

B. Suggested Form for Notice of Intent (NOI) for the Remediation General Permit

1. General site information. Please provide the following information about the site:

a) Name of facility/site :		Facility/site address:		
Location of facility/site : longitude: _____ latitude: _____	Facility SIC code(s):	Street:		
b) Name of facility/site owner :		Town:		
Email address of owner:		State:	Zip:	County:
Telephone no. of facility/site owner :				
Fax no. of facility/site owner :		Owner is (check one): 1. Federal____ 2. State/Tribal____ 3. Private____ 4. other, if so, describe:		
Address of owner (if different from site):				
Street:				
Town:	State:	Zip:	County:	
c) Legal name of operator :		Operator telephone no:		
		Operator fax no.:	Operator email:	
Operator contact name and title:				

Address of operator (if different from owner):		Street:	
Town:	State:	Zip:	County:
d) Check “yes” or “no” for the following: 1. Has a prior NPDES permit exclusion been granted for the discharge? Yes___ No___, if “yes,” number: 2. Has a prior NPDES application (Form 1 & 2C) ever been filed for the discharge? Yes___ No___, if “yes,” date and tracking #: 3. Is the discharge a “new discharge” as defined by 40 CFR 122.2? Yes___ No___ 4. For sites in Massachusetts, is the discharge covered under the MA Contingency Plan (MCP) and exempt from state permitting? Yes___ No___			
e) Is site/facility subject to any State permitting or other action which is causing the generation of discharge? Yes___ No___ If “yes,” please list: 1. site identification # assigned by the state of NH or MA: 2. permit or license # assigned: 3. state agency contact information: name, location, and telephone number:		f) Is the site/facility covered by any other EPA permit, including: 1. multi-sector storm water general permit? Y___ N___, if Y, number: 2. phase I or II construction storm water general permit? Y___ N___, if Y, number: 3. individual NPDES permit? Y___ N___, if Y, number: 4. any other water quality related permit? Y___ N___, if Y, number:	

2. Discharge information. Please provide information about the discharge, (attaching additional sheets as needed) including:

a) Describe the discharge activities for which the owner/applicant is seeking coverage:		
b) Provide the following information about each discharge:	1) Number of discharge points:	2) What is the maximum and average flow rate of discharge (in cubic feet per second, ft ³ /s)? Max. flow _____ Average flow _____ Is maximum flow a design value ? Y___ N___ For average flow, include the units and appropriate notation if this value is a design value or estimate if not available.
3) Latitude and longitude of each discharge within 100 feet: pt.1:long. _____ lat. _____; pt.2: long. _____ lat. _____; pt.3: long. _____ lat. _____; pt.4:long. _____ lat. _____; pt.5: long. _____ lat. _____; pt.6:long. _____ lat. _____; pt.7: long. _____ lat. _____; pt.8:long. _____ lat. _____; etc.		

4) If hydrostatic testing, total volume of the discharge (gals):	5) Is the discharge intermittent _____ or seasonal _____? Is discharge ongoing Yes _____ No _____?
c) Expected dates of discharge (mm/dd/yy): start _____ end _____	
d) Please attach a line drawing or flow schematic showing water flow through the facility including: 1. sources of intake water, 2. contributing flow from the operation, 3. treatment units, and 4. discharge points and receiving waters(s).	

3. Contaminant information. In order to complete this section, the applicant will need to take a minimum of one sample of the untreated water and have it analyzed for **all** of the parameters listed in Appendix III. Historical data, (i.e., data taken no more than 2 years prior to the effective date of the permit) may be used if obtained pursuant to: i. Massachusetts’ regulations 310 CMR 40.0000, the Massachusetts Contingency Plan (“Chapter 21E”); ii. New Hampshire’s Title 50 RSA 485-A: Water Pollution and Waste Disposal or Title 50 RSA 485-C: Groundwater Protection Act; or iii. an EPA permit exclusion letter issued pursuant to 40 CFR 122.3, provided the data was analyzed with test methods that meet the requirements of this permit. Otherwise, a new sample shall be taken and analyzed.

a) Based on the analysis of the sample(s) of the untreated influent, the applicant must check the box of the sub-categories that the potential discharge falls within.

Gasoline Only	VOC Only	Primarily Metals	Urban Fill Sites	Contaminated Sumps	Mixed Contaminants	Aquifer Testing
Fuel Oils (and Other Oils) only	VOC with Other Contaminants	Petroleum with Other Contaminants	Listed Contaminated Sites	Contaminated Dredge Condensates	Hydrostatic Testing of Pipelines/Tanks	Well Development or Rehabilitation

b) Based on the analysis of the untreated influent, the applicant must indicate whether each listed chemical is **believed present** or **believed absent** in the potential discharge. Attach additional sheets as needed.

PARAMETER	Believe Absent	Believe Present	# of Samples (1 minimum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Avg. daily value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
1. Total Suspended Solids										
2. Total Residual Chlorine										
3. Total Petroleum Hydrocarbons										
4. Cyanide										
5. Benzene										
6. Toluene										
7. Ethylbenzene										
8. (m,p,o) Xylenes										
9. Total BTEX ⁴										

⁴BTEX = Sum of Benzene, Toluene, Ethylbenzene, total Xylenes.

PARAMETER	Believe Absent	Believe Present	# of Samples (1 minimum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Avg. daily value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
10. Ethylene Dibromide (1,2- Dibromo-methane)										
11. Methyl-tert-Butyl Ether (MtBE)										
12. tert-Butyl Alcohol (TBA)										
13. tert-Amyl Methyl Ether (TAME)										
14. Naphthalene										
15. Carbon Tetra-chloride										
16. 1,4 Dichlorobenzene										
17. 1,2 Dichlorobenzene										
18. 1,3 Dichlorobenzene										
19. 1,1 Dichloroethane										
20. 1,2 Dichloroethane										
21. 1,1 Dichloroethylene										
22. cis-1,2 Dichloro-ethylene										
23. Dichloromethane (Methylene Chloride)										
24. Tetrachloroethylene										

PARAMETER	Believe Absent	Believe Present	# of Samples (1 minimum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Avg. daily Value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
25. 1,1,1 Trichloroethane										
26. 1,1,2 Trichloroethane										
27. Trichloroethylene										
28. Vinyl Chloride										
29. Acetone										
30. 1,4 Dioxane										
31. Total Phenols										
32. Pentachlorophenol										
33. Total Phthalates ⁵ (Phthalate esthers)										
34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate]										
35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)										
a. Benzo(a) Anthracene										
b. Benzo(a) Pyrene										
c. Benzo(b)Fluoranthene										
d. Benzo(k) Fluoranthene										
e. Chrysene										

⁵The sum of individual phthalate compounds.

PARAMETER	Believe Absent	Believe Present	# of Samples (1 minimum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
f. Dibenzo(a,h) anthracene										
g. Indeno(1,2,3-cd) Pyrene										
36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)										
h. Acenaphthene										
i. Acenaphthylene										
j. Anthracene										
k. Benzo(ghi) Perylene										
l. Fluoranthene										
m. Fluorene										
n. Naphthalene-										
o. Phenanthrene										
p. Pyrene										
37. Total Polychlorinated Biphenyls (PCBs)										
38. Antimony										
39. Arsenic										
40. Cadmium										
41. Chromium III										
42. Chromium VI										

PARAMETER	Believe Absent	Believe Present	# of Samples (1 minimum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Avg. daily value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
43. Copper										
44. Lead										
45. Mercury										
46. Nickel										
47. Selenium										
48. Silver										
49. Zinc										
50. Iron										
Other (describe):										

c) For discharges where **metals** are believed present, please fill out the following:

<p><i>Step 1:</i> Do any of the metals in the influent have a reasonable potential to exceed the effluent limits in Appendix III (i.e., the limits set at zero to five dilutions)? Y ___ N ___</p>	<p>If yes, which metals?</p>
<p><i>Step 2:</i> For any metals which have reasonable potential to exceed the Appendix III limits, calculate the dilution factor (DF) using the formula in Part I.A.3.c) (step 2) of the NOI instructions or as determined by the State prior to the submission of this NOI. What is the dilution factor for applicable metals? Metals: _____ DF: _____</p>	<p>Look up the limit calculated at the corresponding dilution factor in Appendix IV. Do any of the metals in the influent have the potential to exceed the corresponding effluent limits in Appendix IV (i.e., is the influent concentration above the limit set at the calculated dilution factor)? Y ___ N ___ If "Yes," list which metals:</p>

4. Treatment system information. Please describe the treatment system using separate sheets as necessary, including:

a) A description of the treatment system, including a schematic of the proposed or existing treatment system:						
b) Identify each applicable treatment unit (check all that apply):	Frac. tank	Air stripper	Oil/water separator	Equalization tanks	Bag filter	GAC filter
	Chlorination	Dechlorination	Other (please describe):			
c) Proposed average and maximum flow rates (gallons per minute) for the discharge and the design flow rate(s) (gallons per minute) of the treatment system: Average flow rate of discharge _____ Maximum flow rate of treatment system _____ Design flow rate of treatment system _____						
d) A description of chemical additives being used or planned to be used (attach MSDS sheets):						

5. Receiving surface water(s). Please provide information about the receiving water(s), using separate sheets as necessary:

a) Identify the discharge pathway:	Direct _____	Within facility__	Storm drain _____	River/brook _____	Wetlands _____	Other (describe):
b) Provide a narrative description of the discharge pathway, including the name(s) of the receiving waters:						

c) Attach a detailed map(s) indicating the site location and location of the outfall to the receiving water:

1. For multiple discharges, number the discharges sequentially.

2. For indirect dischargers, indicate the location of the discharge to the indirect conveyance and the discharge to surface water

The map should also include the location and distance to the nearest sanitary sewer as well as the locus of nearby sensitive receptors (based on USGS topographical mapping), such as surface waters, drinking water supplies, and wetland areas.

d) Provide the state water quality classification of the receiving water _____,

e) Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water _____ cfs

Please attach any calculation sheets used to support stream flow and dilution calculations.

f) Is the receiving water a listed 303(d) water quality impaired or limited water? Yes ___ No ___ If yes, for which pollutant(s)?

Is there a TMDL? Yes ___ No ___ If yes, for which pollutant(s)?

6. Results of Consultation with Federal Services: Please provide the following information according to requirements of Part I.B.4 and Appendices II and VII.

a) Are any listed threatened or endangered species, or designated critical habitat, in proximity to the discharge? Yes ___ No ___

Has any consultation with the federal services been completed? No ___ or is consultation underway? No ___

What were the results of the consultation with the U.S. Fish and Wildlife Service and/or National Marine Fisheries Service (check one):

a “no jeopardy” opinion? ___ or written concurrence ___ on a finding that the discharges are not likely to adversely affect any endangered species or critical habitat?

b) Are any historic properties listed or eligible for listing on the National Register of Historic Places located on the facility or site or in proximity to the discharge?

Yes ___ No ___ Have any state or tribal historic preservation officer been consulted in this determination (Massachusetts only)? Yes ___ No ___

7. Supplemental information. :

Please provide any supplemental information. Attach any analytical data used to support the application. Attach any certification(s) required by the general permit.

8. Signature Requirements: The Notice of Intent must be signed by the operator in accordance with the signatory requirements of 40 CFR Section 122.22, including the following certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I certify that I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Facility/Site Name: Medway Block Company, Inc.
Operator signature: <i>by: Lawrence Boize, V.P. for Paragon Environmental</i>
Title: Vice President
Date: 03/30/06

B. Submission of NOI to EPA - All operators applying for coverage under this General Permit must submit a written Notice of Intent (NOI) to EPA. Signed and completed NOI forms and attachments must be submitted to EPA-NE at:

US Environmental Protection Agency
RGP-NOC Processing
Municipal Assistance Unit (CMU),
1 Congress Street, Suite 1100
Boston, MA 02114-2023

or electronically mailed to NPDES.Generalpermits@epa.gov,
or faxed to the EPA Office at 617-918-0505.

If filling out the suggested NOI form electronically on EPA's website, the signature page must be signed and faxed or mailed to EPA at the phone number or address listed in Section I.B. below.

1. Filing with the states - A copy of any NOI form filed with EPA-NE must also be filed with state agencies. The state agency may elect to develop a state specific form or other information requirements.

a) Discharges in Massachusetts - In addition to the NOI, permit applicants must submit copies of the State Application Form BRPWM 12, Request for General Permit coverage for the RGP. The application form and the Transmittal Form for Permit Application and Payment, may be obtained from the Massachusetts Department of Environmental Protection (MA DEP) website at www.state.ma.us/dep. Municipalities are fee-exempt, but should send a copy of the transmittal form to that address for project tracking purposes. All applicants should keep a copy of the transmittal form and a copy of the application package for their records.

1) A copy of the NOI, the transmittal form, a copy of the check, and Form BRPWM 12 should be sent to:

Massachusetts Department of Environmental Protection
Division of Watershed Management
627 Main Street, 2nd floor
Worcester, MA 01608

2) A copy of the transmittal form and the appropriate fee should be sent to:

Massachusetts Department of Environmental Protection
P.O. Box 4062
Boston, MA 02111

Please note: Applicants for discharges in Massachusetts should note that under 310 CMR 40.000, *as a matter of state law*, the general permit only applies to discharges that are **not** subject to the Massachusetts Contingency Plan (MCP) and 310 CMR 40.000. Therefore, discharges subject to the MCP are **not** required to fill out and submit the State Application Form BRPWM 12 or pay the state fees. However, they must submit a NOI to EPA.

b) Discharges in New Hampshire - applicants must provide a copy of the Notice of Intent to:

New Hampshire Department of Environmental Services
Water Division
Wastewater Engineering Bureau
P.O. Box 95
Concord, New Hampshire 03302-0095.

2. Filing with Municipalities - A copy of the NOI must be submitted to the municipality in which the proposed discharge would be located.

MA DEP - Bureau of Waste Site Cleanup

Site Scoring Map: 500 feet & 0.5 Mile Radii

SITE NAME:

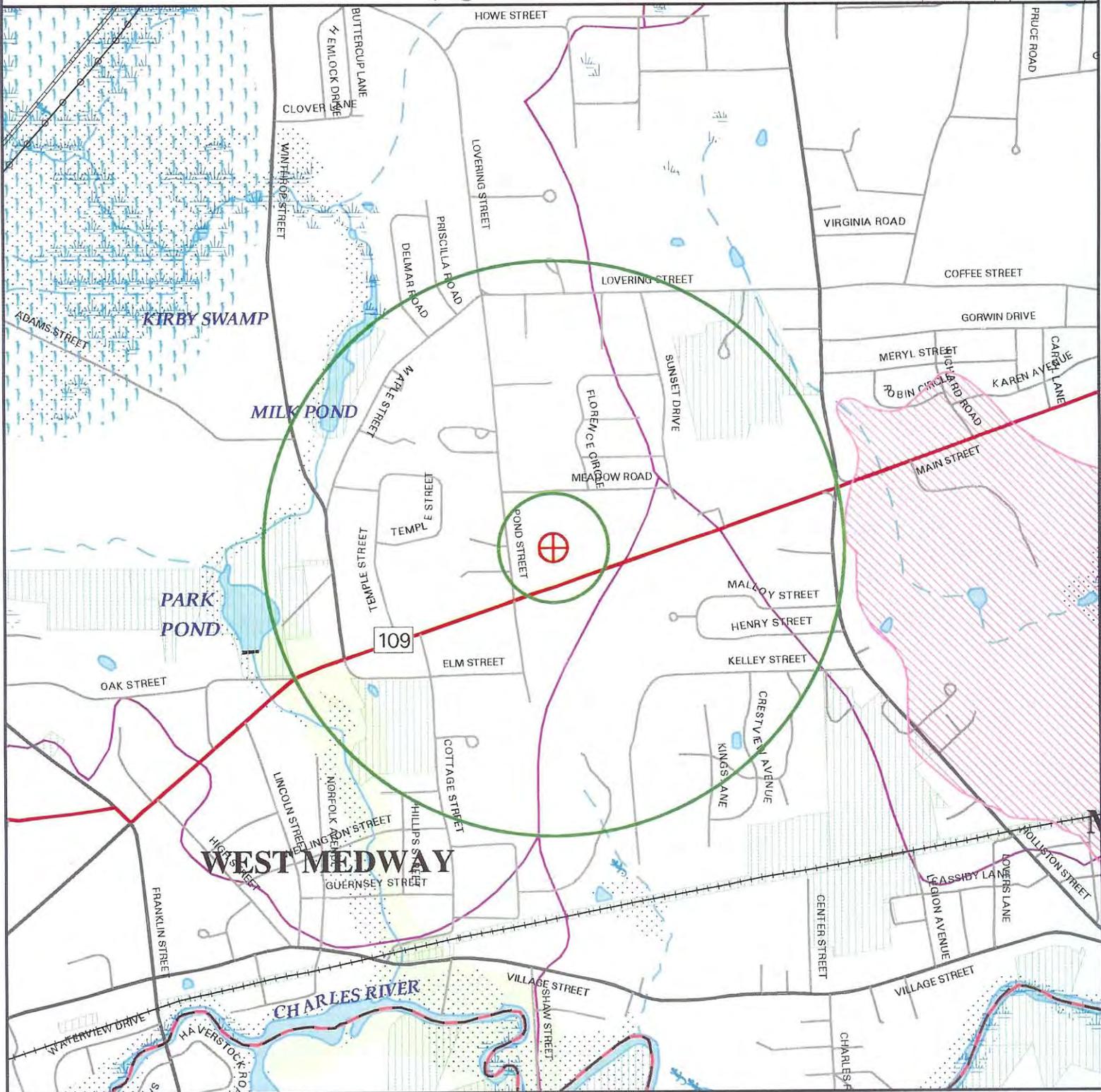
Medway Block Company
120 Main Street
Medway, MA 02053
877806n 206777ew



The information shown on this map is the best available at the date of printing. Please refer to the data source descriptions document.



