



MAG 9/10/09

Fed Ex Tracking #796477346660
March 31, 2009

Mr. Victor Alvarez
United States Environmental Protection Agency
Region I
Congress Street
Suite 1100
Boston, Massachusetts 02114-2023

Re: Notice of Intent for Application of a Remediation General Permit
Mobil Service Station #01-021
1269 Furnace Brook Parkway
Quincy, Massachusetts

Dear Mr. Alvarez;

Kleinfelder, on behalf of ExxonMobil Oil Corporation (ExxonMobil), has prepared this Notice of Intent (NOI) for application of a Remediation General Permit (RGP) for upcoming activities at Mobil Service Station #01-021 (11666), 1269 Furnace Brook Parkway, Quincy, MA. This NOI is for the discharge generated during dewatering activities associated with the removal of three gasoline and one used oil underground storage tanks (USTs) and associated dispensers and piping, and the installation of two new compartmentalized (gasoline and gasoline/diesel split) USTs. During these activities, site will be excavated to approximately seventeen feet below grade for the installation of the new USTs. The site is currently an active gasoline station.

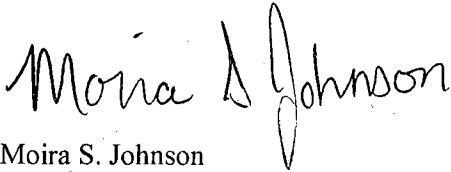
Groundwater on site has been gauged at approximately ten feet below grade. Based on slug testing, the flow of water into the excavation is anticipated to be between four and twenty-five gallons per minute. For the purposes of design, Kleinfelder anticipates pumping and treating approximately fifty gallons per minute from the excavation before discharging treated effluent into a catch basin located approximately 100 feet west of site along Miller Street. This catch basin discharges into Furnace Brook approximately 200 feet west of the catch basin. It should be noted that the brook is culverted at the point of discharge. Furnace Brook discharges into Blacks Creek and then into Quincy Bay approximately 1.5 miles northeast of site.

Groundwater sampling completed on March 13, 2009 from an onsite monitoring well (MW-101) indicates that the system influent will potentially contain metals, total suspended solids and cyanide above effluent standards if left untreated. Concentrations of benzene, toluene, ethylbenzene, and xylenes (BTEX), naphthalene, and Group II Polynuclear Aromatic Hydrocarbons (PAHs) were detected below applicable effluent limits. Anticipated treatment includes fractionation tanks, bag filters, granular activated carbon units, metals treatment, and the addition of an additive to adjust pH to standards.

The excavation, dewatering, and discharge are anticipated to begin in mid April, 2009 pending permitting and last for approximately six weeks. A Notice of Intent will be filed with the Town of Quincy Conservation Commission and Massachusetts Department of Environmental Protection (MADEP) for the UST project.

If you have any questions please do not hesitate to contact the undersigned at 978-486-0060.

Sincerely,
KLEINFELDER

A handwritten signature in black ink that reads "Moira S. Johnson". The signature is written in a cursive style with a large, stylized "M" and "J".

Moira S. Johnson
Project Manager

CC: Erica Graham, ExxonMobil Oil Corporation (file)
Quincy Conservation Commission, 55 Sea Street, Quincy, MA 02169

