl ether	BRL		µg/kg wet	330						
Chrysene	BRL		µg/kg wet	330						
Dibenzo (a,h) anthracene	BRL		µg/kg wet	330						
Dibenzofuran	BRL		µg/kg wet	330						
1,2-Dichlorobenzene	BRL		µg/kg wet	330						
1,3-Dichlorobenzene	BRL		µg/kg wet	330						
1,4-Dichlorobenzene	BRL		µg/kg wet	330						
3,3'-Dichlorobenzidine	BRL		µg/kg wet	330						
2,4-Dichlorophenol	BRL		µg/kg wet	330						
Diethyl phthalate	BRL		µg/kg wet	330						
Dimethyl phthalate	BRL		µg/kg wet	330						
2,4-Dimethylphenol	BRL		µg/kg wet	330						
Di-n-butyl phthalate	BRL		µg/kg wet	330						
4,6-Dinitro-2-methylphenol	BRL		µg/kg wet	330						
2,4-Dinitrophenol	BRL		µg/kg wet	330						
2,4-Dinitrotoluene	BRL		µg/kg wet	330						
2,6-Dinitrotoluene	BRL		µg/kg wet	330						
Di-n-octyl phthalate	BRL		µg/kg wet	330						
Fluoranthene	BRL		µg/kg wet	330						
Fluorene	BRL		µg/kg wet	330						
Hexachlorobenzene	BRL		µg/kg wet	330						
Hexachlorobutadiene	BRL		µg/kg wet	330						
Hexachlorocyclopentadiene	BRL		µg/kg wet	330						
Hexachloroethane	BRL		µg/kg wet	330						

Semivolatile Organic Compounds by GCMS - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 8110269 - SW846 3545A										
Blank (8110269-BLK1)										
Prepared & Analyzed: 05-Nov-08										
Indeno (1,2,3-cd) pyrene	BRL		µg/kg wet	330						
Isophorone	BRL		µg/kg wet	330						
1-Methylnaphthalene	BRL		µg/kg wet	330						
2-Methylnaphthalene	BRL		µg/kg wet	330						
2-Methylphenol	BRL		µg/kg wet	330						
3 & 4-Methylphenol	BRL		µg/kg wet	330						
Naphthalene	BRL		µg/kg wet	330						
2-Nitroaniline	BRL		µg/kg wet	330						
3-Nitroaniline	BRL		µg/kg wet	330						
4-Nitroaniline	BRL		µg/kg wet	1320						
Nitrobenzene	BRL		µg/kg wet	330						
2-Nitrophenol	BRL		µg/kg wet	330						
4-Nitrophenol	BRL		µg/kg wet	1320						
N-Nitrosodimethylamine	BRL		µg/kg wet	330						
N-Nitrosodi-n-propylamine	BRL		µg/kg wet	330						
N-Nitrosodiphenylamine	BRL		µg/kg wet	330						
Pentachlorophenol	BRL		µg/kg wet	330						
Phenanthrene	BRL		µg/kg wet	330						
Phenol	BRL		µg/kg wet	330						
Pyrene	BRL		µg/kg wet	330						
Pyridine	BRL		µg/kg wet	330						
1,2,4-Trichlorobenzene	BRL		µg/kg wet	330						
2,4,5-Trichlorophenol	BRL		µg/kg wet	330						
2,4,6-Trichlorophenol	BRL		µg/kg wet	330						
Pentachloronitrobenzene	BRL		µg/kg wet	330						
1,2,4,5-Tetrachlorobenzene	BRL		µg/kg wet	330						
Surrogate: 2-Fluorobiphenyl	*2670*		µg/kg wet		*3330*		*80*	*30-130*		
Surrogate: 2-Fluorophenol	*2370*		µg/kg wet		*3330*		*71*	*15-110*		
Surrogate: Nitrobenzene-d5	*2560*		µg/kg wet		*3330*		*77*	*30-130*		
Surrogate: Phenol-d5	*2440*		µg/kg wet		*3330*		*73*	*15-110*		
Surrogate: Terphenyl-d14	*2600*		µg/kg wet		*3330*		*78*	*30-130*		
Surrogate: 2,4,6-Tribromophenol	*2420*		µg/kg wet		*3330*		*73*	*15-110*		
LCS (8110269-BS1)										
Prepared & Analyzed: 05-Nov-08										
Acenaphthene	2270		µg/kg wet	330	3330		68	40-130		
Acenaphthylene	2340		µg/kg wet	330	3330		70	40-130		
Aniline	1670		µg/kg wet	330	3330		50	40-130		
Anthracene	2750		µg/kg wet	330	3330		82	40-130		
Atrazine	2320		µg/kg wet	330	3330		70	40-130		
Azobenzene/Diphenyldiazine	2890		µg/kg wet	330	3330		87	40-130		
Benzidine	BRL		µg/kg wet	330	3330			0-130		
Benzo (a) anthracene	2030		µg/kg wet	330	3330		61	40-130		
Benzo (a) pyrene	2390		µg/kg wet	330	3330		72	40-130		
Benzo (b) fluoranthene	2020		µg/kg wet	330	3330		61	40-130		
Benzo (g,h,i) perylene	2110		µg/kg wet	330	3330		63	40-130		
Benzo (k) fluoranthene	2630		µg/kg wet	330	3330		79	40-130		
Benzoic acid	2080		µg/kg wet	330	3330		63	3.25-130		
Benzyl alcohol	1970		µg/kg wet	330	3330		59	40-130		
Bis(2-chloroethoxy)methane	2470		µg/kg wet	330	3330		74	40-130		
Bis(2-chloroethyl)ether	2500		µg/kg wet	330	3330		75	40-130		

Semivolatile Organic Compounds by GCMS - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 8110269 - SW846 3545A										
LCS (8110269-BS1)										
Prepared & Analyzed: 05-Nov-08										
Bis(2-chloroisopropyl)ether	2810		µg/kg wet	330	3330		84	40-130		
Bis(2-ethylhexyl)phthalate	2610		µg/kg wet	330	3330		78	40-130		
4-Bromophenyl phenyl ether	2670		µg/kg wet	330	3330		80	40-130		
Butyl benzyl phthalate	2550		µg/kg wet	330	3330		77	40-130		
Carbazole	2510		µg/kg wet	330	3330		75	40-130		
4-Chloro-3-methylphenol	2340		µg/kg wet	330	3330		70	40-130		
4-Chloroaniline	1760		µg/kg wet	330	3330		53	40-130		
2-Chloronaphthalene	2150		µg/kg wet	330	3330		65	40-130		
2-Chlorophenol	2110		µg/kg wet	330	3330		63	40-130		
4-Chlorophenyl phenyl ether	2670		µg/kg wet	330	3330		80	40-130		
Chrysene	2560		µg/kg wet	330	3330		77	40-130		
Dibenzo (a,h) anthracene	2420		µg/kg wet	330	3330		73	40-130		
Dibenzofuran	2290		µg/kg wet	330	3330		69	40-130		
1,2-Dichlorobenzene	2130		µg/kg wet	330	3330		64	40-130		
1,3-Dichlorobenzene	1980		µg/kg wet	330	3330		60	40-130		
1,4-Dichlorobenzene	2170		µg/kg wet	330	3330		65	40-130		
3,3'-Dichlorobenzidine	2340		µg/kg wet	330	3330		70	40-130		
2,4-Dichlorophenol	2210		µg/kg wet	330	3330		66	40-130		
Diethyl phthalate	2840		µg/kg wet	330	3330		85	40-130		
Dimethyl phthalate	2500		µg/kg wet	330	3330		75	40-130		
2,4-Dimethylphenol	2130		µg/kg wet	330	3330		64	40-130		
Di-n-butyl phthalate	2960		µg/kg wet	330	3330		89	40-130		
4,6-Dinitro-2-methylphenol	2220		µg/kg wet	330	3330		67	40-130		
2,4-Dinitrophenol	2100		µg/kg wet	330	3330		63	40-130		
2,4-Dinitrotoluene	2250		µg/kg wet	330	3330		68	40-130		
2,6-Dinitrotoluene	2280		µg/kg wet	330	3330		68	40-130		
Di-n-octyl phthalate	3010		µg/kg wet	330	3330		90	40-130		
Fluoranthene	2480		µg/kg wet	330	3330		74	40-130		
Fluorene	2550		µg/kg wet	330	3330		77	40-130		
Hexachlorobenzene	2420		µg/kg wet	330	3330		73	40-130		
Hexachlorobutadiene	2340		µg/kg wet	330	3330		70	40-130		
Hexachlorocyclopentadiene	2020		µg/kg wet	330	3330		61	40-130		
Hexachloroethane	2210		µg/kg wet	330	3330		66	40-130		
Indeno (1,2,3-cd) pyrene	2390		µg/kg wet	330	3330		72	40-130		
Isophorone	2190		µg/kg wet	330	3330		66	40-130		
1-Methylnaphthalene	2240		µg/kg wet	330	3330		67	40-140		
2-Methylnaphthalene	2230		µg/kg wet	330	3330		67	40-130		
2-Methylphenol	2150		µg/kg wet	330	3330		65	40-130		
3 & 4-Methylphenol	2210		µg/kg wet	330	3330		66	40-130		
Naphthalene	2290		µg/kg wet	330	3330		69	40-130		
2-Nitroaniline	2160		µg/kg wet	330	3330		65	40-130		
3-Nitroaniline	2030		µg/kg wet	330	3330		61	40-130		
4-Nitroaniline	2040		µg/kg wet	1320	3330		61	40-130		
Nitrobenzene	2310		µg/kg wet	330	3330		69	40-130		
2-Nitrophenol	2170		µg/kg wet	330	3330		65	40-130		
4-Nitrophenol	1740		µg/kg wet	1320	3330		52	40-130		
N-Nitrosodimethylamine	1800		µg/kg wet	330	3330		54	40-130		
N-Nitrosodi-n-propylamine	2670		µg/kg wet	330	3330		80	40-130		
N-Nitrosodiphenylamine	2770		µg/kg wet	330	3330		83	40-130		