Office of Geographic and Environmental Information



Roads: Limited Access, Divided, Major Road, Connector, Street, Track, Trail	EPA Sole Source Aquifer; FEMA 100-year floodplain		
Boundaries: Town, County, DEP Region; Train; Powerline; Pipeline; Aqueduct	Public Water Supplies: Ground, Surface, Non Community		
Basins: Major, Sub; Streams: Perennial, Intermittent, Man Made Shore, Dams	Approved Zone 2; IWPA; Surface Water Supply Zone A		
Potentially Productive Aquifers: Medium, High Yield	Hydrography: Water Features, Public Surface Water Supply		
Non-Potential Drinking Water Source Area: Medium, High Yield	Wetlands: Fresh, Salt, NHESP Wetlands Habitat		
	Protected Open Space; ACEC		
	DEP Permitted Solid Waste Facilities; Certified Vernal Pools		

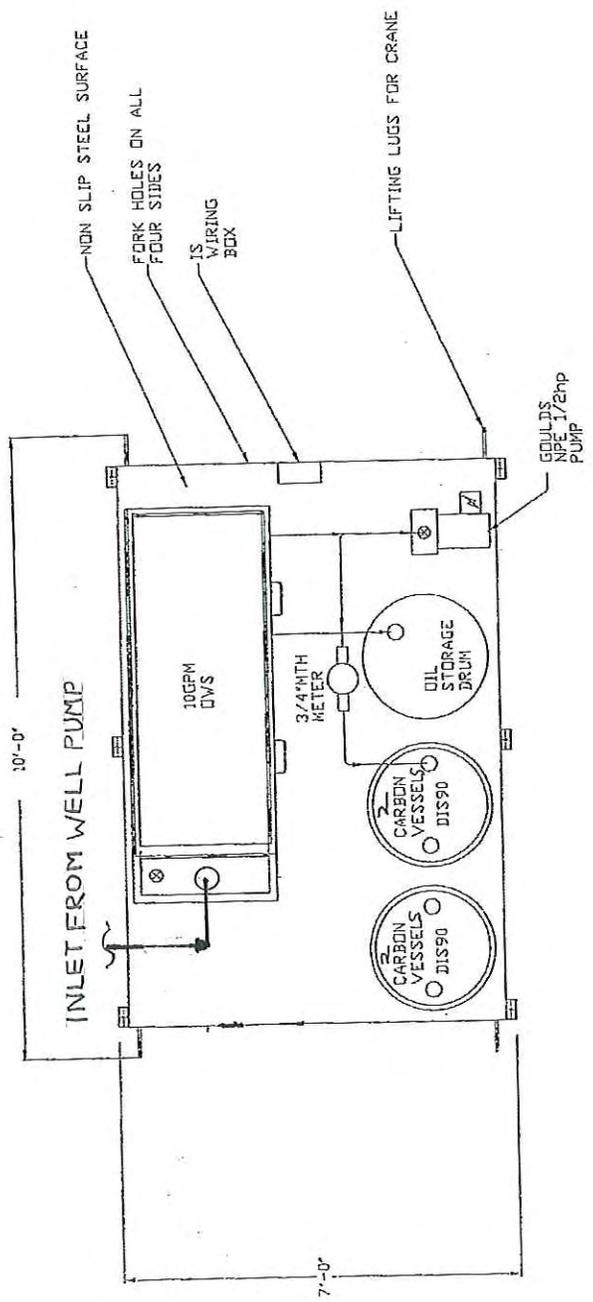
SCALE 1:15000

0 1/2 1 KILOMETERS

0 1/2 MILES

March 20, 2006

DESCRIPTION	DIM (LxWxH)	VE
PROCESS SKID	10'x7'	40
CONTROL PANEL SKID	4' x 4'	40



- FLOW DIRECTION
- FLOW DOWN INTO THE PAGE
- ⊗ FLOW OUT OF THE PAGE
- ⌘ ELECTRICAL CONNECTION
- SPACE ALLOCATED FOR SERVICING

DATE	BY	REV.	DESCRIPTION
JULY 6/02	JK	1	AS BUILT
JUNE 15/02	JK	2	FOR PRODUCTION
MAY 27/02	JK	3	FOR APPROVAL

COMPANY	MAPLE LEAF ENVIRONMENTAL EQUIPMENT LTD.
PROJECT	System Layout Building Layout
DATE	MAY 27, 2002
SCALE	AS SHOWN
PROJECT NO.	PASGON
REV. NO.	9378 -02-1



Base Map per MassGIS via Google Earth April 4, 2006

**FIGURE 3 - DISCHARGE PATHWAY
MEDWAY BLOCK COMPANY
120 MAIN STREET
MEDWAY, MASSACHUSETTS**

Not to Scale



MATERIAL SAFETY DATA SHEET

SECTION 1 -- CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME | Austin A-1 Bleach Commercial Disinfectant Sanitizer

PRODUCT CODE | 54200-00039

ISSUE DATE | February 27, 2004

EMERGENCY TELEPHONE NUMBERS

Medical Information: 1-866-359-5662

Transportation: 1-800-424-9300*

* For spill, leak, fire or transport accident emergencies.

Product Information: 1-724-625-1535

MANUFACTURER | James Austin Company
STREET ADDRESS | 115 Downieville Road
CITY, STATE, ZIP | Mars, PA 16046

SECTION 2 -- COMPOSITION / INFORMATION ON INGREDIENTS

HAZARDOUS COMPONENT	CAS No.	% by wt.	OSHA PEL	EXPOSURE LIMITS	
				ACGIH TLV	NIOSH REL
Sodium hypochlorite	7681-52-9	5.25 – 5.50	None	None	None
Sodium hydroxide	1310-73-2	0.03 – 0.22	2 mg/m ³ TWA	2 mg/m ³ ceiling	10 mg/m ³ IDLH 2 mg/m ³ STEL

SECTION 3 -- HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW	IRRITANT ; may cause severe skin and eye irritation or chemical burns to broken skin. Vapors extremely irritating to eyes and respiratory tract. Harmful and potentially fatal if swallowed. If mixed with other prohibited chemicals or materials, chlorine gas will be released which is also irritating to eyes, lungs, mucous membranes and in some cases can be fatal. (see Section 10 for more information)
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POTENTIAL HEALTH EFFECTS	
INGESTION	Can cause corrosion of mucous membranes, severe esophageal burns and perforation of esophagus or stomach.
INHALATION	Inhalation of vapors can cause bronchial irritation, coughing, difficulty in breathing, nausea and pulmonary edema.
EYE CONTACT	Irritating to the eyes; may cause severe and permanent damage.
SKIN CONTACT	Severe irritant; contact can produce blistering and eczema.

SECTION 4 -- FIRST AID MEASURES

INGESTION	If swallowed, DO NOT induce vomiting. Immediately drink a large quantity of water or milk. Do not give liquids if victim is unconscious. Do not use acidic antidotes or sodium bicarbonate (baking soda). Do not administer alcohol. Call a physician or poison control center immediately.
INHALATION	If exposed to excessive vapor levels, remove to fresh air and seek medical attention if cough or other symptoms develop.
EYE CONTACT	Immediately flush eye with plenty of cool, running water. Remove contact lenses if applicable, and continue flushing for at least 15 minutes. Get medical attention immediately.
SKIN CONTACT	Flush affected skin area with copious amounts of water and wash with soap and water. If irritation develops or persists, get medical attention. Remove clothing and wash before reuse.
NOTE TO PHYSICIAN	Information pertaining to ingestion toxicology, therapy, symptomatology and treatment can be found in <u>Clinical Toxicology of Commercial Products</u> , authored by Gosselin, Smith and Hodge and published by Williams & Wilkins, Baltimore, Maryland. See listing for Hypochlorite in Therapeutics Index, Section III.

SECTION 5 -- FIRE FIGHTING MEASURES

FLASH POINT / METHOD	None / N.A.	FLAMMABLE LIMITS	Not flammable or combustible
EXTINGUISHING MEDIA	If involved in a fire, alcohol foam, carbon dioxide, dry chemical or water fog. Use extinguishing media that is appropriate for surrounding fire.		
SPECIAL FIRE FIGHTING PROCEDURES	Avoid fumes from spilled or exposed liquid. Firefighters should wear full protective clothing and OSHA/NIOSH self-contained breathing apparatus. Cool fire-exposed containers with water spray from a safe distance.		
FIRE AND EXPLOSION HAZARDS	Sodium hypochlorite bleach is a strong oxidizing agent and decomposes when heated. Decomposition products may cause containers to explode. Vigorous reactions may occur with organic materials or oxidizable materials, causing fires.		

SECTION 6 -- ACCIDENTAL RELEASE MEASURES

RESPONSE TO SPILLS	Small spills: Dilute product by flooding area with large quantity of water and flush to sanitary sewer. Large spills: Contain run-off by diking with suitable material. Soak up liquid on inert absorbent and transfer to approved container. Prevent spill from entering sewers or waterways.
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SECTION 7 -- HANDLING AND STORAGE

HANDLING PRECAUTIONS	Wash after handling and before eating. Use personal protective equipment and wear suitable chemical-resistant clothing. Keep container tightly closed when not in use. Follow label directions closely.
STORAGE PRECAUTIONS	Store upright in a cool (below 85 F), dry, well-ventilated area. Keep away from heat or direct sunlight. Separate from incompatible materials, such as acids, ammonia, soap-based products or organic materials. Protect containers from physical damage. Keep away from children.

SECTION 8 -- EXPOSURE CONTROLS / PERSONAL PROTECTION

HYGIENIC PRACTICES	Avoid breathing vapors. Do not store near food stuffs, water or feed. Protect eyes, skin and clothing from contact with this product.
ENGINEERING CONTROLS	Use local ventilation to remove vapors at the source. Facilities using this product must be equipped with an eyewash station.

PERSONAL PROTECTIVE EQUIPMENT

X	RESPIRATOR	Not normally necessary; use NIOSH approved respirator for concentrated vapors
X	GOGGLES / FACE SHIELD	Required; goggles should be chemical splash type. Face shield is best choice
X	APRON	Recommended to avoid skin contact and protect clothing from damage
X	GLOVES	Required; use impervious PVC or Neoprene with long gauntlet
X	BOOTS	Recommended to protect shoes and feet when using product for floor cleaning

SECTION 9 -- PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	Clear pale yellow liquid	BOILING POINT	212 deg F
ODOR	Chlorine	FREEZING POINT	28 deg F
pH	11.5 – 12.5	VAPOR PRESSURE	17.5 mm Hg @ 20 C
SPECIFIC GRAVITY	1.080	VAPOR DENSITY	Not applicable
SOLUBILITY IN WATER	Complete	EVAPORATION RATE	Not applicable

SECTION 10 -- STABILITY AND REACTIVITY

CHEMICAL STABILITY		STABLE	X		UNSTABLE	
CONDITIONS TO AVOID	Heat or direct sunlight; temperatures above 85 F. NEVER mix with solutions containing ammonia.					
INCOMPATIBILITY	Acids, ammonia, ether, urea, oxidizable materials, soaps, oils, greases, phenolic disinfectants and metals (including nickel, copper, tin, aluminum and iron).					
HAZARDOUS PRODUCTS OF DECOMPOSITION	Chlorine gas -- from contact with highly acidic materials. Chloramines -- from contact with ammonia. Polychlorinated phenols -- from contact with phenolic disinfectants.					
POLYMERIZATION		WILL NOT OCCUR	X		MAY OCCUR	
CONDITIONS TO AVOID	Not applicable					

SECTION 11 -- TOXICOLOGICAL INFORMATION

CARCINOGENICITY

	THIS PRODUCT CONTAINS A KNOWN OR SUSPECTED CARCINOGEN
X	THIS PRODUCT DOES NOT CONTAIN ANY KNOWN OR ANTICIPATED CARCINOGENS ACCORDING TO THE CRITERIA OF THE NTP ANNUAL REPORT ON CARCINOGENS AND OSHA 29 CFR 1910, Z

OTHER EFFECTS

ACUTE	Toxicity arises from corrosive activity; stems from oxidizing potency, a function of concentration
CHRONIC	Not determined

SECTION 12 -- ECOLOGICAL INFORMATION

BIODEGRADABILITY		CONSIDERED BIODEGRADABLE	X		NOT BIODEGRADABLE	
BOD / COD VALUE	Not established					
ECOTOXICITY	No data available					

SECTION 13 -- DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD	If in accordance with an NPDES permit or approved by local sewage treatment plant authority, small amounts may be flushed to a sanitary sewer with plenty of water. Large amounts of unused product must be disposed of as hazardous waste at an approved hazardous waste management facility.								
RCRA CLASSIFICATION	Hazardous, corrosive D002 (if pH is equal to or greater than 12.5)								
RECYCLE CONTAINER		YES	X		CODE	2 - HDPE		NO	

SECTION 14 -- TRANSPORT INFORMATION

DOT CLASSIFICATION		HAZARDOUS	X		NOT HAZARDOUS	
DOT Proper Shipping Name	Hypochlorite Solution					
Hazard Class	8					
Identification Number	UN 1791					
Packing Group	III					
Label/Placard	Corrosive					
RQ	Sodium Hypochlorite 100 lbs. (45.4Kg)					
EXCEPTIONS	Consumer Commodity, ORM-D. Exempted by DOT for containers of 1 gallon or less					

SECTION 15 -- REGULATORY INFORMATION

REGULATORY STATUS

X	EPA REGISTERED (UNDER FIFRA)	1672-20004 Registration Number (Regular-non scented item only)
	FDA REGULATED	
X	KOSHER	
	SARA TITLE III MATERIAL	
X	NSF AUTHORIZED	Regular non-scented item only

SECTION 16 -- OTHER INFORMATION

NFPA CLASSIFICATION

2	BLUE	HEALTH HAZARD
0	RED	FLAMMABILITY
0	YELLOW	REACTIVITY
COR	WHITE	SPECIAL HAZARD

Approved Specifications

Federal Specification O-S-602E
Commercial Item Description A-1427C

Information contained in this MSDS refers only to the specific material designated and does not relate to any process or use involving other materials. This information is based on data believed to be reliable, and the Product is intended to be used in a manner that is customary and reasonably foreseeable. Since actual use and handling are beyond our control, no warranty, express or implied, is made and no liability is assumed by James Austin Company in connection with the use of this information.



Material Safety Data Sheet

Product Name: B – T20 Microbiocide
MSDS #: 21

Effective date: 3/15/2005
Page 1 of 11

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

1.1 IDENTIFICATION

Product Name B-T20
Chemical Name
Chemical Family Phosphonium Sulfates
Formula
Synonym

1.2 COMPANY IDENTIFICATION

Redux Technology
550 VT Rte. 30, P.O. Box 331
Newfane, VT 05345
Phone: 802-365-7200
Fax: 802-365-4652
Email: info@reduxtech.com

1.3 EMERGENCY TELEPHONE NUMBER

24 hours a day: CHEMTREC 1-800-424-9300.
Number for non-emergency questions concerning MSDS: (802) 365-7200

2. COMPOSITION INFORMATION

Component	CAS #	Amount (%W/W)
Water	7732-18-5	~80%
Tetrakis (hydroxymethyl) phosphonium sulfate	55566-30-8	~20%

Redux Technology
Material Safety Data Sheet

Product Name: B – T20 Microbiocide
MSDS #: 21

Effective date: 3/15/2005
Page 2 of 11

3. HAZARDS IDENTIFICATION

3.1 EMERGENCY OVERVIEW

Appearance	Transparent colorless
Physical State	Liquid
Odor	Characteristic

Hazards of product	DANGER!	CAUSES IRREVERSIBLE EYE DAMAGE. CAUSES SKIN IRRITATION. HARMFUL IF INHALED. HARMFUL IF SWALLOWED. PROLONGED OR FREQUENTLY REPEATED SKIN CONTACT MAY CAUSE ALLERGIC REACTIONS IN SOME INDIVIDUALS. CAUSES ASTHMATIC SIGNS AND SYMPTOMS IN HYPER-REACTIVE INDIVIDUALS. ASPIRATION MAY CAUSE LUNG DAMAGE.
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3.2 POTENTIAL HEALTH EFFECTS

Acute Eye:

Expected to cause significant irritation to the eyes burns, irritation, tearing. May cause redness.