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: Mobil Service Station #01-021 (11666)		Facility/site address: 1269 Furnace Brook Parkway	
Location of facility/site: longitude: 71.025561 latitude: 42.243747	Facility SIC code(s): 5541	Street: Furnace Brook Parkway	
b) Name of facility/site owner: ExxonMobil		Town: Quincy	
Email address of owner: eric.w.errico@exxonmobil.com	State: MA	Zip: 02169	County: Middlesex
Telephone no. of facility/site owner: 617-381-2952			
Fax no. of facility/site owner: 617-381-2911		Owner is (check one): 1. Federal ☐ 2. State/Tribal ☐	
Address of owner (if different from site):		3. Private ☒ 4. other, if so, describe:	
Street: 52 Beacham Street			
Town: Everett	State: MA	Zip: 02149	County: Middlesex
c) Legal name of operator: Kleinfelder	Operator telephone no: 978-486-0060		
	Operator fax no.: 978-486-0630		Operator email: msjohnson@kleinfelder.com
Operator contact name and title: Moira Johnson, Project Manager			
Address of operator (if different from owner):		Street: 30 Porter Road	
Town: Littleton	State: MA	Zip: 01460	County: Middlesex
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 <u>✓</u> 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 <u>✓</u>, if Y, number: 2. phase I or II construction storm water general permit? Y___ N <u>✓</u>, if Y, number: 3. individual NPDES permit? Y___ N <u>✓</u>, if Y, number: 4. any other water quality related permit? Y___ N <u>✓</u>, if Y, number:
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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: Applicant is seeking to discharge water from dewatering during an UST removal and replacement. Three gasoline USTs, 1 used oil UST, and associated product lines, vents and dispensers are to be removed and replaced by 2 USTs (gasoline and gasoline/diesel split) and a used oil AST. GW is at 10 feet, the bottom of excavation is anticipated to be at 17 feet.		
b) Provide the following information about each discharge:	1) Number of discharge points: <u>1</u>	2) What is the maximum and average flow rate of discharge (in cubic feet per second, ft³/s)? Max. flow <u>0.114 ft³/sec</u> Average flow <u>0.057 ft³/sec</u> Is maximum flow a design value? Y___ N <u>✓</u> For average flow, include the units and appropriate notation if this value is a design value or estimate if not available. This value is an estimate based on lithology and slug testing. Units are in ft³/sec.
3) Latitude and longitude of each discharge within 100 feet: pt.1: long. <u>71.0261</u> lat. <u>42.2436</u>; 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): N/A		5) Is the discharge intermittent <u>✓</u> or seasonal _____? Is discharge ongoing Yes _____ No <u>✓</u>?
c) Expected dates of discharge (mm/dd/yy): start <u>04/15/09</u> end <u>05/30/09</u>		
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 ug/L	Maximum daily value		Avg. daily value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
1. Total Suspended Solids		☒	1	grab	25400	20,000	3,410,000			
2. Total Residual Chlorine	☒		1	grab	4500	0.050	ND			
3. Total Petroleum Hydrocarbons	☒		1	grab	1664	4.1 (RL)	ND			
4. Cyanide		☒	1	grab	335.4	10 (RL)	10			
5. Benzene	☒		1	grab	8260 B	0.70	ND			
6. Toluene	☒		1	grab	8260 B	1.0	ND			
7. Ethylbenzene		☒	1	grab	8260 B	1.0	3.8			
8. (m,p,o) Xylenes		☒	1	grab	8260 B	0.83	18.1			
9. Total BTEX ⁴		☒	1	grab	8260 B	3.53	21.9			

⁴ BTEX = 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 ⁵ (1,2- Dibromo-methane)	✓		1	grab	8260 B	1.0	ND			
11. Methyl-tert-Butyl Ether (MtBE)	✓		1	grab	8260 B	0.83	ND			
12. tert-Butyl Alcohol (TBA)	✓		1	grab	8260 B	18.13	ND			
13. tert-Amyl Methyl Ether (TAME)	✓		1	grab	8260 B	2.86	ND			
14. Naphthalene		✓	1	grab	8260 B	2.4	4.1			
15. Carbon Tetra-chloride	✓		1	grab	8260 B	1.5	ND			
16. 1,4 Dichlorobenzene	✓		1	grab	8260 B	0.86	ND			
17. 1,2 Dichlorobenzene	✓		1	grab	8260 B	1.1	ND			
18. 1,3 Dichlorobenzene	✓		1	grab	8260 B	0.86	ND			
19. 1,1 Dichloroethane	✓		1	grab	8260 B	0.73	ND			
20. 1,2 Dichloroethane	✓		1	grab	8260 B	0.64	ND			
21. 1,1 Dichloroethylene	✓		1	grab	8260 B	1.65	ND			
22. cis-1,2 Dichloro-ethylene	✓		1	grab	8260 B	1.37	ND			
23. Dichloromethane (Methylene Chloride)	✓		1	grab	8260 B	4.45	ND			
24. Tetrachloroethylene	✓		1	grab	8260 B	1.65	ND			

⁵EDB is a groundwater contaminant at fuel spill and pesticide application sites in New England.