Semivolatile Organic Compounds by GCMS - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 8110269 - SW846 3545A										
LCS (8110269-BS1)										
Prepared & Analyzed: 05-Nov-08										
Pentachlorophenol	2220		µg/kg wet	330	3330		67	40-130		
Phenanthrene	2370		µg/kg wet	330	3330		71	40-130		
Phenol	2200		µg/kg wet	330	3330		66	40-130		
Pyrene	2290		µg/kg wet	330	3330		69	40-130		
Pyridine	214		µg/kg wet	330	3330		6	0-130		
1,2,4-Trichlorobenzene	2100		µg/kg wet	330	3330		63	40-130		
2,4,5-Trichlorophenol	2150		µg/kg wet	330	3330		64	40-130		
2,4,6-Trichlorophenol	2030		µg/kg wet	330	3330		61	40-130		
Pentachloronitrobenzene	2410		µg/kg wet	330	3330		72	40-140		
1,2,4,5-Tetrachlorobenzene	2040		µg/kg wet	330	3330		61	40-140		
Surrogate: 2-Fluorobiphenyl	*2410*		µg/kg wet		*3330*		*72*	*30-130*		
Surrogate: 2-Fluorophenol	*1970*		µg/kg wet		*3330*		*59*	*15-110*		
Surrogate: Nitrobenzene-d5	*2390*		µg/kg wet		*3330*		*72*	*30-130*		
Surrogate: Phenol-d5	*2030*		µg/kg wet		*3330*		*61*	*15-110*		
Surrogate: Terphenyl-d14	*2300*		µg/kg wet		*3330*		*69*	*30-130*		
Surrogate: 2,4,6-Tribromophenol	*2430*		µg/kg wet		*3330*		*73*	*15-110*		
Duplicate (8110269-DUP1)	**Source: SA86931-14**									
Prepared & Analyzed: 05-Nov-08										
Acenaphthene	BRL		µg/kg dry	193		BRL				50
Acenaphthylene	BRL		µg/kg dry	193		BRL				50
Aniline	BRL		µg/kg dry	193		BRL				50
Anthracene	BRL		µg/kg dry	193		BRL				50
Atrazine	BRL		µg/kg dry	193		BRL				50
Azobenzene/Diphenyldiazine	BRL		µg/kg dry	193		BRL				50
Benzidine	BRL		µg/kg dry	193		BRL				50
Benzo (a) anthracene	BRL		µg/kg dry	193		BRL				50
Benzo (a) pyrene	BRL		µg/kg dry	193		BRL				50
Benzo (b) fluoranthene	BRL		µg/kg dry	193		BRL				50
Benzo (g,h,i) perylene	BRL		µg/kg dry	193		BRL				50
Benzo (k) fluoranthene	BRL		µg/kg dry	193		BRL				50
Benzoic acid	BRL		µg/kg dry	193		BRL				50
Benzyl alcohol	BRL		µg/kg dry	193		BRL				50
Bis(2-chloroethoxy)methane	BRL		µg/kg dry	193		BRL				50
Bis(2-chloroethyl)ether	BRL		µg/kg dry	193		BRL				50
Bis(2-chloroisopropyl)ether	BRL		µg/kg dry	193		BRL				50
Bis(2-ethylhexyl)phthalate	BRL		µg/kg dry	193		BRL				50
4-Bromophenyl phenyl ether	BRL		µg/kg dry	193		BRL				50
Butyl benzyl phthalate	BRL		µg/kg dry	193		BRL				50
Carbazole	BRL		µg/kg dry	193		BRL				50
4-Chloro-3-methylphenol	BRL		µg/kg dry	193		BRL				50
4-Chloroaniline	BRL		µg/kg dry	193		BRL				50
2-Chloronaphthalene	BRL		µg/kg dry	193		BRL				50
2-Chlorophenol	BRL		µg/kg dry	193		BRL				50
4-Chlorophenyl phenyl ether	BRL		µg/kg dry	193		BRL				50
Chrysene	BRL		µg/kg dry	193		BRL				50
Dibenzo (a,h) anthracene	BRL		µg/kg dry	193		BRL				50
Dibenzofuran	BRL		µg/kg dry	193		BRL				50
1,2-Dichlorobenzene	BRL		µg/kg dry	193		BRL				50
1,3-Dichlorobenzene	BRL		µg/kg dry	193		BRL				50
1,4-Dichlorobenzene	BRL		µg/kg dry	193		BRL				50

Semivolatile Organic Compounds by GCMS - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 8110269 - SW846 3545A										
Duplicate (8110269-DUP1)	**Source: SA86931-14**									
Prepared & Analyzed: 05-Nov-08										
3,3'-Dichlorobenzidine	BRL		µg/kg dry	193		BRL				50
2,4-Dichlorophenol	BRL		µg/kg dry	193		BRL				50
Diethyl phthalate	BRL		µg/kg dry	193		BRL				50
Dimethyl phthalate	BRL		µg/kg dry	193		BRL				50
2,4-Dimethylphenol	BRL		µg/kg dry	193		BRL				50
Di-n-butyl phthalate	BRL		µg/kg dry	193		BRL				50
4,6-Dinitro-2-methylphenol	BRL		µg/kg dry	193		BRL				50
2,4-Dinitrophenol	BRL		µg/kg dry	193		BRL				50
2,4-Dinitrotoluene	BRL		µg/kg dry	193		BRL				50
2,6-Dinitrotoluene	BRL		µg/kg dry	193		BRL				50
Di-n-octyl phthalate	BRL		µg/kg dry	193		BRL				50
Fluoranthene	BRL		µg/kg dry	193		BRL				50
Fluorene	BRL		µg/kg dry	193		BRL				50
Hexachlorobenzene	BRL		µg/kg dry	193		BRL				50
Hexachlorobutadiene	BRL		µg/kg dry	193		BRL				50
Hexachlorocyclopentadiene	BRL		µg/kg dry	193		BRL				50
Hexachloroethane	BRL		µg/kg dry	193		BRL				50
Indeno (1,2,3-cd) pyrene	BRL		µg/kg dry	193		BRL				50
1-Methylnaphthalene	BRL		µg/kg dry	193		BRL				50
Isophorone	BRL		µg/kg dry	193		BRL				50
2-Methylnaphthalene	BRL		µg/kg dry	193		BRL				50
2-Methylphenol	BRL		µg/kg dry	193		BRL				50
3 & 4-Methylphenol	BRL		µg/kg dry	193		BRL				50
Naphthalene	BRL		µg/kg dry	193		BRL				50
2-Nitroaniline	BRL		µg/kg dry	193		BRL				50
3-Nitroaniline	BRL		µg/kg dry	193		BRL				50
4-Nitroaniline	BRL		µg/kg dry	772		BRL				50
Nitrobenzene	BRL		µg/kg dry	193		BRL				50
2-Nitrophenol	BRL		µg/kg dry	193		BRL				50
4-Nitrophenol	BRL		µg/kg dry	772		BRL				50
N-Nitrosodimethylamine	BRL		µg/kg dry	193		BRL				50
N-Nitrosodi-n-propylamine	BRL		µg/kg dry	193		BRL				50
N-Nitrosodiphenylamine	BRL		µg/kg dry	193		BRL				50
Pentachlorophenol	BRL		µg/kg dry	193		BRL				50
Phenanthrene	BRL		µg/kg dry	193		BRL				50
Phenol	BRL		µg/kg dry	193		BRL				50
Pyrene	BRL		µg/kg dry	193		BRL				50
Pyridine	BRL		µg/kg dry	193		BRL				50
1,2,4-Trichlorobenzene	BRL		µg/kg dry	193		BRL				50
2,4,5-Trichlorophenol	BRL		µg/kg dry	193		BRL				50
2,4,6-Trichlorophenol	BRL		µg/kg dry	193		BRL				50
Pentachloronitrobenzene	BRL		µg/kg dry	193		BRL				50
1,2,4,5-Tetrachlorobenzene	BRL		µg/kg dry	193		BRL				50
Surrogate: 2-Fluorobiphenyl	*1350*		µg/kg dry		*1950*		*69*	*30-130*		
Surrogate: 2-Fluorophenol	*1190*		µg/kg dry		*1950*		*61*	*15-110*		
Surrogate: Nitrobenzene-d5	*1300*		µg/kg dry		*1950*		*67*	*30-130*		
Surrogate: Phenol-d5	*1210*		µg/kg dry		*1950*		*62*	*15-110*		
Surrogate: Terphenyl-d14	*1400*		µg/kg dry		*1950*		*72*	*30-130*		
Surrogate: 2,4,6-Tribromophenol	*1270*		µg/kg dry		*1950*		*65*	*15-110*		