Acute Skin:

Not expected to cause significant irritation to the skin redness, inflammation, May cause sensitization.

Acute Inhalation:

Can cause respiratory tract irritation, May cause coughing sensation, shortness of breath.

Acute Ingestion:

Harmful if ingested. May cause nausea, vomiting .

Chronic Effects:

(See Section 11- Chronic for a discussion of animal studies)

3.3 POTENTIAL ENVIRONMENTAL EFFECTS

See Section 12 for Ecological Information.

Redux Technology
Material Safety Data Sheet

Product Name: B – T20 Microbiocide
MSDS #: 21

Effective date: 3/15/2005
Page 3 of 11

4. FIRST AID PROCEDURES

Eye Exposure:

Hold eyelids open and flush with a steady, gentle stream of water for at least 15 minutes. Seek immediate medical attention.

Skin Exposure :

In case of contact, immediately wash with plenty of soap and water for at least 5 minutes. Seek medical attention if irritation develops or persists. Remove contaminated clothing and shoes. Clean contaminated clothing and shoes before re-use.

Inhalation:

If respiratory irritation or distress occurs remove victim to fresh air. Seek medical attention if respiratory irritation or distress continues.

Ingestion:

Wash out mouth with water and keep at rest. Seek immediate medical attention.

MEDICAL CONDITIONS POSSIBLY AGGRAVATED BY EXPOSURE:

Skin contact may aggravate existing skin disease.

NOTES to PHYSICIAN:

All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

Treat symptomatically. No specific antidote available

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

Flash Point - Closed Cup: *Tag Closed Cup ASTM D 56* None.

Flash Point - Open Cup: *Tag Open Cup ASTM D 1310* None.

Autoignition Temperature: *Not currently available.*

Flammable Limits In Air:

Lower *Not Determined, Aqueous System*

Upper *Not Determined, Aqueous System*

Flash Point: Not Applicable

Redux Technology
Material Safety Data Sheet

Product Name: B – T20 Microbiocide
MSDS #: 21

Effective date: 3/15/2005
Page 4 of 11

Extinguishing Media:

Recommended water fog, carbon dioxide, dry chemical, foam

Special Fire Fighting Procedures:

Firefighters should wear NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing. Keep unnecessary people away, isolate hazard area and deny entry. Stay upwind; keep out of low areas. Evacuate residents who are downwind of fire.

Unusual Fire and Explosion Hazards:

Containers may explode (due to the build-up of pressure) when exposed to extreme heat.

Hazardous Decomposition Materials {Under Fire Conditions}: oxides of sulfur
oxides of phosphorus oxides of carbon

6. ACCIDENTAL RELEASE MEASURES

Evacuation Procedures and Safety:

Ventilate closed spaces before entering. Personnel handling this material should be thoroughly trained to handle spills and releases. Wear appropriate protective gear for the situation. See Personal Protection information in Section 8. Evacuate and isolate spill area.

Containment of Spill:

Stop leak if it can be done without risk. Dike spill using absorbent or impervious materials such as earth, sand or clay. Dike area to prevent runoff. Collect and contain contaminated absorbent and dike material for disposal.

Cleanup and Disposal of Spill:

Recover material, if possible. **DO NOT RETURN MATERIAL TO ITS ORIGINAL CONTAINER.** Absorb with an inert absorbent. Shovel up into an appropriate closed container (see Section 7: Handling and Storage). Decontaminate tools and equipment following cleanup.

Environmental and Regulatory Reporting:

Do not flush to drain. Runoff from fire control or dilution water may cause pollution. Prevent material from entering public sewer system or any waterways. Spills may be reportable to the National Response center (800-424-8802) and to state and/or local agencies.

Redux Technology
Material Safety Data Sheet

Product Name: B – T20 Microbiocide
MSDS #: 21

Effective date: 3/15/2005
Page 5 of 11

7. HANDLING AND STORAGE

Minimum/Maximum Storage Temperatures: Not Available

Handling:

Personnel handling this product should be thoroughly trained as to its hazards. Do not get on skin or in eyes. Avoid direct or prolonged contact with skin and eyes. Avoid breathing vapors and mists. Use only as directed.

****HAZARD WARNING:** This product belongs to a chemical family that HAS BEEN TESTED in combination with Trimethylolpropane .Trimethylolpropane derived products or their corresponding Trimethylolpropane homologs for toxicity of the thermal decomposition products in the absence of flame.

Products in this chemical family PRODUCED NO SIGNIFICANT ADVERSE HEALTH EFFECTS in laboratory animals. However, there is a possibility that this thermal decomposition may produce bicyclic phosphates and/or phosphites in combination with certain other phosphorus compounds. Bicyclic phosphates and phosphites have acute neurotoxic properties and may cause convulsive seizures in laboratory test animals. Follow all precautionary measures outlined in this Material Safety Data Sheet.

Storage:

Store in an area that is clean, cool, dry, well-ventilated, Store away from; bases, oxidizers, reducing agents, Store in tightly closed containers. Container material to avoid: ordinary steel, Recommended container material: high density , high molecular weight polyethylene containers .

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Introductory Remarks:

These recommendations provide general guidance for handling this product. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. While developing safe handling procedures, do not overlook the need to clean equipment and piping systems for maintenance and repairs. Waste resulting from these procedures should be handled in accordance With Section 13: Disposal Considerations.

Assistance with selection, use and maintenance of worker protection equipment is generally available from equipment manufacturers.

Exposure Guidelines:

No exposure limits were found for this product or any of its ingredients.

Engineering Controls:

Where engineering controls are indicated by use conditions or a potential for excessive exposure exists, the following traditional exposure control techniques may be used to effectively minimize employee exposures.

Redux Technology
Material Safety Data Sheet

Product Name: B – T20 Microbiocide
MSDS #: 21

Effective date: 3/15/2005
Page 6 of 11

Respiratory Protection:

When respirators are required, select NIOSH/MSHA approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industrial recommendations.

Eye/Face Protection:

Eye and face protection requirements will vary dependent upon work environment conditions and material handling practices. Appropriate ANSI Z87 approved equipment should be selected for the particular use intended for this material.

Eye contact should be prevented through use of chemical safety glasses with side shields or splash proof goggles. An emergency eye wash must be readily accessible to the work area. Face contact should be prevented through use of a face shield.

Skin Protection:

Skin contact should be prevented through use of suitable protective clothing, gloves and footwear, selected with regard for use conditions and exposure potential. Consideration must be given both to durability as well as permeation resistance.

Work Practice Controls:

Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material:

- (1) Do not store, use, and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored.
- (2) Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics, or using the toilet.
- (3) Wash exposed skin promptly to remove accidental splashes or contact with this material.

9. PHYSICAL AND CHEMICAL PROPERTIES
--

Physical and Chemical properties here represent typical properties of this product.

Physical Appearance: colorless / liquid.

Odor: characteristic odor

pH: ~3.2 at 100 wt/wt%

Specific Gravity: 1.09 at 20 C (68 F)

Density: 1.09 g/ml at 20 C (68 F)

Redux Technology
Material Safety Data Sheet

Product Name: B – T20 Microbiocide
MSDS #: 21

Effective date: 3/15/2005
Page 7 of 11

Water Solubility: miscible

Melting Point Range: Not Available

Freezing Point Range: -43 C (-45 F)

Boiling/Point Range: Not Available

Vapor Pressure : Not Available

Vapor Density: Not Available

Viscosity: 22 cs at 24 C (75 F)

Molecular Weight: 406..3

10. STABILITY AND REACTIVITY

Chemical Stability:

This material is stable under normal handling and storage conditions described in Section 7. Under unusual conditions, such as very high temperatures and/or in the presence of strong reducing agents, the product may break down to form hazardous decomposition products noted below.

Conditions To Be Avoided: heat

Temperatures above 160 C.

See HAZARD WARNING under HANDLING: in Section 7

Materials/Chemicals To Be Avoided: strong bases, strong oxidizing agents

The Following Hazardous Decomposition Products Might Be Expected:

Decomposition Type: thermal

oxides *of* sulfur
oxides of phosphorus
oxides of carbon
phosphine gas

Hazardous Polymerization Will Not Occur.

Avoid The Following To Inhibit Hazardous Polymerization: not applicable

Redux Technology
Material Safety Data Sheet

Product Name: B – T20 Microbiocide
MSDS #: 21

Effective date: 3/15/2005
Page 9 of 11

Medical surveillance for over 30 years of employees in our manufacturing facility has shown no evidence of developmental toxicity from long-term exposure nor from exposure following an acute incident, for example, a major or minor spillage.

-MUTAGENICITY , ** .

Ames Test: Negative .

-MUTAGENICITY , ** .

Chinese hamster ovary cells (chromosomal aberrations): Positive.

-TERATOGENICITY , ** .

Studies in both rats and rabbits showed no indications of developmental toxicity in the absence of marked maternal (parental) toxicity. No observed effect level for development 15 mg/kg body weight. No observed effect level for development 18 mg/kg body weight.

-MUTAGENICITY , ** .

Dominant Lethal Assay rat (in vivo): Negative.

-MUTAGENICITY , ** .

Mouse micronucleus (in vivo): Negative.

-MUTAGENICITY , ** .

unscheduled DNA synthesis assay: Negative.

12. ECOLOGICAL INFORMATION

Ecotoxicological Information:

Not expected to cause significant adverse environmental impact if product reaches waterways. The following data is based on the technical grade active ingredients (TGAI).

Ecotoxicological Information and Interpretation:

LC50 -lethal concentration 50% of test species, 70 mg/l/48 hr, Daphnia magna .

LC50 -lethal concentration 50% of test species, 350 mg/l/96 hr, bluegill sunfish (Lepomis macrochirus).

LC50 -lethal concentration 50% of test species, 450 mg/l/96 hr, rainbow trout (Oncorhynchus mykiss).

LC50 -lethal concentration 50% of test species, 320 mg/l/96 hr, Juvenile Plaice.

LC50 -lethal concentration 50% of test species, 1275 mg/l/96 hr, Brown Shrimp.

LC50 -ecotox Method for association with dry sediment weight., >8,000 mg/kg/10 days, Corophium volutator. (dry sediment weight).

LD50 -lethal dose 50% of test species, 1160 mg/kg, Mallard duck (Anas platyrhynchos).

Chemical Fate Information:

Product is not expected to bioaccumulate. The following data is for similar or related product. This product is readily biodegradable under aerobic and anaerobic conditions in a sediment-water system. 28 days (aerobic) and 30 days (anaerobic). THPS has been shown to degrade rapidly once diluted to sub-ppm concentrations and forms trishydroxymethyl phosphine oxide which is classified as non-toxic.

13. DISPOSAL CONSIDERATIONS

Redux Technology
Material Safety Data Sheet

Product Name: B – T20 Microbiocide
MSDS #: 21

Effective date: 3/15/2005
Page 8 of 11

11. TOXICOLOGICAL INFORMATION

Acute Eye Irritation:

The following data are for similar or related products.

Toxicological Information and Interpretation

eye -eye irritation, rabbit .

Severely irritating. This material is expected to cause significant irritation to the eyes .

Acute Skin Irritation:

The following data is for similar or related products

Toxicological Information and Interpretation

skin- skin irritation, rabbit.

Minimally irritating. This material is not expected to cause significant irritation to the skin.

skin -sensitization, guinea pig .

Sensitizing. May cause significant allergic skin reaction.

Acute Dermal Toxicity:

The following data is for similar or related products

Toxicological Information and Interpretation

LD50 -lethal dose 50% of test species, > 7500 mg/kg, rat

Acute Oral Toxicity:

The following data is for similar or related products

Toxicological Information and Interpretation

LD50 - lethal dose 50% of test species, 2150 mg/kg, rat

Chronic Toxicity:

This product does not contain any substances that are considered by OSHA, NTP, IARC or ACGIH to be "probable" or "suspected" human carcinogens.

The following data is for similar or related products.

Toxicological Information and Interpretation

-REPRODUCTIVE TOXICITY, rat.

Material is not a reproductive toxin.

-CARCINOGENICITY, **.

There was no evidence of carcinogenicity in F344/N rats and B6C3F1 mice (both sexes) dosed by gavage at 5 or 10 mg THPS/kg/day for 2 years. 'ref. NTP study report TR296, 1987

-CHRONIC EXPOSURE, **.

Redux Technology
Material Safety Data Sheet

Product Name: B – T20 Microbiocide
MSDS #: 21

Effective date: 3/15/2005
Page 10 of 11

Waste Disposal Method:

Chemical additions, processing or otherwise altering this material may make the waste management information presented in this MSDS incomplete, inaccurate or otherwise inappropriate. Please be advised that state and local requirements for waste disposal may be more restrictive or otherwise different from federal laws and regulations. Consult state and local regulations regarding the proper disposal of this material.

EPA Hazardous Waste -NO

14. TRANSPORT INFORMATION

Transportation Status: IMPORTANT Statements below provide additional data on listed DOT classification.

The listed Transportation Classification does not address regulatory variations due to changes in package size, mode of shipment or other regulatory descriptors.

US Department of Transportation Shipping Name:
NOT REGULATED

15. REGULATORY INFORMATION

Inventory Status

Inventory	Status
UNITED STATES (TSCA)	Y
CANADA (DSL)	Y
EUROPE (EINECS/ELINCS)	Y
AUSTRALIA (AICS)	Y
JAPAN (MITI)	Y
SOUTH KOREA (KECL)	T

Y = All ingredients are on the inventory.

E = All ingredients are on the inventory or exempt from listing.

P = One or more ingredients fall under the polymer exemption or are on the no longer polymer list. All other ingredients are on the inventory or exempt from listing.

N = Not determined or one or more ingredients are not on the inventory and aren't exempt from listing .

Federal Regulations

Inventory Issues:

This product is excluded from TSCA because it is solely for FIFRA regulated use .

SARA Title III Hazard Classes:

Fire Hazard -NO

Reactive Hazard -NO

Redux Technology
Material Safety Data Sheet

Product Name: B – T20 Microbiocide
MSDS #: 21

Effective date: 3/15/2005
Page 11 of 11

Release of Pressure -NO
Acute Health Hazard -YES
Chronic Health Hazard -NO

STATE REGULATIONS :

This product contains the following components that are regulated under California Proposition 65 :

Ingredient Name	Cancer List	Reprod. List	No Sign. Risk Lvl California	(ug/day) RPI
Formaldehyde	Y	N	40	ND

16. OTHER INFORMATION

National Fire Protection Association Hazard Ratings—NFPA(R):

2 Health Hazard Rating--Moderate
0 Flammability Rating--Minimal
1 Instability Rating--Slight

National Paint & Coating Hazardous Materials Identification System--HMIS(R):

2 Health Hazard Rating--Moderate
0 Flammability Rating--Minimal
1 Reactivity Rating--Slight

Reason for Revisions:

New product MSDS.

Key Legend Information:

ACGIH -American Conference of Governmental Industrial Hygienists
OSHA -Occupational Safety and Health Administration
TLV -Threshold Limit Value
PEL- Permissible Exposure Limit
TW~ -Time Weighted Average
S1EL- Short Term Exposure Limit
NTP -National Toxicology Program
IARC- International Agency for Research on Cancer
ND -Not/determined

Disclaimer:

The information herein is given in good faith but no warranty, expressed or implied, is made.

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Identification

Product Name: Bleach 5-12.5% active Sodium Hypochlorite
Synonyms: Sodium Hypochlorite 5-12.5%, Liquid Bleach, Liquid Chlorine, Liquichlor, NuWash CHLOR, Cloro, Chlorine Bleach

Company Identification

HASA, INC.
Pittsburg, CA 94565 USA
(209) 234-5930 (For product information)
1-800-424-9300 or 1-703-527-3887 (CHEMTREC)

SPECIAL NOTES:

Distributed by NuGenTec, 7200 CE Dixon St., Stockton, CA 95206. (888) 99-Nugen (86436).