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	✓		1	grab	8260 B	1.56				
26. 1,1,2 Trichloroethane	✓		1	grab	8260 B	0.92				
27. Trichloroethylene	✓		1	grab	8260 B	1.20				
28. Vinyl Chloride	✓		1	grab	8260 B	0.99				
29. Acetone	✓		1	grab	8260 B	10.2				
30. 1,4 Dioxane	✓		1	grab	8260 B	60.4				
31. Total Phenols	✓		1	grab	8270 C	49.4				
32. Pentachlorophenol	✓		1	grab	8270 C	35				
33. Total Phthalates ⁶ (Phthalate esters)	✓		1	grab	8270 C	6.36				
34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate]	✓		1	grab	8270 C	1.72				
35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)	✓		1	grab	8270 C	0.89				
a. Benzo(a) Anthracene	✓		1	grab	8270 C	0.12				
b. Benzo(a) Pyrene	✓		1	grab	8270 C	0.09				
c. Benzo(b) Fluoranthene	✓		1	grab	8270 C	0.18				
d. Benzo(k) Fluoranthene	✓		1	grab	8270 C	0.13				
e. Chrysene	✓		1	grab	8270 C	0.086				

⁶The 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	✓		1	grab	8270C	0.08	ND			
g. Indeno(1,2,3-cd) Pyrene	✓		1	grab	8270C	0.10	ND			
36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)		✓	1	grab	8270C	1.12	4.75			
h. Acenaphthene		✓	1	grab	8270C	0.12	0.12			
i. Acenaphthylene		✓	1	grab	8270C	0.12	0.04			
j. Anthracene	✓		1	grab	8270C	0.16	ND			
k. Benzo(ghi) Perylene	✓		1	grab	8270C	0.12	ND			
l. Fluoranthene	✓	✓	1	grab	8270C	0.13	ND			
m. Fluorene		✓	1	grab	8270C	0.12	0.17			
n. Naphthalene-		✓	1	grab	8270C	0.20	4.2			
o. Phenanthrene		✓	1	grab	8270C	0.13	0.16			
p. Pyrene	✓		1	grab	8270C	0.01	ND			
37. Total Polychlorinated Biphenyls (PCBs)	✓		1	grab	608	0.09	ND			
38. Antimony	✓		1	grab	6010B	5.0	ND			
39. Arsenic		✓	1	grab	6010B	5.7	18.6			
40. Cadmium		✓	1	grab	6010B	6.0	0			
41. Chromium III		✓	1	grab	6010B	3.5	167			
42. Chromium VI	✓		1	grab	7196A	0.1 (RL)	<0.010			

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		✓	1	grab	6010B	12.72	164			
44. Lead		✓	1	grab	6010B	8.586	395			
45. Mercury	✓		1	grab	7470A	0.15264	ND			
46. Nickel		✓	1	grab	6010B	4.134	93.1			
47. Selenium	✓		1	grab	6010B	11.13	ND			
48. Silver	✓		1	grab	6010B	4.134	ND			
49. Zinc		✓	1	grab	6010B	4.77	519			
50. Iron		✓	1	grab	6010B	41.34	93500			
Other (describe): pH							5.8			

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

<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 <u>✓</u> N <u> </u>	If yes, which metals? Copper, Lead, nickel, zinc, iron, arsenic, cadmium, chromium III
<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: <u>arsenic, cadmium, chromium III, copper, lead, nickel, zinc, iron</u> DF: <u>1.28</u>	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 <u>✓</u> N <u> </u> If "Yes," list which metals: Copper, Lead, nickel, zinc, iron, arsenic, cadmium, chromium III

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): Chemical additive for pH adjustment			
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 <u>25 gpm</u> Maximum flow rate of treatment system <u>50 gpm</u> Design flow rate of treatment system <u>50 gpm</u>						
d) A description of chemical additives being used or planned to be used (attach MSDS sheets): Hydroxide or biocarbonate to bring pH to standard						

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: Water discharged to storm drain on Miller St, ~100 ft west of the excav. Drain discharges to Furnace Brook which is culverted at the point of discharge.						
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 <u>B</u> (Furnace Br is unclassified, defaults to "B" discharges to Quincy Bay (SB))						
e) Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water <u>0.0325</u> ft ³ /sec _____ cfs Please attach any calculation sheets used to support stream flow and dilution calculations. <u>streamstat report attached</u>						
f) Is the receiving water a listed 303(d) water quality impaired or limited water? Yes ☒ No ☐ If yes, for which pollutant(s)? <u>organic enrichment</u> Is there a TMDL? Yes ☐ No ☒ If yes, for which pollutant(s)?						

* - System will consist of groundwater recovery via submersible pump. Recovered water will be directed through two appropriately sized frac tanks (for metal precipitation), appropriately sized bag filters (for particulate removal) and two appropriately sized liquid phase carbon vessels and through metals treatment prior to being discharged into the indicated catch basin. In addition, a chemical additive will be included to adjust the pH.