Semivolatile Organic Compounds by GCMS - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 8110269 - SW846 3545A										
Matrix Spike (8110269-MS1)	Source: SA86931-14									
Prepared & Analyzed: 05-Nov-08										
Acenaphthene	1350		µg/kg dry	190	1920	BRL	70	40-140		
Benzo (b) fluoranthene	1230		µg/kg dry	190	1920	BRL	64	40-140		
Benzo (k) fluoranthene	1880		µg/kg dry	190	1920	BRL	98	40-140		
4-Chloro-3-methylphenol	1420		µg/kg dry	190	1920	BRL	74	30-130		
2-Chlorophenol	1280		µg/kg dry	190	1920	BRL	67	30-130		
Chrysene	1500		µg/kg dry	190	1920	BRL	78	40-140		
1,4-Dichlorobenzene	1320		µg/kg dry	190	1920	BRL	69	40-140		
Indeno (1,2,3-cd) pyrene	1370		µg/kg dry	190	1920	BRL	71	40-140		
Naphthalene	1400		µg/kg dry	190	1920	BRL	73	40-140		
4-Nitrophenol	1100		µg/kg dry	762	1920	BRL	57	30-130		
N-Nitrosodi-n-propylamine	1680		µg/kg dry	190	1920	BRL	87	40-140		
Pentachlorophenol	1430		µg/kg dry	190	1920	BRL	74	30-130		
Phenol	1300		µg/kg dry	190	1920	BRL	67	30-130		
Pyrene	1380		µg/kg dry	190	1920	BRL	72	40-140		
1,2,4-Trichlorobenzene	1310		µg/kg dry	190	1920	BRL	68	40-140		
Surrogate: 2-Fluorobiphenyl	*1300*		µg/kg dry		*1920*		*67*	*30-130*		
Surrogate: 2-Fluorophenol	*1060*		µg/kg dry		*1920*		*55*	*15-110*		
Surrogate: Nitrobenzene-d5	*1360*		µg/kg dry		*1920*		*71*	*30-130*		
Surrogate: Phenol-d5	*1120*		µg/kg dry		*1920*		*58*	*15-110*		
Surrogate: Terphenyl-d14	*1270*		µg/kg dry		*1920*		*66*	*30-130*		
Surrogate: 2,4,6-Tribromophenol	*1340*		µg/kg dry		*1920*		*70*	*15-110*		
Matrix Spike Dup (8110269-MSD1)	Source: SA86931-14									
Prepared & Analyzed: 05-Nov-08										
Acenaphthene	1370		µg/kg dry	193	1950	BRL	70	40-140	0.4	30
Benzo (b) fluoranthene	1300		µg/kg dry	193	1950	BRL	67	40-140	4	30
Benzo (k) fluoranthene	2020		µg/kg dry	193	1950	BRL	104	40-140	6	30
4-Chloro-3-methylphenol	1410		µg/kg dry	193	1950	BRL	72	30-130	2	30
2-Chlorophenol	1310		µg/kg dry	193	1950	BRL	67	30-130	1	30
Chrysene	1570		µg/kg dry	193	1950	BRL	81	40-140	3	30
1,4-Dichlorobenzene	1300		µg/kg dry	193	1950	BRL	67	40-140	2	30
Indeno (1,2,3-cd) pyrene	1390		µg/kg dry	193	1950	BRL	72	40-140	0.2	30
Naphthalene	1430		µg/kg dry	193	1950	BRL	74	40-140	1	30
4-Nitrophenol	1250		µg/kg dry	771	1950	BRL	64	30-130	12	30
N-Nitrosodi-n-propylamine	1680		µg/kg dry	193	1950	BRL	86	40-140	1	30
Pentachlorophenol	1480		µg/kg dry	193	1950	BRL	76	30-130	2	30
Phenol	1320		µg/kg dry	193	1950	BRL	68	30-130	0.9	30
Pyrene	1420		µg/kg dry	193	1950	BRL	73	40-140	1	30
1,2,4-Trichlorobenzene	1280		µg/kg dry	193	1950	BRL	66	40-140	3	30
Surrogate: 2-Fluorobiphenyl	*1390*		µg/kg dry		*1950*		*71*	*30-130*		
Surrogate: 2-Fluorophenol	*1120*		µg/kg dry		*1950*		*58*	*15-110*		
Surrogate: Nitrobenzene-d5	*1380*		µg/kg dry		*1950*		*71*	*30-130*		
Surrogate: Phenol-d5	*1180*		µg/kg dry		*1950*		*61*	*15-110*		
Surrogate: Terphenyl-d14	*1340*		µg/kg dry		*1950*		*69*	*30-130*		
Surrogate: 2,4,6-Tribromophenol	*1450*		µg/kg dry		*1950*		*75*	*15-110*		

Semivolatile Organic Compounds by GC - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 8110274 - SW846 3545A										
Blank (8110274-BLK1)										
Prepared: 05-Nov-08 Analyzed: 06-Nov-08										
PCB 1016	BRL		µg/kg wet	20.0						
PCB 1221	BRL		µg/kg wet	20.0						
PCB 1232	BRL		µg/kg wet	20.0						
PCB 1242	BRL		µg/kg wet	20.0						
PCB 1248	BRL		µg/kg wet	20.0						
PCB 1254	BRL		µg/kg wet	20.0						
PCB 1260	BRL		µg/kg wet	20.0						
PCB 1262	BRL		µg/kg wet	20.0						
PCB 1268	BRL		µg/kg wet	20.0						
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	*14.3*		µg/kg wet		*20.0*		*72*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr)	*18.5*		µg/kg wet		*20.0*		*92*	*30-150*		
LCS (8110274-BS1)										
Prepared: 05-Nov-08 Analyzed: 06-Nov-08										
PCB 1016	239		µg/kg wet	20.0	250		96	40-140		
PCB 1260	238		µg/kg wet	20.0	250		95	40-140		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	*14.3*		µg/kg wet		*20.0*		*72*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr)	*18.7*		µg/kg wet		*20.0*		*94*	*30-150*		
LCS Dup (8110274-BSD1)										
Prepared: 05-Nov-08 Analyzed: 06-Nov-08										
PCB 1016	238		µg/kg wet	20.0	250		95	40-140	0.3	30
PCB 1260	242		µg/kg wet	20.0	250		97	40-140	2	30
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	*14.2*		µg/kg wet		*20.0*		*71*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr)	*19.3*		µg/kg wet		*20.0*		*96*	*30-150*		
Duplicate (8110274-DUP1) Source: SA86935-37										
Prepared: 05-Nov-08 Analyzed: 06-Nov-08										
PCB 1016	BRL		µg/kg wet	19.0		BRL				40
PCB 1221	BRL		µg/kg wet	19.0		BRL				40
PCB 1232	BRL		µg/kg wet	19.0		BRL				40
PCB 1242	BRL		µg/kg wet	19.0		BRL				40
PCB 1248	BRL		µg/kg wet	19.0		BRL				40
PCB 1254	216		µg/kg wet	19.0		156			32	40
PCB 1260	BRL		µg/kg wet	19.0		BRL				40
PCB 1262	BRL		µg/kg wet	19.0		BRL				40
PCB 1268	BRL		µg/kg wet	19.0		BRL				40
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	*20.8*		µg/kg wet		*19.0*		*110*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr)	*20.7*		µg/kg wet		*19.0*		*109*	*30-150*		
Matrix Spike (8110274-MS1) Source: SA86935-37										
Prepared: 05-Nov-08 Analyzed: 06-Nov-08										
PCB 1016	275		µg/kg wet	18.3	229	BRL	120	40-140		
PCB 1260	284		µg/kg wet	18.3	229	BRL	124	40-140		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	*19.3*		µg/kg wet		*18.3*		*106*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr)	*20.3*		µg/kg wet		*18.3*		*111*	*30-150*		
Matrix Spike Dup (8110274-MSD1) Source: SA86935-37										
Prepared: 05-Nov-08 Analyzed: 06-Nov-08										
PCB 1016	299		µg/kg wet	18.4	230	BRL	130	40-140	8	50
PCB 1260	302		µg/kg wet	18.4	230	BRL	131	40-140	6	50
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	*20.5*		µg/kg wet		*18.4*		*112*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr)	*23.0*		µg/kg wet		*18.4*		*125*	*30-150*		
Batch 8110309 - SW846 3550B										

Semivolatile Organic Compounds by GC - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 8110309 - SW846 3550B										
Blank (8110309-BLK1)										
Prepared: 05-Nov-08 Analyzed: 06-Nov-08										
2,4,5-T	BRL		µg/kg wet	6.70						
2,4,5-T [2C]	BRL		µg/kg wet	6.70						
2,4,5-TP (Silvex)	BRL		µg/kg wet	6.70						
2,4,5-TP (Silvex) [2C]	BRL		µg/kg wet	6.70						
2,4-D	BRL		µg/kg wet	6.70						
2,4-D [2C]	BRL		µg/kg wet	6.70						
2,4-DB	BRL		µg/kg wet	6.70						
2,4-DB [2C]	BRL		µg/kg wet	6.70						
Dalapon	BRL		µg/kg wet	6.70						
Dalapon [2C]	BRL		µg/kg wet	6.70						
Dicamba	BRL		µg/kg wet	6.70						
Dicamba [2C]	BRL		µg/kg wet	6.70						
Dichlorprop	BRL		µg/kg wet	6.70						
Dichlorprop [2C]	BRL		µg/kg wet	6.70						
Dinoseb	BRL		µg/kg wet	6.70						
Dinoseb [2C]	BRL		µg/kg wet	6.70						
MCPA	BRL		µg/kg wet	670						
MCPA [2C]	BRL		µg/kg wet	670						
MCPB	BRL		µg/kg wet	670						
MCPB [2C]	BRL		µg/kg wet	670						
MCPP	BRL		µg/kg wet	670						
MCPP [2C]	BRL		µg/kg wet	670						
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	*13.9*		µg/kg wet		*13.3*		*104*	*30-150*		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2	*16.7*		µg/kg wet		*13.3*		*126*	*30-150*		
LCS (8110309-BS1)										
Prepared: 05-Nov-08 Analyzed: 06-Nov-08										
2,4,5-T	27.2		µg/kg wet	6.70	33.3		82	40-140		
2,4,5-T [2C]	29.5		µg/kg wet	6.70	33.3		89	40-140		
2,4,5-TP (Silvex)	27.3		µg/kg wet	6.70	33.3		82	40-140		
2,4,5-TP (Silvex) [2C]	29.0		µg/kg wet	6.70	33.3		87	40-140		
2,4-D	28.8		µg/kg wet	6.70	33.3		86	40-140		
2,4-D [2C]	31.7		µg/kg wet	6.70	33.3		95	40-140		
2,4-DB	22.9		µg/kg wet	6.70	33.3		69	40-140		
2,4-DB [2C]	22.5		µg/kg wet	6.70	33.3		68	40-140		
Dalapon	25.3		µg/kg wet	6.70	33.3		76	40-140		
Dalapon [2C]	24.7		µg/kg wet	6.70	33.3		74	40-140		
Dicamba	26.9		µg/kg wet	6.70	33.3		81	40-140		
Dicamba [2C]	31.7		µg/kg wet	6.70	33.3		95	40-140		
Dichlorprop	30.0		µg/kg wet	6.70	33.3		90	40-140		
Dichlorprop [2C]	29.7		µg/kg wet	6.70	33.3		89	40-140		
Dinoseb	27.9		µg/kg wet	6.70	33.3		84	40-140		
Dinoseb [2C]	30.1		µg/kg wet	6.70	33.3		90	40-140		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	*13.4*		µg/kg wet		*13.3*		*100*	*30-150*		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2	*15.7*		µg/kg wet		*13.3*		*118*	*30-150*		
LCS (8110309-BS2)										
Prepared: 05-Nov-08 Analyzed: 06-Nov-08										
MCPA	6930		µg/kg wet	670	10000		69	40-140		
MCPA [2C]	8200		µg/kg wet	670	10000		82	40-140		
MCPB	8200		µg/kg wet	670	10000		82	40-140		