2. COMPOSITION/INFORMATION ON INGREDIENTS

100.0% Bleach 5% active Sodium Hypochlorite

CONTAINING:

HAZARDOUS AND/OR REGULATED COMPONENTS

Chemical Name	Amount	CAS Number
SODIUM HYPOCHLORITE	5.0-12.5 %	7681-52-9

NON-HAZARDOUS COMPONENTS

Chemical Name	Amount	CAS Number
WATER	Balance	7732-18-5

(See Section 8 for exposure guidelines)
(See Section 15 for regulatory information)

COMPOSITION COMMENT:

This Product Meets FDA/USDA requirements for cleaning in the food processing industry.

HAZARDS DISCLOSURE

This product contains hazardous materials as defined by the OSHA Hazard Communication Standard 29 CFR 1910.1200.

As defined under Sara 311 and 312, this product contains no known hazardous materials.

3. HAZARDS IDENTIFICATION

```
***** EMERGENCY OVERVIEW *****
*
* DANGER
*
* Keep out of reach of children. Do not take
* internally. Avoid contact with skin or eyes, upon
* contact with skin or eyes, wash off with water.
*
*****
```

HMIS Rating - Health: 2
Flammability: 0
Reactivity: 0
Personal Protection Index: C

NFPA Rating - Health: 2
Flammability: 0
Reactivity: 0
Special Hazard: Oxidizer, Reactive, Corrosive

NFPA/HMIS Definitions: (0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

POTENTIAL HEALTH EFFECTS

EYE:

Substance causes severe eye irritation and may cause permanent tissue damage.

SKIN:

Causes skin burns, irritation, and possible allergic reaction.

INHALATION:

Harmful if inhaled. High vapor concentrations are irritating to the eyes, nose, throat, and lungs. May cause irritation of the upper respiratory passages.

INGESTION:

Corrosive and may cause severe and permanent damage to mouth, throat, and stomach. May cause diarrhea, nausea, abdominal cramps. May cause vomiting.

REPRODUCTIVE HAZARDS:

No known reproductive hazards.

CARCINOGENICITY INFORMATION:

This product has been shown not to be carcinogenic, it is not included as a carcinogen by IARC, OSHA, NTP, or EPA.

TARGET ORGAN:

None.

MEDICAL CONDITIONS AGRAVATED BY EXPOSURE:

Asthma and respiratory and cardiovascular disease.

4. FIRST AID MEASURES

EYE CONTACT FIRST AID:

Flush eye with water for 15 minutes. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Get immediate medical attention.

SKIN CONTACT FIRST AID:

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Thoroughly wash (or discard) clothing and shoes before reuse.

INHALATION FIRST AID:

If exposed to excessive levels of dusts or fumes, remove to fresh air and get medical attention if cough or other symptoms develop.

INGESTION FIRST AID:

DO NOT induce vomiting, but give large quantities of water to drink and get medical attention. Never give anything by mouth to an unconscious person.

STATEMENT OF PRACTICAL TREATMENT:

Always have plenty of water available for first aid.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

COC Flash Point: None

TCC Flash Point: None

Autoignition Temperature: None

FLAMMABLE LIMITS IN AIR

LEL: None

UEL: None

EXTINGUISHING MEDIA:

Will not burn.

FIRE & EXPLOSION HAZARDS:

During a fire, irritating and highly toxic gases (chlorine gas) may be generated by thermal decomposition or combustion.

FIRE FIGHTING INSTRUCTIONS:

Evacuate area and fight fire from a safe distance. As in any fire, wear self-contained breathing apparatus pressure-demand MSHA/NIOSH (approved or equivalent) and full protective gear. Avoid breathing decomposition products. Contain runoff water. Contaminated extinguishing water must be disposed of in accordance with applicable regulations. Containers can build up pressure if exposed to heat (fire).

COMBUSTION PRODUCTS:

Hazardous concentrations of chlorine may be formed.

6. ACCIDENTAL RELEASE MEASURES

SAFEGUARDS (PERSONNEL):

Protect skin and eyes from exposure. Avoid breathing vapor. Ventilate spill area. Wear appropriate personal protective equipment.

INITIAL CONTAINMENT:

Absorb spills with inert material.

LARGE SPILLS PROCEDURE:

If this material is released into a work area, evacuate the area immediately. Wear a self-contained breathing apparatus and appropriate Personal protection (See Exposure Controls, Personal Protection section). Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container. Dispose of in an approved sanitary landfill. After removal, flush contaminated area thoroughly with water. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in Protective Equipment section. Retain all contaminated water for removal and treatment. Treat or dispose of waste material in accordance with all local, state/provincial, and national requirements.

US regulations require reporting spills of this material that could reach any surface waters (the toll free number for the US Coast Guard National Response Center is 800/424-8802).

SMALL SPILLS PROCEDURE:

Absorb spills with inert material. After cleaning spill with absorbant material wash area with soap and water. Treat or dispose of waste material in accordance with all local, state/provincial, and national requirements.

7. HANDLING AND STORAGE

RECOMMENDED STORAGE TEMPERATURE

Minimum: 0.0 C (32.0 F)

Maximum: 21.1 C (70.0 F)

SHELF LIFE: (in original, sealed containers)

up to 12 months @ 0.0 C

up to 6 months @ 21.1 C

HANDLING (PERSONNEL):

Wash thoroughly after handling. Use only in a well-ventilated area. Follow all MSDS/label precautions even after container is emptied because they may retain product residues. Empty drums should be completely drained, properly bunged, and promptly returned to a drum reconditioner, or properly disposed of.

HANDLING (PHYSICAL ASPECTS):

Store in a cool dry area. Store in tightly closed container. Avoid mixing with strongly acidic solutions. Provide appropriate ventilation.

STORAGE PRECAUTIONS:

Avoid extreme temperatures, keep from freezing and do not store in direct sunlight. Do not stack drums more than two pallets high. Keep container tightly closed. Keep from freezing. Protect containers from physical

damage. Store away from heat. Store in a well ventilated place.

SPECIAL SENSITIVITY:

Store in the dark at the lowest possible temperature, but keep from freezing.

MISCELLANEOUS:

Do not stack over two pallets high.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS:

If user operations generate dust, fume, or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit. Local exhaust ventilation may be necessary to control any air contaminants to within their TLVs during the use of this product. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

EYE / FACE PROTECTION REQUIREMENTS:

When splashing of the material may occur, chemical goggles and a face shield are recommended. Wear a NIOSH/MSHA approved positive pressure air supplied respirator in situations where there may be potential for airborne exposure.

SKIN PROTECTION REQUIREMENTS:

Wear protective gloves to minimize skin contact. When prolonged or frequently repeated contact could occur, use protective clothing impervious to this material.

RESPIRATORY PROTECTION REQUIREMENTS:

Atmospheric levels should be maintained below the exposure guideline. When there is potential for airborne exposures in excess of applicable limits, wear NIOSH/MSHA approved respiratory protection.

EXPOSURE GUIDELINES:

No Information Available.

9. PHYSICAL AND CHEMICAL PROPERTIES

FORM	Liquid
COLOR	Greenish-yellow to Pale Yellow
ODOR	Chlorine-like
BOILING POINT	Decomposes with heat F
VAPOR PRESSURE	no data psia
VAPOR DENSITY	no data (Air = 1)
SOLUBILITY IN WATER	Complete
SPECIFIC GRAVITY	1.2 (Water = 1)
BULK DENSITY	10.0
MELTING/FREEZING POINT ...	<32 F
PH	>11
% VOLATILES	5-12.5% %
EVAPORATION RATE	no data
MOLECULAR WEIGHT	74.5 (active ingredient-NaCl)

10. STABILITY AND REACTIVITY

STABILITY:

Decomposes as heated and over time.

POLYMERIZATION:

Hazardous polymerization will not occur.

INCOMPATIBILITY WITH OTHER MATERIALS:

Iron, copper, acids, ammonium compounds, organics, other oxidizers.

DECOMPOSITION:

Chlorine gas.

CONDITIONS TO AVOID:

decomposition will result from contact with iron or copper.

MISCELLANEOUS:

Avoid high heat, sunlight and ultra-violet light.

11. TOXICOLOGICAL INFORMATION

EYE EFFECTS:

Can cause severe eye irritation including burns and or permanent damage.

SKIN EFFECTS:

Contact may cause skin irritation, rash or burns.

ACUTE ORAL EFFECTS:

May cause diarrhea and or vomiting along with tissue burns.

ACUTE INHALATION EFFECTS:

Inhalation of this material is irritating to the nose, mouth, throat and lungs. It may also cause burns to the respiratory which may cause permanent lung damage.

REPRODUCTION AND BIRTH EFFECTS:

There are no known or reported effects on reproductive function or fetal development.

CHRONIC EFFECTS /:

There are no know or reported effects from repeated exposure.

GENETIC TOXICITY:

It is judged that the risk of genetic damage is insignificant for sodium hypochlorite because of its biocidal activity, lack of mutagenicity in vivo, and failure to produce a carcinogenic response.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL FATE:

This material is harmful to aquatic life.

sodium Hypochlorite

Test Code: Aquatic toxicity

Species: bluegill
Results: LC50 - 0.6 mg/l.
Reference: LC50

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL:

Treat or dispose of waste material in accordance with all local, state/provincial, and national requirements. For additional waste disposal information contact your local NuGenTec representative at (888) 99-NuGen or (209) 234-5930.

CONTAMINATED MATERIALS:

Wash contaminated clothing before reuse.

CONTAINER DISPOSAL:

Clean out containers prior to disposal. Empty containers can be dangerous if used to store toxic, flammable, or reactive materials. Misuse of containers may be hazardous. Keep container closed and drum bungs in place.

14. TRANSPORTATION INFORMATION

PRODUCT LABEL: Bleach 5-12.5% active Sodium Hypochlorite
D.O.T. SHIPPING NAME: Hypochlorite solution
TECHNICAL SHIPPING NAME ...: 5-12.5% hypochlorite solutions, 8, UN1791,
PG III
D.O.T. HAZARD CLASS: Corrosive
UN NUMBER: 1791
PRODUCT RQ (LBS): 250
D.O.T. LABEL: Corrosive Liquid
D.O.T. PLACARD: #8
BULK CLASS: N/A
PACKAGE CLASS: 55

MISCELLANEOUS:

emergency guide # 60.

15. REGULATORY INFORMATION

EEC Symbols and Indications of Danger:
Corrosive (C)

R-Phrases:

R20/21/22 - Harmful by inhalation, in contact with skin, and if swallowed.

S-Phrases:

S1/2 - Keep locked up and out of the reach of children.
S13 - Keep away from food, drink, and animal feeding stuffs.
S14.2 - Keep away from aluminum, magnesium, zinc, and their alloys.
S15 - Keep away from heat.
S18 - Handle and open container with care.
S20 - When using, do not eat or drink.
S23.1 - Do not breathe gas/fumes/vapor.
S24/25 - Avoid contact with skin and eyes.
S26 - In case of contact with eyes, rinse immediately with plenty of

water and seek medical advice.
S27.1 - Take off immediately all contaminated clothing, shoes, and any other item in contact with skin.
S29 - Do not empty into drains.
S3.1 - Keep in a cool place (>-7.2).
S3/7/9 - Keep container tightly closed in a cool, well-ventilated place.
S38 - In case of insufficient ventilation, wear suitable respiratory equipment.
S40.1 - To clean the floor and all objects contaminated by this material, use water.
S61.1 - Avoid release to the environment.

WHMIS Hazard Symbols:
Class E - Corrosive Material

Canadian Disclosure List
sodium Hypochlorite (7681-52-9)

CERCLA Hazardous Substances
sodium Hypochlorite (7681-52-9) -- RQ 100 lb

FDA (FOOD AND DRUG ADMINISTRATION):
This Product Meets FDA/USDA requirements for cleaning in the food processing industry.

MISCELLANEOUS INFORMATION:
This material or all of its components are listed on the Inventory of Existing Chemical Substances under the Toxic Substance Control Act (TSCA). This material or all of its components are listed on the Canadian Domestic Substances List (DSL). This material or all of its components are listed (or considered as having been notified) on the European Inventory of Existing Chemical Substances (EINECS).

16. OTHER INFORMATION

PREPARED BY: Donato Polignone
APPROVED BY: Milan Malek
TITLE: VP Research & Development
APPROVAL DATE: June 14, 2002
SUPERCEDES DATE ...: September 20, 2001
RTN NUMBER: 00000269 (Official Copy)

ADDITIONAL INFORMATION:
The data in this Material Safety Data Sheet relates only to the specific material designated herein. It does not relate to use in combination with any other material or in any process.

This information is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of NuGeneration Technologies, LLC. The data on this sheet are related only to the specific material designated herein. NuGeneration Technologies, LLC assumes no legal responsibility for use or reliance upon these data.

END OF MSDS

February 23, 2006

Mr. Matt Alger
Paragon Environmental Services
10 Cottage Street
Suite B
Norwood, MA 02062

LABORATORY REPORT

Project: **Medway Block/05-5558**
Lab ID: **91709**
Received: **02-14-06**

Dear Matt:

Enclosed are the analytical results for the above referenced project. The project was processed for Priority turnaround.

This letter authorizes the release of the analytical results, and should be considered a part of this report. This report contains a sample receipt report detailing the samples received, a project narrative indicating project changes and non-conformances, a quality control report, and a statement of our state certifications.

The analytical results contained in this report meet all applicable NELAC standards, except as may be specifically noted, or described in the project narrative. This report may only be used or reproduced in its entirety.

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

Should you have any questions concerning this report, please do not hesitate to contact me.

Sincerely,



Karyn E. Raymond
Project Manager

KER/kal
Enclosures

Sample Receipt Report

Project: **Medway Block/05-5558**
 Client: **Paragon Environmental Services**
 Lab ID: **91709**

Delivery: **GWA Courier**
 Airbill: **n/a**
 Lab Receipt: **02-14-06**

Temperature: **2.0°C**
 Chain of Custody: **Present**
 Custody Seal(s): **n/a**

Lab ID	Field ID		Matrix	Sampled	Method				Notes
91709-1	INF		Aqueous	2/13/06 10:30	EPA 8260B Volatile Organics with Oxygenates				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C784342	40 mL VOA Vial	Proline	BX19737	HCl	R-4601F	01-30-06	02-07-06		
C784337	40 mL VOA Vial	Proline	BX19737	HCl	R-4601F	01-30-06	02-07-06		
C784325	40 mL VOA Vial	Proline	BX19737	HCl	R-4601F	01-30-06	02-07-06		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
91709-2	INF		Aqueous	2/13/06 10:30	EPA 504.1 EDB and DBCP				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C716335	40 mL VOA Vial	Proline	BX19169	Na2S2O3	R-4067A	12-05-05	02-07-06		
C716327	40 mL VOA Vial	Proline	BX19169	Na2S2O3	R-4067A	12-05-05	02-07-06		
C716325	40 mL VOA Vial	Proline	BX19169	Na2S2O3	R-4067A	12-05-05	02-07-06		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
91709-3	INF		Aqueous	2/13/06 10:30	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C742386	1 L Amber Glass	Proline	BX19815	None	n/a	n/a	02-07-06		
C742678	1 L Amber Glass	Proline	BX19835	None	n/a	n/a	02-07-06		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
91709-4	INF		Aqueous	2/13/06 10:30	EPA 8270C Semivolatile Organics (Low Level)				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C742682	1 L Amber Glass	Proline	BX19835	None	n/a	n/a	02-07-06		
C742681	1 L Amber Glass	Proline	BX19835	None	n/a	n/a	02-07-06		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
91709-5	INF		Aqueous	2/13/06 10:30	EPA 1664 Hexane Extractable Material				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C718268	1 L Amber Glass	Proline	BX19217	H2SO4	R-4746A	12-22-05	12-22-05		
C718265	1 L Amber Glass	Proline	BX19217	H2SO4	R-4746A	12-22-05	12-22-05		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
91709-6	INF		Aqueous	2/13/06 10:30	SM 2540 D Total Suspended Solids				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C742141	1 L Plastic	Proline	BX19768	None	n/a	n/a	02-07-06		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
91709-7	INF		Aqueous	2/13/06 10:30	SM 4500-Cl G Total Residual Chlorine				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C772584	250 mL Glass	Proline	BX19346	None	n/a	n/a	02-07-06		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
91709-8	INF		Aqueous	2/13/06 10:30	EPA 7196A Hexavalent Chromium				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C538179	250 mL Plastic	Greenwood	BX15976	None	n/a	n/a	03-21-05		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
91709-9	INF		Aqueous	2/13/06 10:30	EPA 9012A Total Cyanide				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C777903	500 mL Plastic	Proline	BX19770	NaOH	R-4593A	02-01-06	02-07-06		

Sample Receipt Report (Continued)

Project: **Medway Block/05-5558**
 Client: **Paragon Environmental Services**
 Lab ID: **91709**