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 <u>✓</u> Has any consultation with the federal services been completed? Yes___ No <u>✓</u> or is consultation underway? Yes___ No <u>✓</u> 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 <u>✓</u> Have any state or tribal historic preservation officer been consulted in this determination (Massachusetts only)? Yes <u>✓</u> No___

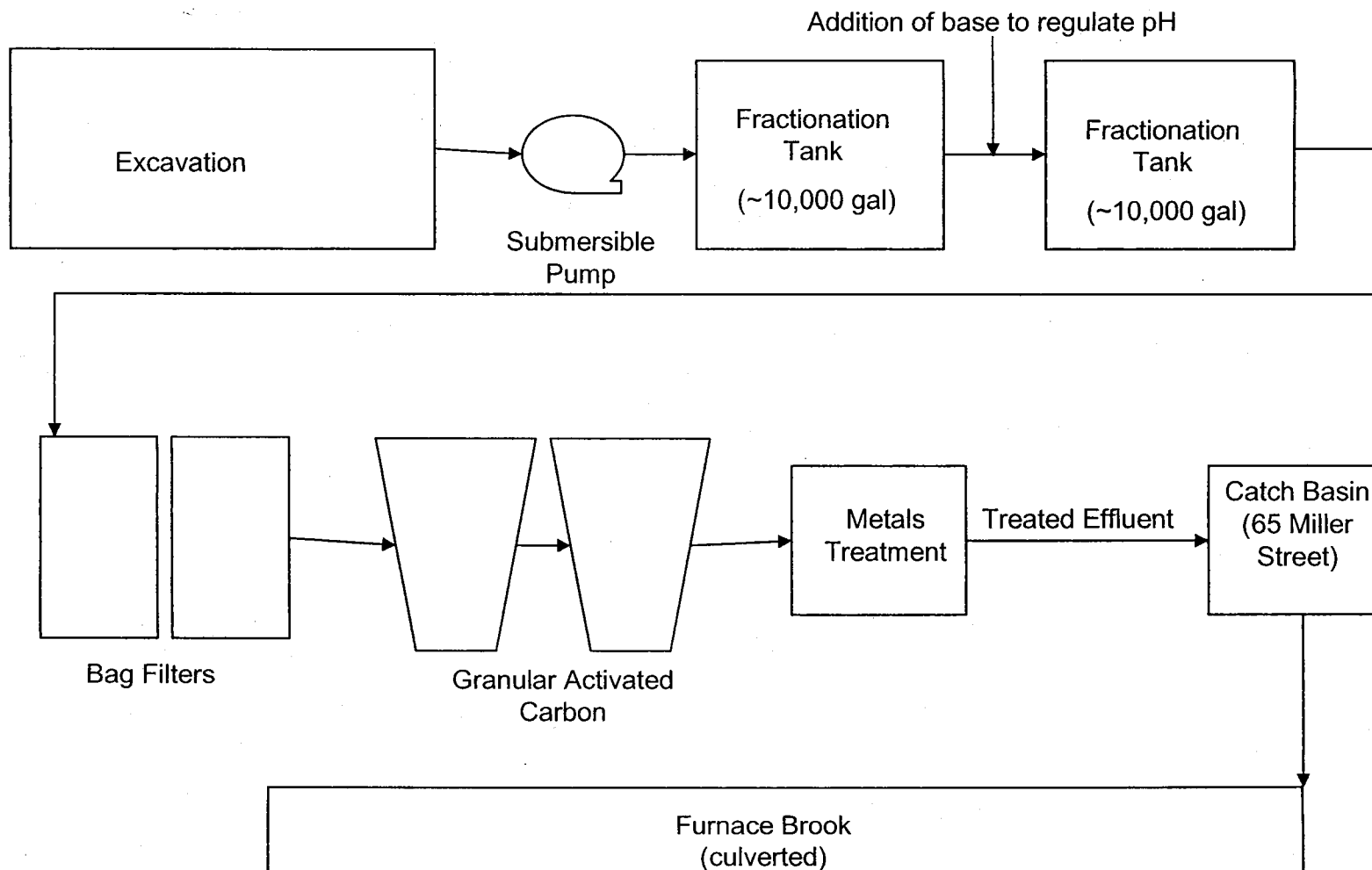
7. Supplemental information. :