Semivolatile Organic Compounds by GC - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 8110309 - SW846 3550B										
LCS (8110309-BS2)										
Prepared: 05-Nov-08 Analyzed: 06-Nov-08										
MCPB [2C]	8800		µg/kg wet	670	10000		88	40-140		
MCPP	7670		µg/kg wet	670	10000		77	40-140		
MCPP [2C]	7470		µg/kg wet	670	10000		75	40-140		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	*13.2*		µg/kg wet		*13.3*		*99*	*30-150*		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [:	*13.9*		µg/kg wet		*13.3*		*104*	*30-150*		
LCS Dup (8110309-BSD1)										
Prepared: 05-Nov-08 Analyzed: 06-Nov-08										
2,4,5-T	25.3		µg/kg wet	6.70	33.3		76	40-140	7	25
2,4,5-T [2C]	26.9		µg/kg wet	6.70	33.3		81	40-140	9	25
2,4,5-TP (Silvex)	26.5		µg/kg wet	6.70	33.3		79	40-140	3	25
2,4,5-TP (Silvex) [2C]	26.4		µg/kg wet	6.70	33.3		79	40-140	9	25
2,4-D	25.5		µg/kg wet	6.70	33.3		77	40-140	12	25
2,4-D [2C]	29.6		µg/kg wet	6.70	33.3		89	40-140	7	25
2,4-DB	24.4		µg/kg wet	6.70	33.3		73	40-140	6	25
2,4-DB [2C]	26.5		µg/kg wet	6.70	33.3		80	40-140	16	25
Dalapon	19.1	QR2	µg/kg wet	6.70	33.3		57	40-140	28	25
Dalapon [2C]	21.9		µg/kg wet	6.70	33.3		66	40-140	12	25
Dicamba	27.2		µg/kg wet	6.70	33.3		82	40-140	1	25
Dicamba [2C]	26.6		µg/kg wet	6.70	33.3		80	40-140	18	25
Dichlorprop	29.1		µg/kg wet	6.70	33.3		87	40-140	3	25
Dichlorprop [2C]	27.2		µg/kg wet	6.70	33.3		82	40-140	9	25
Dinoseb	26.3		µg/kg wet	6.70	33.3		79	40-140	6	25
Dinoseb [2C]	27.3		µg/kg wet	6.70	33.3		82	40-140	10	25
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	*12.9*		µg/kg wet		*13.3*		*97*	*30-150*		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [:	*14.3*		µg/kg wet		*13.3*		*108*	*30-150*		
LCS Dup (8110309-BSD2)										
Prepared: 05-Nov-08 Analyzed: 06-Nov-08										
MCPA	7600		µg/kg wet	670	10000		76	40-140	9	25
MCPA [2C]	8800		µg/kg wet	670	10000		88	40-140	7	25
MCPB	8330		µg/kg wet	670	10000		83	40-140	2	25
MCPB [2C]	8930		µg/kg wet	670	10000		89	40-140	2	25
MCPP	7730		µg/kg wet	670	10000		77	40-140	0.9	25
MCPP [2C]	8070		µg/kg wet	670	10000		81	40-140	8	25
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	*13.3*		µg/kg wet		*13.3*		*100*	*30-150*		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [:	*13.5*		µg/kg wet		*13.3*		*101*	*30-150*		
Duplicate (8110309-DUP1) Source: **SA86958-01**										
Prepared: 05-Nov-08 Analyzed: 06-Nov-08										
2,4,5-T	BRL		µg/kg dry	6.70		BRL				30
2,4,5-T [2C]	BRL		µg/kg dry	6.70		BRL				30
2,4,5-TP (Silvex)	BRL		µg/kg dry	6.70		BRL				30
2,4,5-TP (Silvex) [2C]	BRL		µg/kg dry	6.70		BRL				30
2,4-D	BRL		µg/kg dry	6.70		BRL				30
2,4-D [2C]	BRL		µg/kg dry	6.70		BRL				30
2,4-DB	BRL		µg/kg dry	6.70		BRL				30
2,4-DB [2C]	BRL		µg/kg dry	6.70		BRL				30
Dalapon	BRL		µg/kg dry	6.70		BRL				30
Dalapon [2C]	BRL		µg/kg dry	6.70		BRL				30
Dicamba	BRL		µg/kg dry	6.70		BRL				30
Dicamba [2C]	BRL		µg/kg dry	6.70		BRL				30

Semivolatile Organic Compounds by GC - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 8110309 - SW846 3550B										
Duplicate (8110309-DUP1) Source: SA86958-01										
Prepared: 05-Nov-08 Analyzed: 06-Nov-08										
Dichlorprop	BRL		µg/kg dry	6.70		BRL				30
Dichlorprop [2C]	BRL		µg/kg dry	6.70		BRL				30
Dinoseb	BRL		µg/kg dry	6.70		BRL				30
Dinoseb [2C]	BRL		µg/kg dry	6.70		BRL				30
MCPA	BRL		µg/kg dry	670		BRL				30
MCPA [2C]	BRL		µg/kg dry	670		BRL				30
MCPB	BRL		µg/kg dry	670		BRL				30
MCPB [2C]	BRL		µg/kg dry	670		BRL				30
MCPP	BRL		µg/kg dry	670		BRL				30
MCPP [2C]	BRL		µg/kg dry	670		BRL				30
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	*14.2*		µg/kg dry		*16.0*		*89*	*30-150*		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [:	*10.0*		µg/kg dry		*16.0*		*63*	*30-150*		
Batch 8110310 - SW846 3545A										
Blank (8110310-BLK1)										
Prepared & Analyzed: 05-Nov-08										
alpha-BHC	BRL		µg/kg wet	10.0						
alpha-BHC [2C]	BRL		µg/kg wet	10.0						
beta-BHC	BRL		µg/kg wet	10.0						
beta-BHC [2C]	BRL		µg/kg wet	10.0						
delta-BHC	BRL		µg/kg wet	10.0						
delta-BHC [2C]	BRL		µg/kg wet	10.0						
gamma-BHC (Lindane)	BRL		µg/kg wet	10.0						
gamma-BHC (Lindane) [2C]	BRL		µg/kg wet	10.0						
Heptachlor	BRL		µg/kg wet	10.0						
Heptachlor [2C]	BRL		µg/kg wet	10.0						
Aldrin	BRL		µg/kg wet	10.0						
Aldrin [2C]	BRL		µg/kg wet	10.0						
Heptachlor epoxide	BRL		µg/kg wet	10.0						
Heptachlor epoxide [2C]	BRL		µg/kg wet	10.0						
Endosulfan I	BRL		µg/kg wet	10.0						
Endosulfan I [2C]	BRL		µg/kg wet	10.0						
Dieldrin	BRL		µg/kg wet	10.0						
Dieldrin [2C]	BRL		µg/kg wet	10.0						
4,4'-DDE (p,p')	BRL		µg/kg wet	10.0						
4,4'-DDE (p,p') [2C]	BRL		µg/kg wet	10.0						
Endrin	BRL		µg/kg wet	10.0						
Endrin [2C]	BRL		µg/kg wet	10.0						
Endosulfan II	BRL		µg/kg wet	10.0						
Endosulfan II [2C]	BRL		µg/kg wet	10.0						
4,4'-DDD (p,p')	BRL		µg/kg wet	10.0						
4,4'-DDD (p,p') [2C]	BRL		µg/kg wet	10.0						
Endosulfan sulfate	BRL		µg/kg wet	10.0						
Endosulfan sulfate [2C]	BRL		µg/kg wet	10.0						
4,4'-DDT (p,p')	BRL		µg/kg wet	10.0						
4,4'-DDT (p,p') [2C]	BRL		µg/kg wet	10.0						
Methoxychlor	BRL		µg/kg wet	10.0						
Methoxychlor [2C]	BRL		µg/kg wet	10.0						
Endrin ketone	BRL		µg/kg wet	10.0						
Endrin ketone [2C]	BRL		µg/kg wet	10.0						

Semivolatile Organic Compounds by GC - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 8110310 - SW846 3545A										
Blank (8110310-BLK1)										
Prepared & Analyzed: 05-Nov-08										
Endrin aldehyde	BRL		µg/kg wet	10.0						
Endrin aldehyde [2C]	BRL		µg/kg wet	10.0						
alpha-Chlordane	BRL		µg/kg wet	10.0						
alpha-Chlordane [2C]	BRL		µg/kg wet	10.0						
gamma-Chlordane	BRL		µg/kg wet	10.0						
gamma-Chlordane [2C]	BRL		µg/kg wet	10.0						
Toxaphene	BRL		µg/kg wet	50.1						
Toxaphene [2C]	BRL		µg/kg wet	50.1						
Chlordane	BRL		µg/kg wet	50.1						
Chlordane [2C]	BRL		µg/kg wet	50.1						
Alachlor	BRL	Z-2	µg/kg wet	20.0						
Alachlor [2C]	BRL		µg/kg wet	20.0						
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	*13.5*		µg/kg wet		*20.0*		*67*	*30-150*		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2	*13.9*		µg/kg wet		*20.0*		*70*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr)	*17.6*		µg/kg wet		*20.0*		*88*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr) [2C]	*15.2*		µg/kg wet		*20.0*		*76*	*30-150*		
LCS (8110310-BS1)										
Prepared & Analyzed: 05-Nov-08										
alpha-BHC	18.5		µg/kg wet	10.0	20.0		92	40-140		
alpha-BHC [2C]	17.7		µg/kg wet	10.0	20.0		88	40-140		
beta-BHC	20.6		µg/kg wet	10.0	20.0		103	40-140		
beta-BHC [2C]	21.1		µg/kg wet	10.0	20.0		105	40-140		
delta-BHC	18.5		µg/kg wet	10.0	20.0		92	40-140		
delta-BHC [2C]	17.9		µg/kg wet	10.0	20.0		90	40-140		
gamma-BHC (Lindane)	19.5		µg/kg wet	10.0	20.0		97	50-120		
gamma-BHC (Lindane) [2C]	18.6		µg/kg wet	10.0	20.0		93	50-120		
Heptachlor	20.5		µg/kg wet	10.0	20.0		102	40-140		
Heptachlor [2C]	22.0		µg/kg wet	10.0	20.0		110	40-140		
Aldrin	20.3		µg/kg wet	10.0	20.0		102	40-140		
Aldrin [2C]	19.9		µg/kg wet	10.0	20.0		100	40-140		
Heptachlor epoxide	21.4		µg/kg wet	10.0	20.0		107	50-150		
Heptachlor epoxide [2C]	17.8		µg/kg wet	10.0	20.0		89	50-150		
Endosulfan I	20.9		µg/kg wet	10.0	20.0		104	40-140		
Endosulfan I [2C]	19.8		µg/kg wet	10.0	20.0		99	40-140		
Dieldrin	20.0		µg/kg wet	10.0	20.0		100	30-130		
Dieldrin [2C]	20.4		µg/kg wet	10.0	20.0		102	30-130		
4,4'-DDE (p,p')	20.2		µg/kg wet	10.0	20.0		101	50-150		
4,4'-DDE (p,p') [2C]	19.9		µg/kg wet	10.0	20.0		100	50-150		
Endrin	20.1		µg/kg wet	10.0	20.0		101	50-120		
Endrin [2C]	20.7		µg/kg wet	10.0	20.0		104	50-120		
Endosulfan II	20.0		µg/kg wet	10.0	20.0		100	40-140		
Endosulfan II [2C]	19.8		µg/kg wet	10.0	20.0		99	40-140		
4,4'-DDD (p,p')	20.6		µg/kg wet	10.0	20.0		103	40-140		
4,4'-DDD (p,p') [2C]	20.1		µg/kg wet	10.0	20.0		100	40-140		
Endosulfan sulfate	21.8		µg/kg wet	10.0	20.0		109	50-120		
Endosulfan sulfate [2C]	20.7		µg/kg wet	10.0	20.0		103	50-120		
4,4'-DDT (p,p')	18.6		µg/kg wet	10.0	20.0		93	40-140		
4,4'-DDT (p,p') [2C]	18.7		µg/kg wet	10.0	20.0		93	40-140		
Methoxychlor	23.1		µg/kg wet	10.0	20.0		116	40-140		
Methoxychlor [2C]	21.5		µg/kg wet	10.0	20.0		108	40-140		