Delivery: **GWA Courier**
 Airbill: **n/a**
 Lab Receipt: **02-14-06**

Temperature: **2.0'C**
 Chain of Custody: **Present**
 Custody Seal(s): **n/a**

Lab ID	Field ID		Matrix	Sampled	Method				Notes
91709-10	INF		Aqueous	2/13/06 10:30	EPA 6010B As Cd Cr Cu Fe Ni Ag Zn Total EPA 7041 Antimony by GFAA Sb EPA 7421 Lead by GFAA Lead by GFAA EPA 7470A Hg Total EPA 7740 Selenium by GFAA Selenium by GFAA				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C773176	250 mL Plastic	Proline	BX19592	HNO3	R-4550E	01-09-06	02-07-06		

EPA Method 8260B Volatile Organics by GC/MS

Field ID: INF
 Project: Medway Block/05-5558
 Client: Paragon Environmental Services
 Laboratory ID: 91709-01
 Sampled: 02-13-06 10:30
 Received: 02-14-06 16:45
 Analyzed: 02-17-06 18:41
 Analyst: KMC

Matrix: Aqueous
 Container: 40 mL VOA Vial
 Preservation: HCl/Cool
 QC Batch ID: VM4-3447-W
 Instrument ID: MS-4 HP 6890
 Sample Volume: 25 mL
 Dilution Factor: 1

Page: 1 of 2

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/L	0.5
74-87-3	Chloromethane	BRL		ug/L	0.5
75-01-4	Vinyl Chloride	BRL		ug/L	0.5
74-83-9	Bromomethane	BRL		ug/L	0.5
75-00-3	Chloroethane	BRL		ug/L	0.5
75-69-4	Trichlorofluoromethane	BRL		ug/L	0.5
60-29-7	Diethyl Ether	BRL		ug/L	2
75-35-4	1,1-Dichloroethene	BRL		ug/L	0.5
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/L	5
67-64-1	Acetone	BRL		ug/L	10
75-15-0	Carbon Disulfide	BRL		ug/L	5
75-09-2	Methylene Chloride	BRL		ug/L	2.5
156-60-5	<i>trans</i> -1,2-Dichloroethene	BRL		ug/L	0.5
1634-04-4	Methyl <i>tert</i> -butyl Ether (MTBE)	BRL		ug/L	0.5
75-34-3	1,1-Dichloroethane	BRL		ug/L	0.5
594-20-7	2,2-Dichloropropane	BRL		ug/L	0.5
156-59-2	<i>cis</i> -1,2-Dichloroethene	BRL		ug/L	0.5
78-93-3	2-Butanone (MEK)	BRL		ug/L	5
74-97-5	Bromochloromethane	BRL		ug/L	0.5
109-99-9	Tetrahydrofuran (THF)	BRL		ug/L	5
67-66-3	Chloroform	BRL		ug/L	0.5
71-55-6	1,1,1-Trichloroethane	BRL		ug/L	0.5
56-23-5	Carbon Tetrachloride	BRL		ug/L	0.5
563-58-6	1,1-Dichloropropene	BRL		ug/L	0.5
71-43-2	Benzene	BRL		ug/L	0.5
107-06-2	1,2-Dichloroethane	BRL		ug/L	0.5
79-01-6	Trichloroethene	BRL		ug/L	0.5
78-87-5	1,2-Dichloropropane	BRL		ug/L	0.5
74-95-3	Dibromomethane	BRL		ug/L	0.5
75-27-4	Bromodichloromethane	BRL		ug/L	0.5
123-91-1	1,4-Dioxane	BRL		ug/L	500
10061-01-5	<i>cis</i> -1,3-Dichloropropene	BRL		ug/L	0.5
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/L	5
108-88-3	Toluene	BRL		ug/L	0.5
10061-02-6	<i>trans</i> -1,3-Dichloropropene	BRL		ug/L	0.5
79-00-5	1,1,2-Trichloroethane	BRL		ug/L	0.5
127-18-4	Tetrachloroethene	BRL		ug/L	0.5
142-28-9	1,3-Dichloropropane	BRL		ug/L	0.5
591-78-6	2-Hexanone	BRL		ug/L	5
124-48-1	Dibromochloromethane	BRL		ug/L	0.5
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/L	0.5
108-90-7	Chlorobenzene	BRL		ug/L	0.5
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/L	0.5
100-41-4	Ethylbenzene	BRL		ug/L	0.5
108-38-3/106-42-3	<i>meta</i> -Xylene and <i>para</i> -Xylene	BRL		ug/L	0.5
95-47-6	<i>ortho</i> -Xylene	BRL		ug/L	0.5

**EPA Method 8260B (Continued)
Volatile Organics by GC/MS**

Field ID: **INF**
 Project: **Medway Block/05-5558**
 Client: **Paragon Environmental Services**
 Laboratory ID: **91709-01**
 Sampled: **02-13-06 10:30**
 Received: **02-14-06 16:45**
 Analyzed: **02-17-06 18:41**
 Analyst: **KMC**

Matrix: **Aqueous**
 Container: **40 mL VOA Vial**
 Preservation: **HCl/Cool**
 QC Batch ID: **VM4-3447-W**
 Instrument ID: **MS-4 HP 6890**
 Sample Volume: **25 mL**
 Dilution Factor: **1**

Page: 2 of 2

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
100-42-5	Styrene	BRL		ug/L	0.5
75-25-2	Bromoform	BRL		ug/L	0.5
98-82-8	Isopropylbenzene	BRL		ug/L	0.5
108-86-1	Bromobenzene	BRL		ug/L	0.5
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/L	0.5
96-18-4	1,2,3-Trichloropropane	BRL		ug/L	0.5
103-65-1	<i>n</i> -Propylbenzene	BRL		ug/L	0.5
95-49-8	2-Chlorotoluene	BRL		ug/L	0.5
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/L	0.5
106-43-4	4-Chlorotoluene	BRL		ug/L	0.5
98-06-6	<i>tert</i> -Butylbenzene	BRL		ug/L	0.5
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/L	0.5
135-98-8	<i>sec</i> -Butylbenzene	BRL		ug/L	0.5
541-73-1	1,3-Dichlorobenzene	BRL		ug/L	0.5
99-87-6	4-Isopropyltoluene	BRL		ug/L	0.5
106-46-7	1,4-Dichlorobenzene	BRL		ug/L	0.5
95-50-1	1,2-Dichlorobenzene	BRL		ug/L	0.5
104-51-8	<i>n</i> -Butylbenzene	BRL		ug/L	0.5
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/L	0.5
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/L	0.5
87-68-3	Hexachlorobutadiene	BRL		ug/L	0.5
91-20-3	Naphthalene	BRL		ug/L	0.5
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/L	0.5
75-65-0	<i>tert</i> -Butyl Alcohol (TBA)	BRL		ug/L	20
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/L	0.5
637-92-3	Ethyl <i>tert</i> -butyl Ether (ETBE)	BRL		ug/L	0.5
994-05-8	<i>tert</i> -Amyl Methyl Ether (TAME)	BRL		ug/L	0.5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	10	9.5	95 %	70 - 130 %
1,2-Dichloroethane-d ₄	10	7.7	77 %	70 - 130 %
Toluene-d ₈	10	9.0	90 %	70 - 130 %
4-Bromofluorobenzene	10	9.2	92 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Sample preparation performed by EPA Method 5030B.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

**EPA Method 504.1
EDB and DBCP by GC/ECD**

Field ID:	INF	Matrix:	Aqueous
Project:	Medway Block/05-5558	Container:	40 mL VOA Vial
Client:	Paragon Environmental Services	Preservation:	Cool
Laboratory ID:	91709-02	QC Batch ID:	PV-0817-E
Sampled:	02-13-06 10:30	Instrument ID:	GC-5 HP 5890
Received:	02-14-06 16:45	Sample Volume:	34 mL
Extracted:	02-21-06 16:30	Final Volume:	1 mL
Analyzed:	02-21-06 23:40	Dilution Factor:	1
Analyst:	CRL		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/L	0.02
96-12-8	1,2-Dibromo-3-Chloropropane (DBCP)	BRL		ug/L	0.02

Method Reference: Methods for the Determination of Organic Compounds in Drinking Water, Supplement III, US EPA, EPA-600/R-95/131 (1995). Method Revision 1.1.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

**EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD**

Field ID: **INF**
 Project: **Medway Block/05-5558**
 Client: **Paragon Environmental Services**
 Laboratory ID: **91709-03**
 Sampled: **02-13-06 10:30**
 Received: **02-14-06 16:45**
 Extracted: **02-17-06 14:00**
 Cleaned Up: **02-19-06 12:00**
 Analyzed: **02-21-06 13:07**
 Analyst: **CRL**

Matrix: **Aqueous**
 Container: **1 L Amber Glass**
 Preservation: **Cool**
 QC Batch ID: **PB-2206-F**
 Instrument ID: **GC-6 HP 5890**
 Sample Weight: **850 mL**
 Final Volume: **1 mL**
 Dilution Factor: **1**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016		BRL	ug/L	0.2
11104-28-2	Aroclor 1221		BRL	ug/L	0.2
11141-16-5	Aroclor 1232		BRL	ug/L	0.2
53469-21-9	Aroclor 1242		BRL	ug/L	0.2
12672-29-6	Aroclor 1248		BRL	ug/L	0.2
11097-69-1	Aroclor 1254		BRL	ug/L	0.2
11096-82-5	Aroclor 1260		BRL	ug/L	0.2
37324-23-5	Aroclor 1262 †		BRL	ug/L	0.2
11100-14-4	Aroclor 1268 †		BRL	ug/L	0.2

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
First Column	Tetrachloro- <i>m</i> -xylene	0.24	0.21	91 %	30 - 150 %
Second Column	Decachlorobiphenyl	0.24	0.25	105 %	30 - 150 %
First Column	Tetrachloro- <i>m</i> -xylene	0.24	0.21	90 %	30 - 150 %
Second Column	Decachlorobiphenyl	0.24	0.24	101 %	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Sample extraction performed by EPA Method 3510C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
 † Non-target analyte. Result is based on a single mid-range calibration standard.

**EPA Method 8270C
Semivolatile Organics by GC/MS-SIM (Part 2)**

Field ID: **INF**
 Project: **Medway Block/05-5558**
 Client: **Paragon Environmental Services**
 Laboratory ID: **91709-04**
 Sampled: **02-13-06 10:30**
 Received: **02-14-06 16:45**
 Extracted: **02-17-06 11:00**
 Analyzed: **02-22-06 13:42**
 Analyst: **CMM**

Matrix: **Aqueous**
 Container: **1 L Amber Glass**
 Preservation: **Cool**
 QC Batch ID: **SV-1837-F**
 Instrument ID: **MS-6 HP 6890**
 Sample Volume: **900 mL**
 Final Volume: **1 mL**
 Dilution Factor: **1**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		ug/L	0.56
91-57-6	2-Methylnaphthalene	BRL		ug/L	0.56
208-96-8	Acenaphthylene	BRL		ug/L	0.56
83-32-9	Acenaphthene	BRL		ug/L	0.56
86-73-7	Fluorene	BRL		ug/L	0.56
85-01-8	Phenanthrene	BRL		ug/L	0.56
120-12-7	Anthracene	BRL		ug/L	0.56
206-44-0	Fluoranthene	BRL		ug/L	0.56
129-00-0	Pyrene	BRL		ug/L	0.56
56-55-3	Benzo[a]anthracene	BRL		ug/L	0.11
218-01-9	Chrysene	BRL		ug/L	0.11
205-99-2	Benzo[b]fluoranthene	BRL		ug/L	0.11
207-08-9	Benzo[k]fluoranthene	BRL		ug/L	0.11
50-32-8	Benzo[a]pyrene	BRL		ug/L	0.11
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/L	0.11
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/L	0.11
191-24-2	Benzo[g,h,i]perylene	BRL		ug/L	0.11
87-68-3	Hexachlorobutadiene	BRL		ug/L	0.56
118-74-1	Hexachlorobenzene	BRL		ug/L	0.56
87-86-5	Pentachlorophenol	BRL		ug/L	1.1

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2-Fluorophenol	22	14	63 %	15 - 110 %
Phenol-d5	22	12	56 %	15 - 110 %
Nitrobenzene-d5	11	9.5	85 %	30 - 130 %
2-Fluorobiphenyl	11	8.6	77 %	30 - 130 %
2,4,6-Tribromophenol	22	24	108 %	15 - 110 %
Terphenyl-d14	11	9.3	84 %	30 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Method modified by use of selected ion monitoring (SIM) in accordance with Section 7.5.5 of the method.
 Sample extraction performed by EPA Method 3510C.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

**EPA Method 8270C
Semivolatile Organics by GC/MS (Part 1)**

Field ID: INF
 Project: Medway Block/05-5558
 Client: Paragon Environmental Services
 Laboratory ID: 91709-04
 Sampled: 02-13-06 10:30
 Received: 02-14-06 16:45
 Extracted: 02-17-06 11:00
 Analyzed: 02-22-06 14:52
 Analyst: CMM

Matrix: Aqueous
 Container: 1 L Amber Glass
 Preservation: Cool
 QC Batch ID: SV-1837-F
 Instrument ID: MS-3 HP 5890
 Sample Volume: 850 mL
 Final Volume: 1 mL
 Dilution Factor: 1

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
108-95-2	Phenol	BRL		ug/L	6
95-57-8	2-Chlorophenol	BRL		ug/L	6
95-48-7	2-Methylphenol	BRL		ug/L	6
88-75-5	2-Nitrophenol	BRL		ug/L	6
105-67-9	2,4-Dimethylphenol	BRL		ug/L	6
120-83-2	2,4-Dichlorophenol	BRL		ug/L	6
59-50-7	4-Chloro-3-methylphenol	BRL		ug/L	6
88-06-2	2,4,6-Trichlorophenol	BRL		ug/L	6
95-95-4	2,4,5-Trichlorophenol	BRL		ug/L	6
131-11-3	Dimethyl phthalate	BRL		ug/L	6
51-28-5	2,4-Dinitrophenol	BRL		ug/L	6
100-02-7	4-Nitrophenol	BRL		ug/L	6
84-66-2	Diethyl phthalate	BRL		ug/L	6
534-52-1	4,6-Dinitro-2-methylphenol	BRL		ug/L	6
84-74-2	Di-n-butyl phthalate	BRL		ug/L	6
85-68-7	Butyl benzyl phthalate	BRL		ug/L	6
117-81-7	Bis(2-ethylhexyl) phthalate	19		ug/L	6
117-84-0	Di-n-octyl phthalate	BRL		ug/L	6

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2-Fluorophenol	22	12	55 %	15 - 110 %
Phenol-d5	22	10	45 %	15 - 110 %
Nitrobenzene-d5	11	7	66 %	30 - 130 %
2-Fluorobiphenyl	11	9	82 %	30 - 130 %
2,4,6-Tribromophenol	22	17	78 %	15 - 110 %
Terphenyl-d14	11	9	82 %	30 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Sample extraction performed by EPA Method 3510C.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

* Analyzed as 4-Methylphenol.
 † Reported as sum of N-Nitrosodiphenylamine and Diphenylamine.
 ◇ Analyzed as Azobenzene.