Please provide any supplemental information. Attach any analytical data used to support the application. Attach any certification(s) required by the general permit.
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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: Mobil Quincy 01-021
Operator signature: 
Title: Project Manager
Date: 03/27/09





Massachusetts StreamStats

Streamstats Ungaged Site Report

Date: Wed Mar 25 2009 09:38:51

Site Location: Massachusetts

NAD83 Latitude: 42.2436 (42 14 36)

NAD83 Longitude: -71.0269 (-71 01 36)

NAD27 Latitude: 42.2435 (42 14 36)

NAD27 Longitude: -71.0274 (-71 01 38)

Drainage Area: 1.4 mi²

Peak Flow Basin Characteristics			
100% Statewide Low Flow (1.4 mi ²)			
Parameter	Value	Regression Equation Valid Range	
		Min	Max
Drainage Area (square miles)	1.4 (below min value 1.61)	1.61	149
Mean Basin Slope from 250K DEM (percent)	4.11	0.32	24.6
Stratified Drift per Stream Length (square mile per mile)	0.0806	0	1.29
Massachusetts Region (dimensionless)	0	0	1

Warning: Some parameters are outside the suggested range. Estimates will be extrapolations with unknown errors.

Streamflow Statistics					
Statistic	Flow (ft ³ /s)	Prediction Error (percent)	Equivalent years of record	90-Percent Prediction Interval	
				Minimum	Maximum
D50	1.35				
D60	0.88				
D70	0.47				
D75	0.35				
D80	0.29				
D85	0.21				
D90	0.15				
D95	0.086				
D98	0.0521				
D99	0.0367				
M7D2Y	0.0856				
AUGD50	0.22				
M7D10Y	0.0325				

3/30/2009

SODIUM BICARBONATE

MSDS Number: S2954 * * * * * Effective Date: 11/26/07 * * * * * Supersedes: 05/23/06

MSDS

Material Safety Data Sheet

From: Mallinckrodt Baker, Inc.
222 Red School Lane
Phillipsburg, NJ 08865

Mallinckrodt
CHEMICALS



24 Hour Emergency Telephone: 908-659-2151
CHEMTREC: 1-800-424-9309

National Response in Canada
CANUTEC: 613-996-6655

Outside U.S. and Canada
Chemtrec: 703-521-3887

NOTE: CHEMTREC, CANUTEC and National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.

All non-emergency questions should be directed to Customer Service at 600-652-2537 for assistance.

SODIUM BICARBONATE

1. Product Identification

Synonyms: Sodium hydrogen carbonate; sodium acid carbonate; baking soda; bicarbonate of soda

CAS No.: 144-55-8

Molecular Weight: 84.01

Chemical Formula: NaHCO₃

Product Codes:

J.T. Baker: 3506, 3508, 3509, 3510

Mallinckrodt: 7285, 7396, 7397, 7412, 7749, 7903

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Sodium Bicarbonate	144-55-8	99 - 100%	No

3. Hazards Identification

Emergency Overview

As part of good industrial and personal hygiene and safety procedure, avoid all unnecessary exposure to the chemical substance and ensure prompt removal from skin, eyes and clothing.

SAF-T-DATA^(tm) Ratings (Provided here for your convenience)

Health Rating: 1 - Slight

Flammability Rating: 1 - Slight

Reactivity Rating: 1 - Slight

Contact Rating: 1 - Slight

Lab Protective Equip: GOGGLES; LAB COAT

Storage Color Code: Green (General Storage)

Potential Health Effects

Inhalation:

High concentrations of dust may cause coughing and sneezing.

Ingestion:

Extremely large oral doses may cause gastrointestinal disturbances.

Skin Contact:

No adverse effects expected.

Eye Contact:

Contact may cause mild irritation, redness, and pain.

Chronic Exposure:

3/30/2009

SODIUM BICARBONATE

Inhalation:

Remove to fresh air. Get medical attention for any breathing difficulty.

Ingestion:

Give several glasses of water to drink to dilute. If large amounts were swallowed, get medical advice.

Skin Contact:

Not expected to require first aid measures.

Eye Contact:

Wash thoroughly with running water. Get medical advice if irritation develops.

5. Fire Fighting Measures

Fire:

Not considered to be a fire hazard.

Explosion:

Not considered to be an explosion hazard.

Fire Extinguishing Media:

Use any means suitable for extinguishing surrounding fire.

Special Information:

Use protective clothing and breathing equipment appropriate for the surrounding fire.