Semivolatile Organic Compounds by GC - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 8110310 - SW846 3545A										
LCS (8110310-BS1)										
Prepared & Analyzed: 05-Nov-08										
Endrin ketone	22.0		µg/kg wet	10.0	20.0		110	40-140		
Endrin ketone [2C]	19.7		µg/kg wet	10.0	20.0		98	40-140		
Endrin aldehyde	20.1		µg/kg wet	10.0	20.0		101	40-140		
Endrin aldehyde [2C]	20.2		µg/kg wet	10.0	20.0		101	40-140		
alpha-Chlordane	20.4		µg/kg wet	10.0	20.0		102	40-140		
alpha-Chlordane [2C]	20.0		µg/kg wet	10.0	20.0		100	40-140		
gamma-Chlordane	20.5		µg/kg wet	10.0	20.0		102	30-130		
gamma-Chlordane [2C]	23.7		µg/kg wet	10.0	20.0		119	30-130		
Alachlor	33.1	Z-2	µg/kg wet	20.0	20.0		166	40-140		
Alachlor [2C]	21.2		µg/kg wet	20.0	20.0		106	40-140		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	*18.7*		µg/kg wet		*20.0*		*93*	*30-150*		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2	*16.6*		µg/kg wet		*20.0*		*83*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr)	*19.6*		µg/kg wet		*20.0*		*98*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr) [2C]	*14.3*		µg/kg wet		*20.0*		*71*	*30-150*		
LCS Dup (8110310-BSD1)										
Prepared & Analyzed: 05-Nov-08										
alpha-BHC	17.8		µg/kg wet	10.0	20.0		89	40-140	4	30
alpha-BHC [2C]	17.0		µg/kg wet	10.0	20.0		85	40-140	4	30
beta-BHC	20.7		µg/kg wet	10.0	20.0		103	40-140	0.5	30
beta-BHC [2C]	19.0		µg/kg wet	10.0	20.0		95	40-140	10	30
delta-BHC	17.9		µg/kg wet	10.0	20.0		89	40-140	3	30
delta-BHC [2C]	17.2		µg/kg wet	10.0	20.0		86	40-140	4	30
gamma-BHC (Lindane)	19.3		µg/kg wet	10.0	20.0		96	50-120	1	30
gamma-BHC (Lindane) [2C]	17.9		µg/kg wet	10.0	20.0		90	50-120	4	30
Heptachlor	19.9		µg/kg wet	10.0	20.0		100	40-140	3	30
Heptachlor [2C]	20.5		µg/kg wet	10.0	20.0		102	40-140	7	30
Aldrin	19.6		µg/kg wet	10.0	20.0		98	40-140	4	30
Aldrin [2C]	18.8		µg/kg wet	10.0	20.0		94	40-140	6	30
Heptachlor epoxide	21.0		µg/kg wet	10.0	20.0		105	50-150	2	30
Heptachlor epoxide [2C]	17.5		µg/kg wet	10.0	20.0		88	50-150	2	30
Endosulfan I	20.3		µg/kg wet	10.0	20.0		102	40-140	3	30
Endosulfan I [2C]	21.1		µg/kg wet	10.0	20.0		106	40-140	6	30
Dieldrin	20.8		µg/kg wet	10.0	20.0		104	30-130	4	30
Dieldrin [2C]	21.5		µg/kg wet	10.0	20.0		108	30-130	5	30
4,4'-DDE (p,p')	21.2		µg/kg wet	10.0	20.0		106	50-150	5	30
4,4'-DDE (p,p') [2C]	21.0		µg/kg wet	10.0	20.0		105	50-150	5	30
Endrin	21.3		µg/kg wet	10.0	20.0		106	50-120	5	30
Endrin [2C]	21.5		µg/kg wet	10.0	20.0		108	50-120	4	30
Endosulfan II	20.4		µg/kg wet	10.0	20.0		102	40-140	2	30
Endosulfan II [2C]	20.1		µg/kg wet	10.0	20.0		101	40-140	2	30
4,4'-DDD (p,p')	19.3		µg/kg wet	10.0	20.0		96	40-140	7	30
4,4'-DDD (p,p') [2C]	18.9		µg/kg wet	10.0	20.0		95	40-140	6	30
Endosulfan sulfate	21.6		µg/kg wet	10.0	20.0		108	50-120	0.9	30
Endosulfan sulfate [2C]	19.8		µg/kg wet	10.0	20.0		99	50-120	4	30
4,4'-DDT (p,p')	18.4		µg/kg wet	10.0	20.0		92	40-140	1	30
4,4'-DDT (p,p') [2C]	17.0		µg/kg wet	10.0	20.0		85	40-140	9	30
Methoxychlor	21.6		µg/kg wet	10.0	20.0		108	40-140	7	30
Methoxychlor [2C]	18.7		µg/kg wet	10.0	20.0		94	40-140	14	30
Endrin ketone	21.4		µg/kg wet	10.0	20.0		107	40-140	3	30
Endrin ketone [2C]	19.4		µg/kg wet	10.0	20.0		97	40-140	1	30

Semivolatile Organic Compounds by GC - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 8110310 - SW846 3545A										
LCS Dup (8110310-BSD1)										
Prepared & Analyzed: 05-Nov-08										
Endrin aldehyde	21.1		µg/kg wet	10.0	20.0		105	40-140	5	30
Endrin aldehyde [2C]	20.1		µg/kg wet	10.0	20.0		100	40-140	0.8	30
alpha-Chlordane	20.5		µg/kg wet	10.0	20.0		102	40-140	0.2	30
alpha-Chlordane [2C]	21.4		µg/kg wet	10.0	20.0		107	40-140	7	30
gamma-Chlordane	20.3		µg/kg wet	10.0	20.0		102	30-130	0.9	30
gamma-Chlordane [2C]	23.3		µg/kg wet	10.0	20.0		116	30-130	2	30
Alachlor	32.4	Z-2	µg/kg wet	20.0	20.0		162	40-140	2	30
Alachlor [2C]	21.5		µg/kg wet	20.0	20.0		107	40-140	1	30
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	*17.3*		µg/kg wet		*20.0*		*86*	*30-150*		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2	*16.3*		µg/kg wet		*20.0*		*82*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr)	*18.6*		µg/kg wet		*20.0*		*93*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr) [2C]	*13.7*		µg/kg wet		*20.0*		*69*	*30-150*		
Duplicate (8110310-DUP1) Source: SA86958-01										
Prepared & Analyzed: 05-Nov-08										
alpha-BHC	BRL		µg/kg dry	11.3		BRL				30
alpha-BHC [2C]	BRL		µg/kg dry	11.3		BRL				30
beta-BHC	BRL		µg/kg dry	11.3		BRL				30
beta-BHC [2C]	BRL		µg/kg dry	11.3		BRL				30
delta-BHC	BRL		µg/kg dry	11.3		BRL				30
delta-BHC [2C]	BRL		µg/kg dry	11.3		BRL				30
gamma-BHC (Lindane)	BRL		µg/kg dry	11.3		BRL				30
gamma-BHC (Lindane) [2C]	BRL		µg/kg dry	11.3		BRL				30
Heptachlor	BRL		µg/kg dry	11.3		BRL				30
Heptachlor [2C]	BRL		µg/kg dry	11.3		BRL				30
Aldrin	BRL		µg/kg dry	11.3		BRL				30
Aldrin [2C]	BRL		µg/kg dry	11.3		BRL				30
Heptachlor epoxide	BRL		µg/kg dry	11.3		BRL				30
Heptachlor epoxide [2C]	BRL		µg/kg dry	11.3		BRL				30
Endosulfan I	BRL		µg/kg dry	11.3		BRL				30
Endosulfan I [2C]	BRL		µg/kg dry	11.3		BRL				30
Dieldrin	BRL		µg/kg dry	11.3		BRL				30
Dieldrin [2C]	BRL		µg/kg dry	11.3		BRL				30
4,4'-DDE (p,p')	3.28	J	µg/kg dry	11.3		3.33			2	30
4,4'-DDE (p,p') [2C]	2.57	J	µg/kg dry	11.3		3.29			24	30
Endrin	BRL		µg/kg dry	11.3		BRL				30
Endrin [2C]	BRL		µg/kg dry	11.3		BRL				30
Endosulfan II	BRL		µg/kg dry	11.3		BRL				30
Endosulfan II [2C]	BRL		µg/kg dry	11.3		BRL				30
4,4'-DDD (p,p')	BRL		µg/kg dry	11.3		BRL				30
4,4'-DDD (p,p') [2C]	BRL		µg/kg dry	11.3		BRL				30
Endosulfan sulfate	BRL		µg/kg dry	11.3		BRL				30
Endosulfan sulfate [2C]	BRL		µg/kg dry	11.3		BRL				30
4,4'-DDT (p,p')	3.84	J	µg/kg dry	11.3		4.35			13	30
4,4'-DDT (p,p') [2C]	3.14	J	µg/kg dry	11.3		4.07			26	30
Methoxychlor	BRL		µg/kg dry	11.3		BRL				30
Methoxychlor [2C]	BRL		µg/kg dry	11.3		BRL				30
Endrin ketone	BRL		µg/kg dry	11.3		BRL				30
Endrin ketone [2C]	BRL		µg/kg dry	11.3		BRL				30
Endrin aldehyde	BRL		µg/kg dry	11.3		BRL				30
Endrin aldehyde [2C]	BRL		µg/kg dry	11.3		BRL				30