Inorganic Chemistry

Field ID: **INF**
Project: **Medway Block/05-5558**
Client: **Paragon Environmental Services**

Matrix: **Aqueous**
Received: **02-14-06 16:45**

Lab ID: **91709-05** Sampled: **02-13-06 10:30** Container: **1 L Amber Glass** Preservation: **H2SO4/Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Oil and Grease, Total	BRL	mg/L	5	1	920 mL	02-17-06 09:00	HO-0206-W	EPA 1664	3	DEB

Lab ID: **91709-06** Sampled: **02-13-06 10:30** Container: **1 L Plastic** Preservation: **Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Solids, Total Suspended	BRL	mg/L	10	5	100 mL	02-16-06 09:14	TSS-1191-W	SM 2540 D	3	MW

Lab ID: **91709-07** Sampled: **02-13-06 10:30** Container: **250 mL Glass** Preservation: **Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Chlorine, Total Residual	BRL	mg/L	0.2	1	5 mL	02-14-06 19:30	TRC-0409-W	SM 4500-Cl G	2	LJD

Lab ID: **91709-08** Sampled: **02-13-06 10:30** Container: **250 mL Plastic** Preservation: **Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Chromium, Hexavalent	BRL	mg/L	0.01	1	5 mL	02-14-06 20:49	HC-0251-W	EPA 7196A	1	DDW

Lab ID: **91709-09** Sampled: **02-13-06 10:30** Container: **500 mL Plastic** Preservation: **NaOH/Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Cyanide, Total	BRL	mg/L	0.01	1	50 mL	02-16-06 10:16	TCN-1158-W	EPA 9012A	1	AVB

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations:

- BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
- RL Reporting Limit.
- DF Dilution Factor.
- 1 Instrument ID: Lachat 8000 Autoanalyzer
- 2 Instrument ID: Milton Roy Spectronic 401
- 3 Instrument ID: Mettler AT 200 Balance

Trace Metals

Field ID: **INF**
 Project: **Medway Block/05-5558**
 Client: **Paragon Environmental Services**
 Laboratory ID: **91709-10**
 Sampled: **02-13-06 10:30**
 Received: **02-14-06 16:45**

Matrix: **Aqueous**
 Container: **250 mL Plastic**
 Preservation: **HNO₃ / Cool**
 Preserved: **02-13-06 10:30**

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Volume	Instrument ID	Analyst
EPA 7041 ¹	MB-1937-W	EPA 3010A	02-15-06 08:52	50 mL	GFAA-1 PE 5100	MWR
EPA 6010B ²	MB-1937-W	EPA 3010A	02-15-06 08:52	50 mL	ICP-2 PE 3300	MWR
EPA 7421 ³	MB-1937-W	EPA 3010A	02-15-06 08:52	50 mL	GFAA-1 PE 5100	MFP
EPA 7470A ⁴	MP-1798-W	EPA 7470A	02-15-06 08:45	25 mL	CVAA-1 PE FIMS	KLB
EPA 7740 ⁵	MB-1937-W	EPA 3010A	02-15-06 08:52	50 mL	GFAA-1 PE 5100	MFP

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-36-0	Antimony, Total		BRL	mg/L	0.06	1	02-22-06 13:22	EPA 7041 ¹
7440-38-2	Arsenic, Total		BRL	mg/L	0.01	1	02-17-06 15:46	EPA 6010B ²
7440-43-9	Cadmium, Total		BRL	mg/L	0.005	1	02-17-06 15:46	EPA 6010B ²
7440-47-3	Chromium, Total		BRL	mg/L	0.01	1	02-17-06 15:46	EPA 6010B ²
7440-50-8	Copper, Total		BRL	mg/L	0.025	1	02-17-06 15:45	EPA 6010B ²
7439-89-6	Iron, Total	3.1		mg/L	0.1	1	02-17-06 15:45	EPA 6010B ²
7439-92-1	Lead, Total		BRL	mg/L	0.005	1	02-16-06 16:44	EPA 7421 ³
7439-97-6	Mercury, Total		BRL	mg/L	0.0002	1	02-15-06 13:22	EPA 7470A ⁴
7440-02-0	Nickel, Total		BRL	mg/L	0.04	1	02-17-06 15:46	EPA 6010B ²
7782-49-2	Selenium, Total		BRL	mg/L	0.05	1	02-21-06 15:26	EPA 7740 ⁵
7440-22-4	Silver, Total		BRL	mg/L	0.007	1	02-17-06 15:45	EPA 6010B ²
7440-66-6	Zinc, Total	1.2		mg/L	0.2	1	02-17-06 15:45	EPA 6010B ²

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
 DF Dilution Factor.

Project Narrative

Project: **Medway Block/05-5558**
Client: **Paragon Environmental Services**

Lab ID: **91709**
Received: **02-14-06 16:45**

A. Documentation and Client Communication

The following documentation discrepancies, and client changes or amendments were noted for this project:

- 1 . No documentation discrepancies, changes, or amendments were noted.

B. Method Modifications, Non-Conformances and Observations

The sample(s) in this project were analyzed by the references analytical method(s), and no method modifications, non-conformances or analytical issues were noted, except as indicated below:

- 1 . EPA 8270C Modification: Samples 91709-04. Method modified by use of selected ion monitoring (SIM) in accordance with Section 7.5.5 of the method. GC/MS-SIM was used to achieve low quantification limits necessary for regulatory compliance.

Quality Assurance/Quality Control

A. Program Overview

Groundwater Analytical conducts an active Quality Assurance program to ensure the production of high quality, valid data. This program closely follows the guidance provided by *Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans*, US EPA QAMS-005/80 (1980), and *Test Methods for Evaluating Solid Waste*, US EPA, SW-846, Update III (1996).

Quality Control protocols include written Standard Operating Procedures (SOPs) developed for each analytical method. SOPs are derived from US EPA methodologies and other established references. Standards are prepared from commercially obtained reference materials of certified purity, and documented for traceability.

Quality Assessment protocols for most organic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. All samples, standards, blanks, laboratory control samples, matrix spikes and sample duplicates are spiked with internal standards and surrogate compounds. All instrument sequences begin with an initial calibration verification standard and a blank; and excepting GC/MS sequences, all sequences close with a continuing calibration standard. GC/MS systems are tuned to appropriate ion abundance criteria daily, or for each 12 hour operating period, whichever is more frequent.

Quality Assessment protocols for most inorganic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. Standard curves are derived from one reagent blank and four concentration levels. Curve validity is verified by standard recoveries within plus or minus ten percent of the curve.

B. Definitions

Batches are used as the basic unit for Quality Assessment. A Batch is defined as twenty or fewer samples of the same matrix which are prepared together for the same analysis, using the same lots of reagents and the same techniques or manipulations, all within the same continuum of time, up to but not exceeding 24 hours.

Laboratory Control Samples are used to assess the accuracy of the analytical method. A Laboratory Control Sample consists of reagent water or sodium sulfate spiked with a group of target analytes representative of the method analytes. Accuracy is defined as the degree of agreement of the measured value with the true or expected value. Percent Recoveries for the Laboratory Control Samples are calculated to assess accuracy.

Method Blanks are used to assess the level of contamination present in the analytical system. Method Blanks consist of reagent water or an aliquot of sodium sulfate. Method Blanks are taken through all the appropriate steps of an analytical method. Sample data reported is not corrected for blank contamination.

Surrogate Compounds are used to assess the effectiveness of an analytical method in dealing with each sample matrix. Surrogate Compounds are organic compounds which are similar to the target analytes of interest in chemical behavior, but which are not normally found in environmental samples. Percent Recoveries are calculated for each Surrogate Compound.

**Quality Control Report
Laboratory Control Samples**

Category: **EPA Method 8260B**
QC Batch ID: **VM4-3447-WL**
Matrix: **Aqueous**
Units: **ug/L**

LCS
Instrument ID: **MS-4 HP 6890**
Analyzed: **02-17-06 08:28**
Analyst: **KMC**

LCSD
Instrument ID: **MS-4 HP 6890**
Analyzed: **02-17-06 08:57**
Analyst: **KMC**

Page: 1 of 2

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
75-71-8	Dichlorodifluoromethane	10	8	80 %	10	7.8	78 %	2 %	70 - 130 %	25%
74-87-3	Chloromethane	10	9	90 %	10	8.5	85 %	6 %	70 - 130 %	25%
75-01-4	Vinyl Chloride	10	9.2	92 %	10	8.5	85 %	8 %	70 - 130 %	25%
74-83-9	Bromomethane	10	8.5	85 %	10	8.6	86 %	1 %	70 - 130 %	25%
75-00-3	Chloroethane	10	9.1	91 %	10	9	90 %	1 %	70 - 130 %	25%
75-69-4	Trichlorofluoromethane	10	9.2	92 %	10	8.7	87 %	6 %	70 - 130 %	25%
60-29-7	Diethyl Ether	20	17	86 %	20	17	87 %	2 %	70 - 130 %	25%
75-35-4	1,1-Dichloroethene	10	9.3	93 %	10	9.2	92 %	0 %	70 - 130 %	25%
76-13-1	1,1,2-Trichlorotrifluoroethane	20	18	88 %	20	17	84 %	4 %	70 - 130 %	25%
67-64-1	Acetone	20	25	123 %	20	23	117 %	5 %	70 - 130 %	25%
75-15-0	Carbon Disulfide	20	16	81 %	20	16	79 %	2 %	70 - 130 %	25%
75-09-2	Methylene Chloride	10	8.3	83 %	10	8.4	84 %	1 %	70 - 130 %	25%
156-60-5	trans-1,2-Dichloroethene	10	9.3	93 %	10	9.2	92 %	1 %	70 - 130 %	25%
1634-04-4	Methyl tert-butyl Ether (MTBE)	10	8	80 %	10	8.5	85 %	6 %	70 - 130 %	25%
75-34-3	1,1-Dichloroethane	10	9.5	95 %	10	9.5	95 %	0 %	70 - 130 %	25%
594-20-7	2,2-Dichloropropane	10	9.7	97 %	10	9.4	94 %	3 %	70 - 130 %	25%
156-59-2	cis-1,2-Dichloroethene	10	9.6	96 %	10	9.8	98 %	2 %	70 - 130 %	25%
78-93-3	2-Butanone (MEK)	20	15	75 %	20	15	76 %	2 %	70 - 130 %	25%
74-97-5	Bromochloromethane	10	8.7	87 %	10	9.1	91 %	4 %	70 - 130 %	25%
109-99-9	Tetrahydrofuran (THF)	20	16	79 %	20	17	85 %	7 %	70 - 130 %	25%
67-66-3	Chloroform	10	9.6	96 %	10	9.4	94 %	2 %	70 - 130 %	25%
71-55-6	1,1,1-Trichloroethane	10	9.2	92 %	10	8.9	89 %	2 %	70 - 130 %	25%
56-23-5	Carbon Tetrachloride	10	8.7	87 %	10	8.5	85 %	3 %	70 - 130 %	25%
563-58-6	1,1-Dichloropropene	10	9.4	94 %	10	9.1	91 %	3 %	70 - 130 %	25%
71-43-2	Benzene	10	9	90 %	10	8.8	88 %	2 %	70 - 130 %	25%
107-06-2	1,2-Dichloroethane	10	8.6	86 %	10	8.8	88 %	2 %	70 - 130 %	25%
79-01-6	Trichloroethene	10	9	90 %	10	9	90 %	0 %	70 - 130 %	25%
78-87-5	1,2-Dichloropropane	10	9.7	97 %	10	9.7	97 %	0 %	70 - 130 %	25%
74-95-3	Dibromomethane	10	9.9	99 %	10	10	101 %	2 %	70 - 130 %	25%
75-27-4	Bromodichloromethane	10	9.6	96 %	10	9.8	98 %	2 %	70 - 130 %	25%
123-91-1	1,4-Dioxane	200	180	89 %	200	160	80 %	11 %	70 - 130 %	25%
10061-01-5	cis-1,3-Dichloropropene	10	9.4	94 %	10	9.1	91 %	3 %	70 - 130 %	25%
108-10-1	4-Methyl-2-Pentanone (MIBK)	20	15	74 %	20	15	76 %	1 %	70 - 130 %	25%
108-88-3	Toluene	10	9.7	97 %	10	9.6	96 %	2 %	70 - 130 %	25%
10061-02-6	trans-1,3-Dichloropropene	10	11	109 %	10	11	108 %	1 %	70 - 130 %	25%
79-00-5	1,1,2-Trichloroethane	10	10	104 %	10	11	107 %	3 %	70 - 130 %	25%
127-18-4	Tetrachloroethene	10	11	106 %	10	10	104 %	2 %	70 - 130 %	25%
142-28-9	1,3-Dichloropropane	10	10	105 %	10	10	103 %	1 %	70 - 130 %	25%
591-78-6	2-Hexanone	20	17	87 %	20	18	91 %	4 %	70 - 130 %	25%
124-48-1	Dibromochloromethane	10	11	106 %	10	11	108 %	2 %	70 - 130 %	25%
106-93-4	1,2-Dibromoethane (EDB)	10	10	103 %	10	11	107 %	4 %	70 - 130 %	25%
108-90-7	Chlorobenzene	10	10	105 %	10	10	102 %	3 %	70 - 130 %	25%
630-20-6	1,1,1,2-Tetrachloroethane	10	11	108 %	10	11	107 %	1 %	70 - 130 %	25%
100-41-4	Ethylbenzene	10	11	109 %	10	11	107 %	2 %	70 - 130 %	25%
108-38-3/106-42-3	meta- Xylene and para- Xylene	20	21	107 %	20	21	106 %	0 %	70 - 130 %	25%
95-47-6	ortho- Xylene	10	11	105 %	10	10	102 %	3 %	70 - 130 %	25%
100-42-5	Styrene	10	11	109 %	10	11	106 %	3 %	70 - 130 %	25%
75-25-2	Bromoform	10	11	106 %	10	11	110 %	4 %	70 - 130 %	25%
98-82-8	Isopropylbenzene	10	11	106 %	10	10	102 %	3 %	70 - 130 %	25%

**Quality Control Report
Laboratory Control Samples**

Category:	EPA Method 8260B	LCS Instrument ID:	MS-4 HP 6890	LCSD Instrument ID:	MS-4 HP 6890
QC Batch ID:	VM4-3447-WL	Analyzed:	02-17-06 08:28	Analyzed:	02-17-06 08:57
Matrix:	Aqueous	Analyst:	KMC	Analyst:	KMC
Units:	ug/L				

Page: 2 of 2

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
108-86-1	Bromobenzene	10	11	105 %	10	10	103 %	2 %	70 - 130 %	25%
79-34-5	1,1,2,2-Tetrachloroethane	10	10	103 %	10	11	109 %	6 %	70 - 130 %	25%
96-18-4	1,2,3-Trichloropropane	10	11	107 %	10	11	113 %	5 %	70 - 130 %	25%
103-65-1	<i>n</i> -Propylbenzene	10	11	109 %	10	11	108 %	0 %	70 - 130 %	25%
95-49-8	2-Chlorotoluene	10	11	105 %	10	10	104 %	1 %	70 - 130 %	25%
108-67-8	1,3,5-Trimethylbenzene	10	11	108 %	10	11	106 %	2 %	70 - 130 %	25%
106-43-4	4-Chlorotoluene	10	11	107 %	10	11	105 %	2 %	70 - 130 %	25%
98-06-6	<i>tert</i> -Butylbenzene	10	11	105 %	10	10	103 %	2 %	70 - 130 %	25%
95-63-6	1,2,4-Trimethylbenzene	10	11	107 %	10	11	107 %	0 %	70 - 130 %	25%
135-98-8	<i>sec</i> -Butylbenzene	10	11	107 %	10	11	105 %	1 %	70 - 130 %	25%
541-73-1	1,3-Dichlorobenzene	10	10	103 %	10	10	100 %	3 %	70 - 130 %	25%
99-87-6	4-Isopropyltoluene	10	11	108 %	10	11	105 %	3 %	70 - 130 %	25%
106-46-7	1,4-Dichlorobenzene	10	10	102 %	10	10	102 %	0 %	70 - 130 %	25%
95-50-1	1,2-Dichlorobenzene	10	10	100 %	10	9.9	99 %	0 %	70 - 130 %	25%
104-51-8	<i>n</i> -Butylbenzene	10	10	105 %	10	10	103 %	2 %	70 - 130 %	25%
96-12-8	1,2-Dibromo-3-chloropropane	10	11	108 %	10	11	114 %	5 %	70 - 130 %	25%
120-82-1	1,2,4-Trichlorobenzene	10	11	106 %	10	11	107 %	0 %	70 - 130 %	25%
87-68-3	Hexachlorobutadiene	10	11	112 %	10	11	111 %	1 %	70 - 130 %	25%
91-20-3	Naphthalene	10	10	103 %	10	11	108 %	4 %	70 - 130 %	25%
87-61-6	1,2,3-Trichlorobenzene	10	11	106 %	10	11	107 %	1 %	70 - 130 %	25%
75-65-0	<i>tert</i> -Butyl Alcohol (TBA)	200	200	98 %	200	170	83 %	17 %	70 - 130 %	25%
108-20-3	Di-isopropyl Ether (DIPE)	10	8.7	87 %	10	8.8	88 %	1 %	70 - 130 %	25%
637-92-3	Ethyl <i>tert</i> -butyl Ether (ETBE)	10	8.4	84 %	10	8.5	85 %	1 %	70 - 130 %	25%
994-05-8	<i>tert</i> -Amyl Methyl Ether (TAME)	10	8.3	83 %	10	8.4	84 %	1 %	70 - 130 %	25%

QC Surrogate Compound	Spiked	Measured	Recovery	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	10	9.3	93 %	10	9.4	94 %	70 - 130 %
1,2-Dichloroethane-d ₄	10	7.8	78 %	10	7.8	78 %	70 - 130 %
Toluene-d ₈	10	9.4	94 %	10	9.1	91 %	70 - 130 %
4-Bromofluorobenzene	10	9.7	97 %	10	9.6	96 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample preparation performed by EPA Method 5030B.

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology,
or alternatively based upon the historical average recovery plus or minus three standard deviation units.