6. Accidental Release Measures

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Sweep up and containerize for reclamation or disposal. Vacuuming or wet sweeping may be used to avoid dust dispersal. Small amounts of residue may be flushed to sewer with plenty of water.

7. Handling and Storage

Keep in a well closed container stored under cold to warm conditions, 2 to 40 C, (36 to 104F). Protect against physical damage. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

8. Exposure Controls/Personal Protection

Airborne Exposure Limits:

None established.

Ventilation System:

In general, dilution ventilation is a satisfactory health hazard control for this substance. However, if conditions of use create discomfort to the worker, a local exhaust system should be considered.

Personal Respirators (NIOSH Approved):

For conditions of use where exposure to dust or mist is apparent and engineering controls are not feasible, a particulate respirator (NIOSH type N95 or better filters) may be worn. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-face positive-pressure, air-supplied respirator. WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection:

Wear protective gloves and clean body-covering clothing.

Eye Protection:

Use chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.

9. Physical and Chemical Properties

Appearance:

White crystalline powder.

Odor:

Odorless.

Solubility:

7.8g/100g water @ 18C (64F).

Density:

2.2

pH:

8.3 (0.1 molar @ 25C (77F))

% Volatiles by volume @ 21C (70F):

0

Boiling Point:

3/30/2009

SODIUM BICARBONATE

No information found.

Evaporation Rate (BuAc=1):

No information found.

10. Stability and Reactivity

Stability:

Stable under ordinary conditions of use and storage.

Hazardous Decomposition Products:

Gaseous carbon dioxide.

Hazardous Polymerization:

Will not occur.

Incompatibilities:

Reacts with acids to form carbon dioxide. Dangerous reaction with monoammonium phosphate or a sodium-potassium alloy.

Conditions to Avoid:

Heat, moisture, incompatibles.

11. Toxicological Information

Investigated as a mutagen, reproductive effector. Oral rat LD50: 4220 mg/kg. Irritation data: human, skin, 30mg/3D-I mild, rabbit, eye, 100 mg/30 S, mild.

-----\Cancer Lists\-----			
Ingredient	---NTP Carcinogen---		IARC Category
	Known	Anticipated	
Sodium Bicarbonate (144-55-8)	No	No	None

12. Ecological Information

Environmental Fate:

No information found.

Environmental Toxicity:

For Sodium Bicarbonate:

48 hour EC50 *Daphnia magna* (water flea): 2350 mg/L.

96 hour LC50 *Lepomis macrochirus* (bluegill): > 5000 mg/L.

120 hour EC50 *Nitzschia linearis* (diatom): 650 mg/L.

This material is not expected to be toxic to aquatic life.

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

Not regulated.

15. Regulatory Information

-----\Chemical Inventory Status - Part 1\-----				
Ingredient	TSCA	EC	Japan	Australia
Sodium Bicarbonate (144-55-8)	Yes	Yes	Yes	Yes
-----\Chemical Inventory Status - Part 2\-----				
Ingredient	Korea	--Canada--		Phil.
		DSL	NDSL	
Sodium Bicarbonate (144-55-8)	Yes	Yes	No	Yes
-----\Federal, State & International Regulations - Part 1\-----				
Ingredient	-SARA 302-		-SARA 313-	
	RQ	TPQ	List	Chemical Catg.

3/30/2009

SODIUM BICARBONATE

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No
SARA 311/312: Acute: No Chronic: No Fire: No Pressure: No
Reactivity: No (Pure / Solid)

Australian Hazchem Code: None allocated.

Poison Schedule: None allocated.

WHMIS:

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

16. Other Information

NFPA Ratings: Health: 1 Flammability: 0 Reactivity: 0

Label Hazard Warning:

As part of good industrial and personal hygiene and safety procedure, avoid all unnecessary exposure to the chemical substance and ensure prompt removal from skin, eyes and clothing.

Label Precautions:

None.

Label First Aid:

Not applicable.

Product Use:

Laboratory Reagent.

Revision Information:

MSDS Section(s) changed since last revision of document include: 12.

Disclaimer:

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Prepared by: Environmental Health & Safety

Phone Number: (314) 654-1600 (U.S.A.)