Semivolatile Organic Compounds by GC - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 8110310 - SW846 3545A										
Duplicate (8110310-DUP1)	Source: SA86958-01									
Prepared & Analyzed: 05-Nov-08										
alpha-Chlordane	64.1	QR9	µg/kg dry	11.3		91.4			35	30
alpha-Chlordane [2C]	136	QR9	µg/kg dry	11.3		209			42	30
gamma-Chlordane	42.7	QR9	µg/kg dry	11.3		59.8			33	30
gamma-Chlordane [2C]	45.6		µg/kg dry	11.3		61.7			30	30
Toxaphene	BRL		µg/kg dry	56.3		BRL				30
Toxaphene [2C]	BRL		µg/kg dry	56.3		BRL				30
Chlordane	227	QR9	µg/kg dry	56.3		338			39	30
Chlordane [2C]	213	QR9	µg/kg dry	56.3		339			46	30
Alachlor	BRL		µg/kg dry	22.5		BRL				30
Alachlor [2C]	BRL		µg/kg dry	22.5		BRL				30
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	*20.1*		µg/kg dry		*22.5*		*89*	*30-150*		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2	*18.3*		µg/kg dry		*22.5*		*81*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr)	*19.9*		µg/kg dry		*22.5*		*88*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr) [2C]	*17.8*		µg/kg dry		*22.5*		*79*	*30-150*		
Matrix Spike (8110310-MS1)	Source: SA86958-01									
Prepared & Analyzed: 05-Nov-08										
alpha-BHC	20.0		µg/kg dry	11.4	22.8	BRL	88	30-150		
alpha-BHC [2C]	19.9		µg/kg dry	11.4	22.8	BRL	87	30-150		
beta-BHC	22.1		µg/kg dry	11.4	22.8	BRL	97	30-150		
beta-BHC [2C]	27.4		µg/kg dry	11.4	22.8	BRL	120	30-150		
delta-BHC	21.7		µg/kg dry	11.4	22.8	BRL	95	30-150		
delta-BHC [2C]	22.6		µg/kg dry	11.4	22.8	BRL	99	30-150		
gamma-BHC (Lindane)	21.4		µg/kg dry	11.4	22.8	BRL	94	46-127		
gamma-BHC (Lindane) [2C]	23.2		µg/kg dry	11.4	22.8	BRL	102	46-127		
Heptachlor	22.6		µg/kg dry	11.4	22.8	BRL	99	35-130		
Heptachlor [2C]	25.0		µg/kg dry	11.4	22.8	BRL	110	35-130		
Aldrin	22.9		µg/kg dry	11.4	22.8	BRL	101	34-132		
Aldrin [2C]	22.9		µg/kg dry	11.4	22.8	BRL	100	34-132		
Heptachlor epoxide	37.9	Z-2a	µg/kg dry	11.4	22.8	BRL	166	30-150		
Heptachlor epoxide [2C]	39.7	Z-2a	µg/kg dry	11.4	22.8	BRL	174	30-150		
Endosulfan I	29.1		µg/kg dry	11.4	22.8	BRL	128	30-150		
Endosulfan I [2C]	38.7	Z-2a	µg/kg dry	11.4	22.8	BRL	170	30-150		
Dieldrin	33.5	Z-2a	µg/kg dry	11.4	22.8	BRL	147	31-134		
Dieldrin [2C]	38.5	Z-2a	µg/kg dry	11.4	22.8	BRL	169	31-134		
4,4'-DDE (p,p')	29.4		µg/kg dry	11.4	22.8	3.33	114	30-150		
4,4'-DDE (p,p') [2C]	31.2		µg/kg dry	11.4	22.8	3.29	123	30-150		
Endrin	26.7		µg/kg dry	11.4	22.8	BRL	117	42-139		
Endrin [2C]	23.2		µg/kg dry	11.4	22.8	BRL	102	42-139		
Endosulfan II	29.6		µg/kg dry	11.4	22.8	BRL	130	30-150		
Endosulfan II [2C]	28.0		µg/kg dry	11.4	22.8	BRL	123	30-150		
4,4'-DDD (p,p')	21.6		µg/kg dry	11.4	22.8	BRL	95	30-150		
4,4'-DDD (p,p') [2C]	25.5		µg/kg dry	11.4	22.8	BRL	112	30-150		
Endosulfan sulfate	23.4		µg/kg dry	11.4	22.8	BRL	102	30-150		
Endosulfan sulfate [2C]	25.5		µg/kg dry	11.4	22.8	BRL	112	30-150		
4,4'-DDT (p,p')	28.6		µg/kg dry	11.4	22.8	4.35	106	23-134		
4,4'-DDT (p,p') [2C]	28.7		µg/kg dry	11.4	22.8	4.07	108	23-134		
Methoxychlor	28.3		µg/kg dry	11.4	22.8	BRL	124	30-150		
Methoxychlor [2C]	23.0		µg/kg dry	11.4	22.8	BRL	101	30-150		
Endrin ketone	23.3		µg/kg dry	11.4	22.8	BRL	102	30-150		
Endrin ketone [2C]	21.9		µg/kg dry	11.4	22.8	BRL	96	30-150		

Semivolatile Organic Compounds by GC - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 8110310 - SW846 3545A										
Matrix Spike (8110310-MS1) Source: SA86958-01										
Prepared & Analyzed: 05-Nov-08										
Endrin aldehyde	24.1		µg/kg dry	11.4	22.8	BRL	106	30-150		
Endrin aldehyde [2C]	25.3		µg/kg dry	11.4	22.8	BRL	111	30-150		
alpha-Chlordane	109		µg/kg dry	11.4	22.8	91.4	78	30-150		
alpha-Chlordane [2C]	228		µg/kg dry	11.4	22.8	209	85	30-150		
gamma-Chlordane	82.2		µg/kg dry	11.4	22.8	59.8	98	30-150		
gamma-Chlordane [2C]	90.3		µg/kg dry	11.4	22.8	61.7	125	30-150		
Alachlor	29.0		µg/kg dry	22.8	22.8	BRL	127	30-150		
Alachlor [2C]	32.1		µg/kg dry	22.8	22.8	BRL	141	30-150		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	*22.3*		µg/kg dry		*22.8*		*98*	*30-150*		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2	*23.4*		µg/kg dry		*22.8*		*103*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr)	*21.1*		µg/kg dry		*22.8*		*93*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr) [2C]	*21.2*		µg/kg dry		*22.8*		*93*	*30-150*		
Matrix Spike Dup (8110310-MSD1) Source: SA86958-01										
Prepared & Analyzed: 05-Nov-08										
alpha-BHC	23.2		µg/kg dry	11.9	23.7	BRL	98	30-150	11	30
alpha-BHC [2C]	22.2		µg/kg dry	11.9	23.7	BRL	93	30-150	7	30
beta-BHC	23.5		µg/kg dry	11.9	23.7	BRL	99	30-150	2	30
beta-BHC [2C]	28.3		µg/kg dry	11.9	23.7	BRL	119	30-150	0.7	30
delta-BHC	23.5		µg/kg dry	11.9	23.7	BRL	99	30-150	4	30
delta-BHC [2C]	20.8		µg/kg dry	11.9	23.7	BRL	88	30-150	12	30
gamma-BHC (Lindane)	24.5		µg/kg dry	11.9	23.7	BRL	103	46-127	10	50
gamma-BHC (Lindane) [2C]	23.5		µg/kg dry	11.9	23.7	BRL	99	46-127	3	50
Heptachlor	24.7		µg/kg dry	11.9	23.7	BRL	104	35-130	5	31
Heptachlor [2C]	25.7		µg/kg dry	11.9	23.7	BRL	108	35-130	1	31
Aldrin	25.0		µg/kg dry	11.9	23.7	BRL	105	34-132	5	43
Aldrin [2C]	24.2		µg/kg dry	11.9	23.7	BRL	102	34-132	2	43
Heptachlor epoxide	51.1	Z-2a	µg/kg dry	11.9	23.7	BRL	215	30-150	26	30
Heptachlor epoxide [2C]	49.4	Z-2a	µg/kg dry	11.9	23.7	BRL	208	30-150	18	30
Endosulfan I	33.2		µg/kg dry	11.9	23.7	BRL	140	30-150	9	30
Endosulfan I [2C]	35.7	Z-2a	µg/kg dry	11.9	23.7	BRL	151	30-150	12	30
Dieldrin	29.5		µg/kg dry	11.9	23.7	BRL	124	31-134	17	38
Dieldrin [2C]	42.9	Z-2a	µg/kg dry	11.9	23.7	BRL	181	31-134	7	38
4,4'-DDE (p,p')	28.9		µg/kg dry	11.9	23.7	3.33	108	30-150	6	30
4,4'-DDE (p,p') [2C]	29.4		µg/kg dry	11.9	23.7	3.29	110	30-150	11	30
Endrin	24.9		µg/kg dry	11.9	23.7	BRL	105	42-139	11	45
Endrin [2C]	25.3		µg/kg dry	11.9	23.7	BRL	107	42-139	5	45
Endosulfan II	28.5		µg/kg dry	11.9	23.7	BRL	120	30-150	8	30
Endosulfan II [2C]	30.7		µg/kg dry	11.9	23.7	BRL	130	30-150	5	30
4,4'-DDD (p,p')	22.9		µg/kg dry	11.9	23.7	BRL	96	30-150	2	30
4,4'-DDD (p,p') [2C]	23.5		µg/kg dry	11.9	23.7	BRL	99	30-150	12	30
Endosulfan sulfate	25.9		µg/kg dry	11.9	23.7	BRL	109	30-150	6	30
Endosulfan sulfate [2C]	28.2		µg/kg dry	11.9	23.7	BRL	119	30-150	6	30
4,4'-DDT (p,p')	31.7		µg/kg dry	11.9	23.7	4.35	115	23-134	8	50
4,4'-DDT (p,p') [2C]	31.4		µg/kg dry	11.9	23.7	4.07	115	23-134	6	50
Methoxychlor	31.3		µg/kg dry	11.9	23.7	BRL	132	30-150	6	30
Methoxychlor [2C]	24.5		µg/kg dry	11.9	23.7	BRL	103	30-150	2	30
Endrin ketone	27.2		µg/kg dry	11.9	23.7	BRL	115	30-150	12	30
Endrin ketone [2C]	23.0		µg/kg dry	11.9	23.7	BRL	97	30-150	1	30
Endrin aldehyde	26.7		µg/kg dry	11.9	23.7	BRL	112	30-150	6	30
Endrin aldehyde [2C]	27.2		µg/kg dry	11.9	23.7	BRL	115	30-150	3	30

