

Mid-Atlantic

Environmental Laboratories, Inc.

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Analytical Report

Project Name: Abrachem Chemical Site

MAEL Job Number: 30513

Client: AECOM Environment
4840 Cox Road
Glen Allen, VA 23060

Contact Name: Kimberly Alvested

Date Received: 7/16/2009

Date Reported: 7/22/2009

Analytical test results for methods listed on the laboratory's scope of accreditation meet all requirements of NELAC unless otherwise noted. All sample holding times and preservation requirements were met unless otherwise noted. Test results relate only to the sample tested. This report shall not be reproduced, except in full, without prior written authorization of Mid-Atlantic Environmental Laboratories, Inc.

ANALYTICAL REPORT

Project Name: Abrachem Chemical Site

Date Sampled: 7/15/2009 11:00 AM

Sampled By: DW

Lab Project #: 30513

Sample Matrix: Unknown Liquid

Lab Sample #: 30513-1

Sample Type: Grab

Client Sample ID: Sodium Permanganate - 742

Analyte	CASRN	Result	Q	Units	Method	PQL	Analyst	Date / Time Analysis
pH - Aqueous								
pH		7.60		S.U.	4500-H B		JL V	7/20/2009 10:32 AM
Sodium Permanganate								
Sodium Permanganate	10101-50-5	0.67		%	AWWA B603-03	0.10	JL V	7/22/2009 8:30 AM
Specific Gravity								
Specific Gravity		1.0056			AWWA B603-03		S OT	7/22/2009 4:01 PM

Please note that Sodium Permanganate assay is based on titration method (Sodium Oxilate).



 Akhter Mehmood
 Lab Director

ANALYTICAL REPORT

Project Name: Abrachem Chemical Site**Date Sampled:** 7/15/2009 11:30 AM**Sampled By:** DW**Sample Matrix:** Unknown Liquid**Sample Type:** Composite**Lab Project #:** 30513**Lab Sample #:** 30513-2**Client Sample ID:** Sodium Permanganate - Composite

Analyte	CASRN	Result	Q	Units	Method	PQL	Analyst	Date / Time Analysis
pH - Aqueous								
pH		6.94		S.U.	4500-H B		JL V	7/20/2009 10:37 AM
Sodium Permanganate								
Sodium Permanganate	10101-50-5	0.56		%	AWWA B603-03	0.10	JL V	7/22/2009 8:30 AM
Specific Gravity								
Specific Gravity		1.0013			AWWA B603-03		S OT	7/22/2009 4:02 PM

Please note that Sodium Permanganate assay is based on titration method (Sodium Oxilate).



Akhter Mehmood

Lab Director

ANALYTICAL REPORT

Project Name: Abrachem Chemical Site**Date Sampled:****Sampled By:****Sample Matrix:** Data Package**Sample Type:****Lab Project #:** 30513**Lab Sample #:** 30513-3**Client Sample ID:** QC Package

Analyte	CASRN	Result	Q	Units	Method	PQL	Analyst	Date / Time Analysis
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QC Package Report to Follow



Akhter Mehmood

Lab Director

ANALYTICAL REPORT

Methodology

All analyses are adapted from one or more of the following reference methods:

"Guidelines Establishing Test Procedures for the Analysis of Pollutants" Code of Federal Regulations, Vol. 40, Part 136
 "Test Methods for Evaluating Solid Waste", SW846 Third Edition, September 1986, USEPA.
 Code of Federal Regulations Vol. 40, Part 261, "Appendix II Method 1311 Toxicity Characteristic Leaching Procedure."
 Standard Methods for the Examination of Water and Wastewater", 20th edition
 "Methods for the Chemical Analysis of Water and Wastes", EPA600/4-79-020, March 1983, U.S. EPA, EMSL
 "Annual Book of Standards, Section 11-Water", American Society for Testing and Materials (ASTM)
 "Methods for the Determination of Organic Compounds in Drinking Water", EPA 600/4-88/039, December 1988

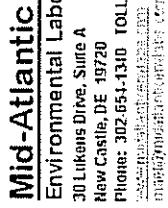
Qualifiers

B	Compound found in Method Blank	E	Estimated Concentration Outside Calibration Limits
		J	Compound detected below PQL, result estimated

Abbreviations

ppm	Parts Per Million (mg/kg or mg/L)	PQL	Practical Quantitation Level
ppb	Parts Per Billion (ug/kg or ug/L)	attached	Subcontract Lab Report Attached
g	gram (1000 g = 1Kg)	>	Greater than the PQL
kg	kilogram (1 kg - 1000 g)	<	Less than the PQL
mg	milligram (1000 mg = 1 g)	ND	Not Detected
mg/kg	milligram per kilogram (ppm)	NA	Not Applicable
ug/kg	microgram per kilogram (ppb)	NS	Not Spiked
ug	microgram (1000 ug = 1 mg)	NP	No PCB pattern detected
L	liter (1 L - 1000 mL)	NR	Not Requested
ml	milliliter (1000 ml = 1 L)	NI	Not Ignitable
ul	microliter (1000 ul = 1 ml)	NFL	No Free Liquid
mg/L	milligram per liter (ppm)	NTU	Nephelometric Turbidity Units
ug/L	microgram per liter (ppb)	S.U.	Standard Unit
ng/kg	nanogram per kilogram	RPD	Relative Percent Difference
BTU/lb	British Thermal Units per pound	RSD	Relative Standard Deviation
CFU/mL	Colony Forming Units per milliliter	MS/MSD	Matrix Spike/Matrix Spike Duplicate
MPN/100 ml	Most Probable Number per 100 mL	LCS	Laboratory Control Sample
mS/cm	milli Siemens per centimeter	BS	Blank Spike (Method Spike)
uS/cm	micro Siemens per centimeter	o F	degrees Fahrenheit
ug/sq cm	microgram per square centimeter	o C	degrees Celsius
ug/sq ft	microgram per square feet	umhos	Conductivity Units
ug/wipe	microgram per wipe	ohms	Resistivity Units

Note: All non-aqueous samples, with the exception of oils, wipes, and paint chips are dry weight corrected



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Lab Use Only
Job # 30

[illegible]

All samples are disposed 30 days after receipt unless otherwise requested. By signing this Chain of Custody Agreement, customer expressly agrees to pay Mid-Atlantic Environmental Laboratories, Inc. for all changes reasonably incurred in connection with analysis and reporting of these samples.



LE certification -
 LEU certification