**Quality Control Report
Method Blank**

Category: **EPA Method 8260B**
 QC Batch ID: **VM4-3447-WB**
 Matrix: **Aqueous**

Instrument ID: **MS-4 HP 6890**
 Analyzed: **02-17-06 09:26**
 Analyst: **KMC**

Page: 1 of 2

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/L	0.5
74-87-3	Chloromethane	BRL		ug/L	0.5
75-01-4	Vinyl Chloride	BRL		ug/L	0.5
74-83-9	Bromomethane	BRL		ug/L	0.5
75-00-3	Chloroethane	BRL		ug/L	0.5
75-69-4	Trichlorofluoromethane	BRL		ug/L	0.5
60-29-7	Diethyl Ether	BRL		ug/L	2
75-35-4	1,1-Dichloroethene	BRL		ug/L	0.5
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/L	5
67-64-1	Acetone	BRL		ug/L	10
75-15-0	Carbon Disulfide	BRL		ug/L	5
75-09-2	Methylene Chloride	BRL		ug/L	2.5
156-60-5	<i>trans</i> -1,2-Dichloroethene	BRL		ug/L	0.5
1634-04-4	Methyl <i>tert</i> -butyl Ether (MTBE)	BRL		ug/L	0.5
75-34-3	1,1-Dichloroethane	BRL		ug/L	0.5
594-20-7	2,2-Dichloropropane	BRL		ug/L	0.5
156-59-2	<i>cis</i> -1,2-Dichloroethene	BRL		ug/L	0.5
78-93-3	2-Butanone (MEK)	BRL		ug/L	5
74-97-5	Bromochloromethane	BRL		ug/L	0.5
109-99-9	Tetrahydrofuran (THF)	BRL		ug/L	5
67-66-3	Chloroform	BRL		ug/L	0.5
71-55-6	1,1,1-Trichloroethane	BRL		ug/L	0.5
56-23-5	Carbon Tetrachloride	BRL		ug/L	0.5
563-58-6	1,1-Dichloropropene	BRL		ug/L	0.5
71-43-2	Benzene	BRL		ug/L	0.5
107-06-2	1,2-Dichloroethane	BRL		ug/L	0.5
79-01-6	Trichloroethene	BRL		ug/L	0.5
78-87-5	1,2-Dichloropropane	BRL		ug/L	0.5
74-95-3	Dibromomethane	BRL		ug/L	0.5
75-27-4	Bromodichloromethane	BRL		ug/L	0.5
123-91-1	1,4-Dioxane	BRL		ug/L	500
10061-01-5	<i>cis</i> -1,3-Dichloropropene	BRL		ug/L	0.5
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/L	5
108-88-3	Toluene	BRL		ug/L	0.5
10061-02-6	<i>trans</i> -1,3-Dichloropropene	BRL		ug/L	0.5
79-00-5	1,1,2-Trichloroethane	BRL		ug/L	0.5
127-18-4	Tetrachloroethene	BRL		ug/L	0.5
142-28-9	1,3-Dichloropropane	BRL		ug/L	0.5
591-78-6	2-Hexanone	BRL		ug/L	5
124-48-1	Dibromochloromethane	BRL		ug/L	0.5
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/L	0.5
108-90-7	Chlorobenzene	BRL		ug/L	0.5
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/L	0.5
100-41-4	Ethylbenzene	BRL		ug/L	0.5
108-38-3/106-42-3	<i>meta</i> -Xylene and <i>para</i> -Xylene	BRL		ug/L	0.5
95-47-6	<i>ortho</i> -Xylene	BRL		ug/L	0.5
100-42-5	Styrene	BRL		ug/L	0.5
75-25-2	Bromoform	BRL		ug/L	0.5
98-82-8	Isopropylbenzene	BRL		ug/L	0.5

**Quality Control Report
Method Blank**

Category: **EPA Method 8260B**
 QC Batch ID: **VM4-3447-WB**
 Matrix: **Aqueous**

Instrument ID: **MS-4 HP 6890**
 Analyzed: **02-17-06 09:26**
 Analyst: **KMC**

Page: 2 of 2

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
108-86-1	Bromobenzene	BRL		ug/L	0.5
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/L	0.5
96-18-4	1,2,3-Trichloropropane	BRL		ug/L	0.5
103-65-1	<i>n</i> -Propylbenzene	BRL		ug/L	0.5
95-49-8	2-Chlorotoluene	BRL		ug/L	0.5
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/L	0.5
106-43-4	4-Chlorotoluene	BRL		ug/L	0.5
98-06-6	<i>tert</i> -Butylbenzene	BRL		ug/L	0.5
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/L	0.5
135-98-8	<i>sec</i> -Butylbenzene	BRL		ug/L	0.5
541-73-1	1,3-Dichlorobenzene	BRL		ug/L	0.5
99-87-6	4-Isopropyltoluene	BRL		ug/L	0.5
106-46-7	1,4-Dichlorobenzene	BRL		ug/L	0.5
95-50-1	1,2-Dichlorobenzene	BRL		ug/L	0.5
104-51-8	<i>n</i> -Butylbenzene	BRL		ug/L	0.5
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/L	0.5
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/L	0.5
87-68-3	Hexachlorobutadiene	BRL		ug/L	0.5
91-20-3	Naphthalene	BRL		ug/L	0.5
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/L	0.5
75-65-0	<i>tert</i> -Butyl Alcohol (TBA)	BRL		ug/L	20
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/L	0.5
637-92-3	Ethyl <i>tert</i> -butyl Ether (ETBE)	BRL		ug/L	0.5
994-05-8	<i>tert</i> -Amyl Methyl Ether (TAME)	BRL		ug/L	0.5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	10	11	113 %	70 - 130 %
1,2-Dichloroethane-d ₄	10	8.8	88 %	70 - 130 %
Toluene-d ₈	10	11	110 %	70 - 130 %
4-Bromofluorobenzene	10	9.3	93 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Sample preparation performed by EPA Method 5030B.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

**Quality Control Report
Laboratory Control Sample**

Category: **EPA Method 504.1**
 QC Batch ID: **PV-0817-E**
 Matrix: **Aqueous**
 Units: **ug/L**

Instrument ID: **GC-5 HP 5890**
 Extracted: **02-21-06 09:45**
 Analyzed: **02-21-06 13:31**
 Analyst: **CRL**

CAS Number	Analyte	Spiked	Measured		Recovery		QC Limits
			1st Column	2nd Column	1st Column	2nd Column	
106-93-4	1,2-Dibromoethane (EDB)	0.20	0.20	0.20	102 %	101 %	70 - 130 %
96-12-8	1,2-Dibromo-3-Chloropropane (DBC)	0.20	0.20	0.21	100 %	105 %	70 - 130 %

Method Reference: Methods for the Determination of Organic Compounds in Drinking Water, Supplement III, US EPA, EPA-600/R-95/131 (1995). Method Revision 1.1.

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

**Quality Control Report
Method Blank**

Category: **EPA Method 504.1**
QC Batch ID: **PV-0817-E**
Matrix: **Aqueous**

Instrument ID: **GC-5 HP 5890**
Extracted: **02-21-06 09:45**
Analyzed: **02-21-06 15:25**
Analyst: **CRL**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/L	0.02
96-12-8	1,2-Dibromo-3-Chloropropane (DBCP)	BRL		ug/L	0.02

Method Reference: Methods for the Determination of Organic Compounds in Drinking Water, Supplement III, US EPA, EPA-600/R-95/131 (1995). Method Revision 1.1.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

**Quality Control Report
Laboratory Control Samples**

Category:	EPA 8082	LCS	Instrument ID:	GC-6 HP 5890	LCS D	Instrument ID:	GC-6 HP 5890
QC Batch ID:	PB-2206-F		Extracted:	02-17-06 14:00		Extracted:	02-17-06 14:00
Matrix:	Aqueous		Cleaned Up:	02-19-06 12:00		Cleaned Up:	02-19-06 12:00
Units:	ug/L		Analyzed:	02-21-06 16:02		Analyzed:	02-21-06 16:37
			Analyst:	CRL		Analyst:	CRL

CAS Number	Analyte	LCS					LCS Duplicate						QC Limits		
		Spiked	Measured		Recovery		Spiked	Measured		Recovery		RPD		Spike	RPD
			1st Col	2nd Col	1st Col	2nd Col		1st Col	2nd Col	1st Col	2nd Col	1st Col	2nd Col		
12674-11-2	Aroclor 1016	5.0	5.0	4.9	99%	99%	5.0	4.8	4.7	95%	95%	4 %	4 %	40 - 140%	30 %
11096-82-5	Aroclor 1260	5.0	5.3	5.4	106%	107%	5.0	5.2	5.3	103%	106%	2 %	1 %	40 - 140%	30 %

QC Surrogate Compound	Surrogate Recovery											QC Limits	
Tetrachloro- <i>m</i> -xylene	0.20	0.20	0.20	98%	99%	0.20	0.18	0.18	90%	89%			30 - 150 %
Decachlorobiphenyl	0.20	0.21	0.21	106%	104%	0.20	0.22	0.21	108%	104%			30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3510C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

**Quality Control Report
Method Blank**

Category: **EPA Method 8082**
 QC Batch ID: **PB-2206-F**
 Matrix: **Aqueous**

Instrument ID: **GC-6 HP 5890**
 Extracted: **02-17-06 14:00**
 Cleaned Up: **02-19-06 12:00**
 Analyzed: **02-21-06 14:52**
 Analyst: **CRL**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/L	0.2
11104-28-2	Aroclor 1221	BRL		ug/L	0.2
11141-16-5	Aroclor 1232	BRL		ug/L	0.2
53469-21-9	Aroclor 1242	BRL		ug/L	0.2
12672-29-6	Aroclor 1248	BRL		ug/L	0.2
11097-69-1	Aroclor 1254	BRL		ug/L	0.2
11096-82-5	Aroclor 1260	BRL		ug/L	0.2
37324-23-5	Aroclor 1262 [†]	BRL		ug/L	0.2
11100-14-4	Aroclor 1268 [†]	BRL		ug/L	0.2

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro- <i>m</i> -xylene	0.20	0.20	99 %	30 - 150 %
	Decachlorobiphenyl	0.20	0.22	110 %	30 - 150 %
Second Column	Tetrachloro- <i>m</i> -xylene	0.20	0.20	99 %	30 - 150 %
	Decachlorobiphenyl	0.20	0.20	99 %	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Sample extraction performed by EPA Method 3510C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
 † Non-target analyte. Result is based on a single mid-range calibration standard.

**Quality Control Report
Laboratory Control Samples**

Category:	EPA 8270C (Part 2)	LCS	Instrument ID:	MS-3 HP 5890	LCSD	Instrument ID:	MS-6 HP 6890
QC Batch ID:	SV-1837-F		Extracted:	02-17-06 11:00		Extracted:	02-17-06 11:00
Matrix:	Aqueous		Analyzed:	02-22-06 11:45		Analyzed:	02-22-06 12:24
Units:	ug/L		Analyst:	CMM		Analyst:	CMM

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
91-20-3	Naphthalene	5.0	3.2	63 %	5.0	3.2	63 %	0 %	40 - 140 %	25%
91-57-6	2-Methylnaphthalene	5.0	3.6	72 %	5.0	3.6	71 %	1 %	40 - 140 %	25%
208-96-8	Acenaphthylene	5.0	4.1	82 %	5.0	4.1	81 %	0 %	40 - 140 %	25%
83-32-9	Acenaphthene	5.0	4.0	81 %	5.0	4.1	81 %	1 %	40 - 140 %	25%
86-73-7	Fluorene	5.0	4.4	87 %	5.0	4.4	89 %	1 %	40 - 140 %	25%
85-01-8	Phenanthrene	5.0	4.3	85 %	5.0	4.3	85 %	0 %	40 - 140 %	25%
120-12-7	Anthracene	5.0	4.4	89 %	5.0	4.4	89 %	0 %	40 - 140 %	25%
206-44-0	Fluoranthene	5.0	4.7	93 %	5.0	4.7	93 %	0 %	40 - 140 %	25%
129-00-0	Pyrene	5.0	4.5	90 %	5.0	4.6	93 %	2 %	40 - 140 %	25%
56-55-3	Benzo[a]anthracene	5.0	4.8	96 %	5.0	4.9	98 %	2 %	40 - 140 %	25%
218-01-9	Chrysene	5.0	4.6	91 %	5.0	4.7	93 %	2 %	40 - 140 %	25%
205-99-2	Benzo[b]fluoranthene	5.0	4.5	90 %	5.0	4.6	92 %	2 %	40 - 140 %	25%
207-08-9	Benzo[k]fluoranthene	5.0	4.4	87 %	5.0	4.4	89 %	2 %	40 - 140 %	25%
50-32-8	Benzo[a]pyrene	5.0	4.5	91 %	5.0	4.7	93 %	3 %	40 - 140 %	25%
193-39-5	Indeno[1,2,3-c,d]pyrene	5.0	4.6	93 %	5.0	4.7	93 %	0 %	40 - 140 %	25%
53-70-3	Dibenzo[a,h]anthracene	5.0	4.5	89 %	5.0	4.6	92 %	3 %	40 - 140 %	25%
191-24-2	Benzo[g,h,i]perylene	5.0	5.1	101 %	5.0	5.2	103 %	2 %	40 - 140 %	25%
87-68-3	Hexachlorobutadiene	5.0	4.5	90 %	5.0	4.4	87 %	3 %	40 - 140 %	25%
118-74-1	Hexachlorobenzene	5.0	5.9	118 %	5.0	5.8	116 %	2 %	40 - 140 %	25%
87-86-5	Pentachlorophenol	5.0	5.6	112 %	5.0	5.6	112 %	1 %	30 - 130 %	25%

QC Surrogate Compound	Spiked	Measured	Recovery	Spiked	Measured	Recovery	QC Limits
2-Fluorophenol	20	12	59 %	20	11	56 %	15 - 110 %
Phenol-d5	20	10	48 %	20	9	47 %	15 - 110 %
Nitrobenzene-d5	10	9	90 %	10	9	88 %	30 - 130 %
2-Fluorobiphenyl	10	8	82 %	10	8	82 %	30 - 130 %
2,4,6-Tribromophenol	20	21	103 %	20	20	102 %	15 - 110 %
Terphenyl-d14	10	9	85 %	10	9	86 %	30 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3510C.

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

**Quality Control Report
Method Blank**

Category: **EPA Method 8270C (Part 2)**
 QC Batch ID: **SV-1837-F**
 Matrix: **Aqueous**

Instrument ID: **MS-6 HP 6890**
 Extracted: **02-17-06 11:00**
 Analyzed: **02-22-06 13:03**
 Analyst: **CMM**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		ug/L	0.5
91-57-6	2-Methylnaphthalene	BRL		ug/L	0.5
208-96-8	Acenaphthylene	BRL		ug/L	0.5
83-32-9	Acenaphthene	BRL		ug/L	0.5
86-73-7	Fluorene	BRL		ug/L	0.5
85-01-8	Phenanthrene	BRL		ug/L	0.5
120-12-7	Anthracene	BRL		ug/L	0.5
206-44-0	Fluoranthene	BRL		ug/L	0.5
129-00-0	Pyrene	BRL		ug/L	0.5
56-55-3	Benzo[a]anthracene	BRL		ug/L	0.1
218-01-9	Chrysene	BRL		ug/L	0.1
205-99-2	Benzo[b]fluoranthene	BRL		ug/L	0.1
207-08-9	Benzo[k]fluoranthene	BRL		ug/L	0.1
50-32-8	Benzo[a]pyrene	BRL		ug/L	0.1
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/L	0.1
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/L	0.1
191-24-2	Benzo[g,h,i]perylene	BRL		ug/L	0.1
87-68-3	Hexachlorobutadiene	BRL		ug/L	0.5
118-74-1	Hexachlorobenzene	BRL		ug/L	0.5
87-86-5	Pentachlorophenol	BRL		ug/L	1.0

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2-Fluorophenol	20	10	50 %	15 - 110 %
Phenol-d5	20	8.7	43 %	15 - 110 %
Nitrobenzene-d5	10	7.8	78 %	30 - 130 %
2-Fluorobiphenyl	10	7.5	75 %	30 - 130 %
2,4,6-Tribromophenol	20	17	85 %	15 - 110 %
Terphenyl-d14	10	8.6	86 %	30 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Method modified by use of selected ion monitoring (SIM) in accordance with Section 7.5.5 of the method.
 Sample extraction performed by EPA Method 3510C.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

Quality Control Report Laboratory Control Samples

Category:	EPA 8270C (Part 1)	LCS	Instrument ID:	MS-3 HP 5890	LCSD	Instrument ID:	MS-3 HP 5890
QC Batch ID:	SV-1837-F		Extracted:	02-17-06 11:00		Extracted:	02-17-06 11:00
Matrix:	Aqueous		Analyzed:	02-21-06 14:29		Analyzed:	02-21-06 15:10
Units:	ug/L		Analyst:	CMM		Analyst:	CMM