Semivolatile Organic Compounds by GC - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 8110310 - SW846 3545A										
Matrix Spike Dup (8110310-MSD1) Source: SA86958-01										
Prepared & Analyzed: 05-Nov-08										
alpha-Chlordane	132	QM2	µg/kg dry	11.9	23.7	91.4	172	30-150	75	30
alpha-Chlordane [2C]	272	QM2	µg/kg dry	11.9	23.7	209	266	30-150	103	30
gamma-Chlordane	97.5	QM2	µg/kg dry	11.9	23.7	59.8	159	30-150	47	30
gamma-Chlordane [2C]	105	QM2	µg/kg dry	11.9	23.7	61.7	182	30-150	37	30
Alachlor	33.2		µg/kg dry	23.8	23.7	BRL	140	30-150	10	50
Alachlor [2C]	36.2	Z-2a	µg/kg dry	23.8	23.7	BRL	153	30-150	8	50
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	*22.9*		µg/kg dry		*23.7*		*96*	*30-150*		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2	*25.3*		µg/kg dry		*23.7*		*107*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr)	*23.7*		µg/kg dry		*23.7*		*100*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr) [2C]	*22.4*		µg/kg dry		*23.7*		*94*	*30-150*		

Extractable Petroleum Hydrocarbons - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 8110270 - SW846 3550B										
Blank (8110270-BLK1)										
Prepared: 05-Nov-08 Analyzed: 06-Nov-08										
Gasoline	BRL		mg/kg wet	13.3						
Fuel Oil #2	BRL		mg/kg wet	13.3						
Fuel Oil #4	BRL		mg/kg wet	13.3						
Fuel Oil #6	BRL		mg/kg wet	13.3						
Motor Oil	BRL		mg/kg wet	13.3						
Ligroin	BRL		mg/kg wet	13.3						
Aviation Fuel	BRL		mg/kg wet	13.3						
Hydraulic Oil	BRL		mg/kg wet	13.3						
Dielectric Fluid	BRL		mg/kg wet	13.3						
Unidentified	BRL		mg/kg wet	13.3						
Other Oil	BRL		mg/kg wet	13.3						
Total Petroleum Hydrocarbons	BRL		mg/kg wet	13.3						
Surrogate: 1-Chlorooctadecane	*2.85*		mg/kg wet		*3.33*		*85*	*40-140*		
LCS (8110270-BS1)										
Prepared: 05-Nov-08 Analyzed: 06-Nov-08										
Fuel Oil #2	710		mg/kg wet	13.3	667		107	40-140		
Surrogate: 1-Chlorooctadecane	*3.61*		mg/kg wet		*3.33*		*108*	*40-140*		
Duplicate (8110270-DUP1) Source: SA86874-01										
Prepared: 05-Nov-08 Analyzed: 06-Nov-08										
Gasoline	BRL		mg/kg wet	26.0		BRL				50
Fuel Oil #2	BRL		mg/kg wet	26.0		BRL				50
Fuel Oil #4	BRL		mg/kg wet	26.0		BRL				50
Fuel Oil #6	BRL		mg/kg wet	26.0		BRL				50
Motor Oil	BRL		mg/kg wet	26.0		BRL				50
Ligroin	BRL		mg/kg wet	26.0		BRL				50
Aviation Fuel	BRL		mg/kg wet	26.0		BRL				50
Hydraulic Oil	BRL		mg/kg wet	26.0		BRL				50
Dielectric Fluid	BRL		mg/kg wet	26.0		BRL				50
Unidentified	BRL		mg/kg wet	26.0		BRL				50
Other Oil	BRL		mg/kg wet	26.0		BRL				50
Total Petroleum Hydrocarbons	BRL		mg/kg wet	26.0		BRL				50
Surrogate: 1-Chlorooctadecane	*3.02*		mg/kg wet		*3.25*		*93*	*40-140*		

Total Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 8110305 - EPA200/SW7000 Series										
Blank (8110305-BLK1)										
Prepared: 05-Nov-08 Analyzed: 06-Nov-08										
Lead	BRL		mg/kg wet	1.36						
Selenium	BRL		mg/kg wet	1.36						
Chromium	BRL		mg/kg wet	0.907						
Silver	BRL		mg/kg wet	1.36						
Cadmium	BRL		mg/kg wet	0.454						
Arsenic	BRL		mg/kg wet	1.36						
Barium	BRL		mg/kg wet	0.907						
Duplicate (8110305-DUP1) Source: SA86958-01										
Prepared: 05-Nov-08 Analyzed: 06-Nov-08										
Lead	24.5	QR6	mg/kg dry	1.60		34.9			35	20
Selenium	0.759	J	mg/kg dry	1.60		0.864			13	20
Cadmium	0.700		mg/kg dry	0.534		0.743			6	20
Silver	BRL		mg/kg dry	1.60		BRL				20
Chromium	12.6		mg/kg dry	1.07		12.2			3	20
Arsenic	3.41	QR6	mg/kg dry	1.60		4.55			29	20
Barium	33.2		mg/kg dry	1.07		39.9			18	20
Matrix Spike (8110305-MS1) Source: SA86958-01										
Prepared: 05-Nov-08 Analyzed: 06-Nov-08										
Lead	165		mg/kg dry	1.80	150	34.9	87	75-125		
Selenium	129		mg/kg dry	1.80	150	0.864	86	75-125		
Silver	136		mg/kg dry	1.80	150	BRL	91	75-125		
Arsenic	143		mg/kg dry	1.80	150	4.55	93	75-125		
Cadmium	144		mg/kg dry	0.599	150	0.743	96	75-125		
Chromium	156		mg/kg dry	1.20	150	12.2	96	75-125		
Barium	187		mg/kg dry	1.20	150	39.9	98	75-125		
Matrix Spike Dup (8110305-MSD1) Source: SA86958-01										
Prepared: 05-Nov-08 Analyzed: 06-Nov-08										
Selenium	113		mg/kg dry	1.57	130	0.864	86	75-125	14	20
Lead	147		mg/kg dry	1.57	130	34.9	86	75-125	11	20
Silver	119		mg/kg dry	1.57	130	BRL	91	75-125	14	20
Arsenic	125		mg/kg dry	1.57	130	4.55	92	75-125	14	20
Cadmium	126		mg/kg dry	0.522	130	0.743	96	75-125	14	20
Chromium	136		mg/kg dry	1.04	130	12.2	95	75-125	13	20
Barium	167		mg/kg dry	1.04	130	39.9	97	75-125	11	20
Post Spike (8110305-PS1) Source: SA86958-01										
Prepared: 05-Nov-08 Analyzed: 06-Nov-08										
Selenium	131		mg/kg dry	1.78	148	0.864	88	80-120		
Lead	165		mg/kg dry	1.78	148	34.9	88	80-120		
Cadmium	146		mg/kg dry	0.594	148	0.743	98	80-120		
Chromium	153		mg/kg dry	1.19	148	12.2	95	80-120		
Arsenic	145		mg/kg dry	1.78	148	4.55	95	80-120		
Silver	140		mg/kg dry	1.78	148	BRL	94	80-120		
Barium	183		mg/kg dry	1.19	148	39.9	96	80-120		
Reference (8110305-SRM1)										
Prepared: 05-Nov-08 Analyzed: 06-Nov-08										
Lead	64.0		mg/kg wet	1.50	70.3		91	80.9-119.9		
Selenium	89.0		mg/kg wet	1.50	103		87	79.9-119.6		

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* Reportable Detection Limit BRL = Below Reporting Limit

Total Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 8110305 - EPA200/SW7000 Series										
Reference (8110305-SRM1)										
Prepared: 05-Nov-08 Analyzed: 06-Nov-08										
Cadmium	130		mg/kg wet	0.500	133		97	83.7-116.7		
Silver	29.5		mg/kg wet	1.50	32.2		92	66.2-133.7		
Chromium	66.1		mg/kg wet	1.00	71.3		93	81.9-118.1		
Arsenic	59.1		mg/kg wet	1.50	63.6		93	82.9-117.1		
Barium	123		mg/kg wet	1.00	132		93	80.5-119.5		
Reference (8110305-SRM2)										
Prepared: 05-Nov-08 Analyzed: 06-Nov-08										
Selenium	86.4		mg/kg wet	1.50	103		84	79.9-119.6		
Lead	61.2		mg/kg wet	1.50	70.5		87	80.9-119.9		
Silver	28.8		mg/kg wet	1.50	32.3		89	66.2-133.7		
Arsenic	58.0		mg/kg wet	1.50	63.7		91	82.9-117.1		
Chromium	63.8		mg/kg wet	1.00	71.5		89	81.9-118.1		
Cadmium	126		mg/kg wet	0.500	134		94	83.7-116.7		
Barium	120		mg/kg wet	1.00	133		91	80.5-119.5		
Batch 8110308 - EPA200/SW7000 Series										
Blank (8110308-BLK1)										
Prepared & Analyzed: 05-Nov-08										
Mercury	BRL		mg/kg wet	0.0275						
Duplicate (8110308-DUP1)	Source: SA86958-01									
Prepared & Analyzed: 05-Nov-08										
Mercury	0.0715		mg/kg dry	0.0334		0.0638			11	20
Matrix Spike (8110308-MS1)	Source: SA86958-01									
Prepared & Analyzed: 05-Nov-08										
Mercury	0.560		mg/kg dry	0.0339	0.471	0.0638	105	75-125		
Matrix Spike Dup (8110308-MSD1)	Source: SA86958-01									
Prepared & Analyzed: 05-Nov-08										
Mercury	0.557		mg/kg dry	0.0334	0.464	0.0638	106	75-125	0.6	20
Post Spike (8110308-PS1)	Source: SA86958-01									
Prepared & Analyzed: 05-Nov-08										
Mercury	0.577		mg/kg dry	0.0340	0.472	0.0638	109	80-120		
Reference (8110308-SRM1)										
Prepared & Analyzed: 05-Nov-08										
Mercury	1.87		mg/kg wet	0.0300	2.06		91	71.7-128		

General Chemistry Parameters - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 8110340 - General Preparation										
Duplicate (8110340-DUP1)	Source: SA86943-51									
Prepared & Analyzed: 05-Nov-08										
% Solids	93.9		%			92.0			2	20

Notes and Definitions

QM2	The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.
QR2	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
QR6	The RPD exceeded the QC control limits; however precision is demonstrated with acceptable RPD values for MS/MSD.
QR9	RPD out of acceptance range. The batch is accepted based upon LCS and/or LCSD recovery.
VC10	The VOC preserved soil sample is not within the 1:1 weight to volume ratio as recommended by SW846 methods 5030 and 5035 but may be within the 1:1 volume to volume ratio. This variance may affect the final reporting limit.
Z-2	An unknown peak was found in the primary coulmn only for the blank, lcs, and lcsd but not in the samples.
Z-2a	The recovery for this analyte is affected by the determination of chlordane found in the sample.
BRL	Below Reporting Limit - Analyte NOT DETECTED at or above the reporting limit
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference
J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).