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
108-95-2	Phenol	50	21	42 %	50	22	44 %	4 %	30 - 130 %	25%
95-48-7	2-Methylphenol	50	35	71 %	50	36	72 %	1 %	30 - 130 %	25%
106-44-5	4-Methylphenol	50	36	71 %	50	35	70 %	1 %	30 - 130 %	25%
88-75-5	2-Nitrophenol	50	39	77 %	50	38	76 %	2 %	30 - 130 %	25%
105-67-9	2,4-Dimethylphenol	50	38	76 %	50	37	73 %	3 %	30 - 130 %	25%
120-83-2	2,4-Dichlorophenol	50	38	76 %	50	38	76 %	1 %	30 - 130 %	25%
59-50-7	4-Chloro-3-methylphenol	50	38	76 %	50	39	78 %	3 %	30 - 130 %	25%
88-06-2	2,4,6-Trichlorophenol	50	38	76 %	50	38	76 %	0 %	30 - 130 %	25%
95-95-4	2,4,5-Trichlorophenol	50	42	84 %	50	42	84 %	1 %	30 - 130 %	25%
131-11-3	Dimethyl phthalate	50	45	91 %	50	46	92 %	1 %	40 - 140 %	25%
51-28-5	2,4-Dinitrophenol	50	39	78 %	50	39	79 %	2 %	30 - 130 %	25%
100-02-7	4-Nitrophenol	50	22	43 %	50	22	44 %	3 %	30 - 130 %	25%
84-66-2	Diethyl phthalate	50	45	90 %	50	45	90 %	0 %	40 - 140 %	25%
534-52-1	4,6-Dinitro-2-methylphenol	50	41	82 %	50	40	81 %	2 %	30 - 130 %	25%
84-74-2	Di-n-butyl phthalate	50	45	91 %	50	44	88 %	3 %	40 - 140 %	25%
85-68-7	Butyl benzyl phthalate	50	42	84 %	50	42	83 %	1 %	40 - 140 %	25%
117-81-7	Bis(2-ethylhexyl) phthalate	50	44	88 %	50	42	84 %	4 %	40 - 140 %	25%
117-84-0	Di-n-octyl phthalate	50	46	92 %	50	44	89 %	4 %	40 - 140 %	25%

QC Surrogate Compound	Spiked	Measured	Recovery	Spiked	Measured	Recovery	QC Limits
2-Fluorophenol	20	12	58 %	20	12	58 %	15 - 110 %
Phenol-d5	20	9	44 %	20	9	45 %	15 - 110 %
Nitrobenzene-d5	10	8	78 %	10	8	77 %	30 - 130 %
2-Fluorobiphenyl	10	9	87 %	10	9	88 %	30 - 130 %
2,4,6-Tribromophenol	20	16	78 %	20	17	83 %	15 - 110 %
Terphenyl-d14	10	8	83 %	10	8	81 %	30 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3510C.

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

- † Reported as sum of N-Nitrosodiphenylamine and Diphenylamine.
- ◇ Analyzed as Azobenzene.

**Quality Control Report
Method Blank**

Category: **EPA Method 8270C (Part 1)**
 QC Batch ID: **SV-1837-F**
 Matrix: **Aqueous**

Instrument ID: **MS-3 HP 5890**
 Extracted: **02-17-06 11:00**
 Analyzed: **02-21-06 15:51**
 Analyst: **CMM**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
108-95-2	Phenol	BRL		ug/L	5
95-57-8	2-Chlorophenol	BRL		ug/L	5
95-48-7	2-Methylphenol	BRL		ug/L	5
88-75-5	2-Nitrophenol	BRL		ug/L	5
105-67-9	2,4-Dimethylphenol	BRL		ug/L	5
120-83-2	2,4-Dichlorophenol	BRL		ug/L	5
59-50-7	4-Chloro-3-methylphenol	BRL		ug/L	5
88-06-2	2,4,6-Trichlorophenol	BRL		ug/L	5
95-95-4	2,4,5-Trichlorophenol	BRL		ug/L	5
131-11-3	Dimethyl phthalate	BRL		ug/L	5
51-28-5	2,4-Dinitrophenol	BRL		ug/L	5
100-02-7	4-Nitrophenol	BRL		ug/L	5
84-66-2	Diethyl phthalate	BRL		ug/L	5
534-52-1	4,6-Dinitro-2-methylphenol	BRL		ug/L	5
84-74-2	Di- <i>n</i> -butyl phthalate	BRL		ug/L	5
85-68-7	Butyl benzyl phthalate	BRL		ug/L	5
117-81-7	Bis(2-ethylhexyl) phthalate	BRL		ug/L	5
117-84-0	Di- <i>n</i> -octyl phthalate	BRL		ug/L	5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2-Fluorophenol	20	8.1	40 %	15 - 110 %
Phenol-d5	20	6	30 %	15 - 110 %
Nitrobenzene-d5	10	5.4	54 %	30 - 130 %
2-Fluorobiphenyl	10	6.3	63 %	30 - 130 %
2,4,6-Tribromophenol	20	11	57 %	15 - 110 %
Terphenyl-d14	10	6.6	66 %	30 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Sample extraction performed by EPA Method 3510C.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
 * Analyzed as 4-Methylphenol.
 † Reported as sum of N-Nitrosodiphenylamine and Diphenylamine.
 ◇ Analyzed as Azobenzene.

**Quality Control Report
Laboratory Control Sample**

Category: **Inorganic Chemistry**

Matrix: **Aqueous**

Analyte	Units	Spiked	Measured	Recovery	QC Limits	Analyzed	QC Batch	Method	Inst	Analyst
Solids, Total Suspended	mg/L	94	94	100 %	80 - 120 %	02-16-06 09:14	TSS-1191-W	SM 2540 D	3	MW
Chlorine, Total Residual	mg/L	1.0	0.98	98 %	80 - 120 %	02-14-06 19:30	TRC-0409-W	SM 4500-Cl G	2	LJD
Oil and Grease, Total	mg/L	40	37	92 %	78 - 114 %	02-17-06 09:00	HO-0206-W	EPA 1664	3	DEB

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

- 1 Instrument ID: Lachat 8000 Autoanalyzer
- 2 Instrument ID: Milton Roy Spectronic 401
- 3 Instrument ID: Mettler AT 200 Balance

**Quality Control Report
Method Blank**

Category: **Inorganic Chemistry**

Matrix: **Aqueous**

Analyte	Result	Units	RL	Analyzed	QC Batch	Method	Inst	Analyst
Solids, Total Suspended	BRL	mg/L	2	02-16-06 09:14	TSS-1191-W	SM 2540 D	3	MW
Chlorine, Total Residual	BRL	mg/L	0.2	02-14-06 19:30	TRC-0409-W	SM 4500-Cl G	2	LJD
Chromium, Hexavalent	BRL	mg/L	0.01	02-14-06 20:47	HC-0251-W	EPA 7196A	1	DDW
Oil and Grease, Total	BRL	mg/L	5	02-17-06 09:00	HO-0206-W	EPA 1664	3	DEB
Cyanide, Total	BRL	mg/L	0.01	02-16-06 10:05	TCN-1158-W	EPA 9012A	1	AVB

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

RL Reporting Limit.

1 Instrument ID: Lachat 8000 Autoanalyzer

2 Instrument ID: Milton Roy Spectronic 401

3 Instrument ID: Mettler AT 200 Balance

**Quality Control Report
Laboratory Control Samples**

Category: **Inorganics**
Matrix: **Aqueous**
Units: **mg/L**

<u>Sample Type</u>	<u>Method</u>	<u>QC Batch ID</u>	<u>Prep Method</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Instrument ID</u>	<u>Analyst</u>
LCS	EPA 7196A	HC-0251-W	EPA 7196A	2/14/2006 20:00	2/14/2006 20:47	Lachat 8000 Autoanalyzer	DDW
LCSD	EPA 7196A	HC-0251-W	EPA 7196A	2/14/2006 20:00	2/14/2006 20:48	Lachat 8000 Autoanalyzer	DDW

Analyte	LCS			LCS Duplicate				QC Limits		Method
	Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	LCS	RPD	
Chromium, Hexavalent	0.10	0.11	107%	0.10	0.11	105%	1 %	80-120%	20 %	EPA 7196A

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised (1983), and
Methods for the Determination of Metals in Environmental Samples, Supplement I, EPA-600/R-94-111,
(1994), and 40 C.F.R. 136, Appendix C (1990).

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology,
or alternatively based upon the historical average recovery plus or minus three standard deviation units.

**Quality Control Report
Laboratory Control Samples**

Category: **Inorganics**
 Matrix: **Aqueous**
 Units: **mg/L**

<u>Sample Type</u>	<u>Method</u>	<u>QC Batch ID</u>	<u>Prep Method</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Instrument ID</u>	<u>Analyst</u>
LCS	EPA 9012A	TCN-1158-W	EPA 9012A	2/15/2006 11:10	2/16/2006 10:05	Lachat 8000 Autoanalyzer	AVB
LCSD	EPA 9012A	TCN-1158-W	EPA 9012A	2/15/2006 11:10	2/16/2006 10:06	Lachat 8000 Autoanalyzer	AVB

Analyte	LCS			LCS Duplicate				QC Limits		Method
	Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	LCS	RPD	
Cyanide, Total	0.45	0.46	102%	0.45	0.47	103%	1 %	80-120%	20 %	EPA 9012A

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised (1983), and
 Methods for the Determination of Metals in Environmental Samples, Supplement I, EPA-600/R-94-111,
 (1994), and 40 C.F.R. 136, Appendix C (1990).

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology,
 or alternatively based upon the historical average recovery plus or minus three standard deviation units.

**Quality Control Report
Laboratory Control Samples**

Category: **Metals**
Matrix: **Aqueous**
Units: **mg/L**

Sample Type	Method	QC Batch ID	Prep Method	Prepared	Analyzed	Instrument ID	Analyst
LCS	EPA 7041	MB-1937-WL	EPA 3010A	02-15-06 08:52	02-22-06 18:05	GFAA-1 PE 5100 Zeeman	MWR
LCS	EPA 6010B	MB-1937-WL	EPA 3010A	02-15-06 08:52	02-17-06 15:40	ICP-2 PE 3300	MWR
LCS	EPA 7470A	MP-1798-WL	EPA 7470A	02-15-06 08:45	02-15-06 12:43	CVAA-1 PE FIMS	KLB
LCS	EPA 7041	MB-1937-WL	EPA 3010A	02-15-06 08:52	02-15-06 12:46	GFAA-1 PE 5100 Zeeman	MWR
LCS	EPA 6010B	MB-1937-WL	EPA 3010A	02-15-06 08:52	02-21-06 03:15	ICP-2 PE 3300	MWR
LCS	EPA 7470A	MP-1798-WL	EPA 7470A	02-15-06 08:45	02-15-06 12:46	CVAA-1 PE FIMS	KLB

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits		Method
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	LCS	RPD	
7440-36-0	Antimony	0.050	0.047	93%	0.050	0.047	93%	0 %	80-120 %	20 %	EPA 7041
7440-38-2	Arsenic	5.0	5.2	104%	5.0	5.1	102%	1 %	80-120 %	20 %	EPA 6010B
7440-43-9	Cadmium	1.0	1.0	101%	1.0	1.0	100%	0 %	80-120 %	20 %	EPA 6010B
7440-47-3	Chromium	1.0	1.0	101%	1.0	1.0	100%	0 %	80-120 %	20 %	EPA 6010B
7440-50-8	Copper	1.0	1.0	101%	1.0	1.0	100%	0 %	80-120 %	20 %	EPA 6010B
7439-89-6	Iron	5.0	5.0	99%	5.0	4.9	99%	0 %	80-120 %	20 %	EPA 6010B
7439-92-1	Lead	0.050	0.051	101%	0.050	0.049	97%	2 %	80-120 %	20 %	EPA 6010B
7439-97-6	Mercury	0.0010	0.0011	108%	0.0010	0.0011	106%	1 %	80-120 %	20 %	EPA 7470A
7440-02-0	Nickel	1.0	0.99	99%	1.0	0.98	98%	1 %	80-120 %	20 %	EPA 6010B
7782-49-2	Selenium	0.050	0.049	98%	0.050	0.049	99%	1 %	80-120 %	20 %	EPA 7740
7440-22-4	Silver	1.0	1.1	106%	1.0	1.1	105%	0 %	80-120 %	20 %	EPA 6010B
7440-66-6	Zinc	1.0	0.94	94%	1.0	0.92	92%	1 %	80-120 %	20 %	EPA 6010B

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

**Quality Control Report
Method Blank**

Category: **Metals**
Matrix: **Aqueous**

<u>Analysis Method</u>	<u>QC Batch ID</u>	<u>Prep Method</u>	<u>Prepared</u>	<u>Sample Volume</u>	<u>Instrument ID</u>	<u>Analyst</u>
EPA 7421	MB-1937-WB	EPA 3010A	02-15-06 08:52	50 mL	GFAA-1 PE 5100 Zeeman	MWR
EPA 7740	MB-1937-WB	EPA 3010A	02-15-06 08:52	50 mL	ICP-2 PE 3300	MWR
EPA 7041	MB-1937-WB	EPA 3010A	02-15-06 08:52	50 mL	GFAA-1 PE 5100 Zeeman	MWR
EPA 6010B	MB-1937-WB	EPA 3010A	02-15-06 08:52	50 mL	ICP-2 PE 3300	MWR
EPA 7470A	MP-1798-WB	EPA 7470A	02-15-06 08:45	25 mL	CVAA-1 PE FIMS	KLB

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-36-0	Antimony		BRL	mg/L	0.003	1	02-22-06 12:54	EPA 7041
7440-38-2	Arsenic		BRL	mg/L	0.01	1	02-17-06 15:37	EPA 6010B
7440-43-9	Cadmium		BRL	mg/L	0.005	1	02-17-06 15:37	EPA 6010B
7440-47-3	Chromium		BRL	mg/L	0.01	1	02-17-06 15:37	EPA 6010B
7440-50-8	Copper		BRL	mg/L	0.025	1	02-17-06 15:37	EPA 6010B
7439-89-6	Iron		BRL	mg/L	0.1	1	02-17-06 15:36	EPA 6010B
7439-92-1	Lead		BRL	mg/L	0.005	1	02-16-06 16:29	EPA 7421
7439-97-6	Mercury		BRL	mg/L	0.0002	1	02-15-06 12:43	EPA 7470A
7440-02-0	Nickel		BRL	mg/L	0.04	1	02-17-06 15:37	EPA 6010B
7782-49-2	Selenium		BRL	mg/L	0.005	1	02-21-06 15:07	EPA 7740
7440-22-4	Silver		BRL	mg/L	0.007	1	02-17-06 15:37	EPA 6010B
7440-66-6	Zinc		BRL	mg/L	0.2	1	02-17-06 15:37	EPA 6010B

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
DF Dilution Factor.

Certifications and Approvals

Groundwater Analytical maintains environmental laboratory certification in a variety of states. Copies of our current certificates may be obtained from our website:

<http://www.groundwateranalytical.com/qualifications.htm>

CONNECTICUT, Department of Health Services, PH-0586

Categories: Potable Water, Wastewater, Solid Waste and Soil
http://www.dph.state.ct.us/BRS/Environmental_Lab/OutStateLabList.htm

FLORIDA, Department of Health, Bureau of Laboratories, E87643

Categories: SDWA, CWA, RCRA/CERCLA
<http://www.floridadep.org/labs/qa/dohforms.htm>

MAINE, Department of Human Services, MA103

Categories: Drinking Water and Wastewater
<http://www.state.me.us/dhs/eng/water/Compliance.htm>

MASSACHUSETTS, Department of Environmental Protection, M-MA-103

Categories: Potable Water and Non-Potable Water
<http://www.state.ma.us/dep/bspt/wes/files/certlabs.pdf>

NEW HAMPSHIRE, Department of Environmental Services, 202703

Categories: Drinking Water and Wastewater
<http://www.des.state.nh.us/asp/NHELAP/labsview.asp>

NEW YORK, Department of Health, 11754

Categories: Potable Water, Non-Potable Water and Solid Waste
<http://www.wadsworth.org/labcert/elap/comm.html>

PENNSYLVANIA, Department of Environmental Protection, 68-665

Environmental Laboratory Registration (Non-drinking water and Non-wastewater)
<http://www.dep.state.pa.us/Labs/Registered/>

RHODE ISLAND, Department of Health, 54

Categories: Surface Water, Air, Wastewater, Potable Water, Sewage
http://www.healthri.org/labs/labsCT_MA.htm

U.S. Department of Agriculture, Soil Permit, S-53921

Foreign soil import permit

VERMONT, Department of Environmental Conservation, Water Supply Division

Category: Drinking Water
<http://www.vermontdrinkingwater.org/wsops/labtable.PDF>