A plus sign (+) in the Method Reference column indicates the method is not accredited by NELAC.

Interpretation of Total Petroleum Hydrocarbon Report

Petroleum identification is determined by comparing the GC fingerprint obtained from the sample with a library of GC fingerprints obtained from analyses of various petroleum products. Possible match categories are as follows:

Gasoline - includes regular, unleaded, premium, etc.
Fuel Oil #2 - includes home heating oil, #2 fuel oil, and diesel
Fuel Oil #4 - includes #4 fuel oil
Fuel Oil #6 - includes #6 fuel oil and bunker "C" oil
Motor Oil - includes virgin and waste automobile oil
Ligroin - includes mineral spirits, petroleum naphtha, vm&p naphtha
Aviation Fuel - includes kerosene, Jet A and JP-4
Other Oil - includes lubricating and cutting oil, and silicon oil

At times, the unidentified petroleum product is quantified using a calibration that most closely approximates the distribution of compounds in the sample. When this occurs, the result is qualified as *TPH (Calculated as).

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Validated by:
Hanibal C. Tayeh, Ph.D.
June O'Connor
Nicole Leja

MADEP MCP ANALYTICAL METHOD REPORT CERTIFICATION FORM

Laboratory Name: Spectrum Analytical, Inc. - Agawam, MA	Project #: [none]
Project Location: 112 Commerce Way - Woburn, MA	MADEP RTN [1]:

This form provides certifications for the following data set:
SA86958-01

Sample matrices:	Soil				
MCP SW-846 Methods Used	☑ 8260B	☑ 8151A	☐ 8330	☑ 6010B	☑ 7470A/1A
	☑ 8270C	☑ 8081A	☐ VPH	☐ 6020	☐ 9014M [2]
	☑ 8082	☐ 8021B	☐ EPH	☐ 7000S [3]	☐ 7196A

1 List Release Tracking Number (RTN), if known
2 M - SW-846 Method 9014 or MADEP Physiologically Available Cyanide (PAC) Method
3 S - SW-846 Methods 7000 Series List individual method and analyte

An affirmative response to questions A, B, C and D is required for "Presumptive Certainty" status

A	Were all samples received by the laboratory in a condition consistent with that described on the Chain of Custody documentation for the data set?	☑ Yes ☐ No
B	Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines?	☑ Yes ☐ No
C	Does the data included in this report meet all the analytical requirements for "Presumptive Certainty", as described in Section 2.0 (a), (b), (c) and (d) of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	☑ Yes ☐ No
D	*VPH and EPH methods only*: Was the VPH or EPH method conducted without significant modifications (see Section 11.3 of respective methods)?	☐ Yes ☐ No

A response to questions E and F below is required for "Presumptive Certainty" status

E	Were all analytical QC performance standards and recommendations for the specified methods achieved?	☑ Yes ☐ No
F	Were results for all analyte-list compounds/elements for the specified method(s) reported?	☐ Yes ☑ No

All negative responses are addressed in a case narrative on the cover page of this report.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Hanibal C. Tayeh, Ph.D.
President/Laboratory Director

Date: 11/6/2008

SA 86958

SPECTRUM ANALYTICAL, INC.
Featuring
HANDAL TECHNOLOGY

CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:
☐ Standard TAT - 7 to 10 business days
☒ Rush TAT - Date Needed: 11/6/08
- All TATs subject to laboratory approval. Min. 24-hour notification needed for rushes.
- Samples disposed of after 60 days unless otherwise instructed.

Report To: MAVERICK CONSTRUCTION MANAGEMENT SERVICES INC
P.O. BOX 393
AUBURN, MA 01501
Project Mgr.: JOHN FIORE

Invoice To: SAME

P.O. No.: ____ RQN: ____

Project No.: ____
Site Name: 112 COMMERCE WAY
Location: WOBURN State: MA
Sampler(s): A. CARIBO

1=$Na_2S_2O_3$ 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid
7=CH_3OH 8=$NaHSO_4$ 9= ICE 10= ____

DW=Drinking Water GW=Groundwater WW=Wastewater
O-Oil SW-Surface Water SO-Soil SL-Sludge A-Air
X1= ____ X2= ____ X3= ____

G=Grab C=Composite

Lab Id:	Sample Id:	Date:	Time:	Type	Matrix	Preservative	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	TPH 8100	SVOC 8270	VOC 8260	TOTAL METALS RCRA 8	PCB'S	HERBICIDES	PESTICIDES			QA Reporting Notes: (check if needed)
86958-01	TS-0811-01-CIN	11/04/08	4:00PM	C	SO	7/9	2	2			X	X	X	X	X	X	X			State specific reporting standards if applicable, please list below. 5-1/GW-1 ☒ Provide MCP CAM Report. Were all field QC requirements met as per MADEP CAM Section 2.0? ☐ Yes ☐ No (Response required for CAM report)

☒ Fax results when available to (FEE) 721-2229
☒ E-mail to JFIORE@MAVERICK-CM.COM
EDD Format ACARIBO@MAVERICK-CM.COM

Relinquished by:	Received by:	Date:	Time:
[signature] Fed ex	Fed ex [signature]	11/5/8	10:10

Condition upon receipt: ☐ Iced ☐ Ambient ☐ °C 14.8
✓ Icepack

11 Almgren Drive • Agawam, MA 01001 • 413-789-9018 • FAX 413-789-4076 • www.spectrum-analytical.com

From: Origin ID: ORHA (508)721-2227
Amanda Caribo
MAVERICK CONSTRUCTION MANAGEME
1 Hanlon Drive

Oxford, MA 01540

Ship Date: 04NOV08
ActWgt: 3 LB
CAD: 5872050/NET8091
Account#: S **********

Dims: 15 X 10 X 15 IN

Delivery Address Bar Code

Ref # Worbum
Invoice #
PO #
Dept #

SHIP TO: 413-789-9018 BILL SENDER

Sample Receiving
Spectrum Analytical
11 Almgren Dr

Agawam, MA 01001

TRK# 0201 7921 3922 7440

WED - 05NOV A2
PRIORITY OVERNIGHT

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MA-US
BDL

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Appendix F

John Fiore

From: Lemay.Joe@epamail.epa.gov
Sent: Thursday, November 13, 2008 2:15 PM
To: Weaver, Michael
Cc:

John Fiore;

Subject: Re: 112 Commerce Way - Topsoil
Attachments: 2008-1107-Maverick Topsoil Chemical Data.pdf; SA86958 FINAL 06 Nov 08 1637.PDF

Thanks for the summary below and our discussion today regarding the location of the 6 sources (Concord, Acton, Hopkington, Waltham, Everett and Wilmington). I agree with your recommendation to use the Waltham source.

Joe-

"Weaver, Michael" <MWeaver@haleyaldrich.com>
11/11/2008 11:46 AM

To
Joe Lemay/R1/USEPA/US@EPA

cc
<jfiore@maverick-cm.com>,

Subject
"Weaver, Michael" <MWeaver@haleyaldrich.com>
112 Commerce Way - Topsoil

Joe,

Maverick Construction has submitted chemical test results for six samples of topsoil obtained from various commercial topsoil suppliers and sources around the area. None of the six samples that they have submitted meet all the requirements set forth in Table I of the approved work plan for the project. Haley & Aldrich has conducted a detailed review of the chemical data from the six samples (which are summarized in the attached table). Based on our review, we recommend that the sample representative identified as TS-081104-CIN from a site located at
269 Linden Street in Waltham, Massachusetts be accepted for use as topsoil at the site. A residential home existed at the 269 Linden Street property from 1927 to the current time. We understand that that the property is undergoing redevelopment. The chemical analyses indicate that it meets the criteria outlined in Table 1 with the exception that one pesticide, chlordane, was detected at a concentration of 338 ug/kg
(0.338 ppm). See the attached table for a summary of the results and see the attached laboratory data for a complete summary.

In our opinion, it is reasonable to expect that 338 ug/kg of chlordane might be present in topsoil from a residence built in 1927, as it is likely that the chlordane was legally applied as a pesticide during the past residential use of the property. In our opinion, the presence of some amounts of pesticides in topsoil is consistent with its use as a growing medium, as, once applied, pesticides are persistent in the environment. Additionally, the chlordane concentration that was detected in the subject sample is less than one half the Massachusetts DEP Reportable Concentration of 0.7 ppm for pesticides in soil intended for residential uses (RCS-1, per the Massachusetts Contingency Plan, 310 CMR 40.0000). Based on this information and the fact that concentrations of other parameters in this sample meet Table 1 criteria in the Work Plan, in our opinion, this topsoil would be considered to present No Significant Risk per the MCP (acceptable for use) in a Massachusetts residential scenario, and would be acceptable for use at the 112 Commerce Way Site.

We recommend that the Cincotta sample be accepted for use on the 112 Commerce Way Site and we would appreciate your timely concurrence.

The contractor would like to being importing topsoil to the site by the end of the week to meet project schedule requirements.

Please feel free to contact me with any questions.

Regards,

Michael

Michael J. Weaver, P.E.
Senior Engineer
Haley & Aldrich, Inc.
465 Medford Street, Suite 2200
Boston, Massachusetts 02129-1400
Office: 617.886.7497
Cell: 857.498.1216

Fax: 617.886.7797
mweaver@HaleyAldrich.com
www.HaleyAldrich.com

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(See attached file: 2008-1107-Maverick Topsoil Chemical Data.pdf)(See attached file: SA86958 FINAL 06 Nov 08 1637.PDF)