3/30/2009

SODIUM HYDROXIDE

MSDS Number: S4034 * * * * * Effective Date: 05/04/07 * * * * * Supersedes: 07/07/04

MSDS	Material Safety Data Sheet	24 Hour Emergency Telephone: 800-859-2151 CHEMTREC: 1-800-424-9399
		National Response In Canada CANUTEC: 619-996-6555
From: Mallinckrodt Baker, Inc. 222 Red School Lane Phillipsburg, NJ 08865		Outside U.S. and Canada Chemtrec: 705-527-3887
 Mallinckrodt CHEMICALS		NOTE: CHEMTREC, CANUTEC and National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.
All non-emergency questions should be directed to Customer Service (1-800-562-2637) for assistance.		

SODIUM HYDROXIDE

1. Product Identification

Synonyms: Caustic soda; lye; sodium hydroxide solid; sodium hydrate
CAS No.: 1310-73-2
Molecular Weight: 40.00
Chemical Formula: NaOH
Product Codes:
J.T. Baker: 1508, 3717, 3718, 3721, 3722, 3723, 3728, 3734, 3736, 5045, 5565
Mallinckrodt: 7001, 7680, 7708, 7712, 7772, 7798

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Sodium Hydroxide	1310-73-2	99 - 100%	Yes

3. Hazards Identification

Emergency Overview

POISON! DANGER! CORROSIVE. MAY BE FATAL IF SWALLOWED. HARMFUL IF INHALED. CAUSES BURNS TO ANY AREA OF CONTACT. REACTS WITH WATER, ACIDS AND OTHER MATERIALS.

SAF-T-DATA^(tm) Ratings (Provided here for your convenience)

Health Rating: 4 - Extreme (Poison)
Flammability Rating: 0 - None
Reactivity Rating: 2 - Moderate
Contact Rating: 4 - Extreme (Corrosive)
Lab Protective Equip: GOGGLES & SHIELD; LAB COAT & APRON, VENT HOOD, PROPER GLOVES
Storage Color Code: White Stripe (Store Separately)

Potential Health Effects

Inhalation:

Severe irritant. Effects from inhalation of dust or mist vary from mild irritation to serious damage of the upper respiratory tract, depending on severity of exposure. Symptoms may include sneezing, sore throat or runny nose. Severe pneumonitis may occur.

Ingestion:

Corrosive! Swallowing may cause severe burns of mouth, throat, and stomach. Severe scarring of tissue and death may result. Symptoms may include bleeding, vomiting, diarrhea, fall in blood pressure. Damage may appear days after exposure.

Skin Contact:

Corrosive! Contact with skin can cause irritation or severe burns and scarring with greater exposures.

Eye Contact:

4. First Aid Measures

Inhalation:

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

Ingestion:

DO NOT INDUCE VOMITING! Give large quantities of water or milk if available. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Skin Contact:

Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician, immediately. Wash clothing before reuse.

Eye Contact:

Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

Note to Physician:

Perform endoscopy in all cases of suspected sodium hydroxide ingestion. In cases of severe esophageal corrosion, the use of therapeutic doses of steroids should be considered. General supportive measures with continual monitoring of gas exchange, acid-base balance, electrolytes, and fluid intake are also required.

5. Fire Fighting Measures

Fire:

Not considered to be a fire hazard. Hot or molten material can react violently with water.

Can react with certain metals, such as aluminum, to generate flammable hydrogen gas.

Explosion:

Not considered to be an explosion hazard.

Fire Extinguishing Media:

Use any means suitable for extinguishing surrounding fire. Adding water to caustic solution generates large amounts of heat.

Special Information:

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

6. Accidental Release Measures

Ventilate area of leak or spill. Keep unnecessary and unprotected people away from area of spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Pick up and place in a suitable container for reclamation or disposal, using a method that does not generate dust. Do not flush caustic residues to the sewer. Residues from spills can be diluted with water, neutralized with dilute acid such as acetic, hydrochloric or sulfuric. Absorb neutralized caustic residue on clay, vermiculite or other inert substance and package in a suitable container for disposal.

US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

7. Handling and Storage

Keep in a tightly closed container. Protect from physical damage. Store in a cool, dry, ventilated area away from sources of heat, moisture and incompatibilities. Always add the caustic to water while stirring; never the reverse. Containers of this material may be hazardous when empty since they retain product residues (dust, solids), observe all warnings and precautions listed for the product. Do not store with aluminum or magnesium. Do not mix with acids or organic materials.

8. Exposure Controls/Personal Protection

Airborne Exposure Limits:

- OSHA Permissible Exposure Limit (PEL):

2 mg/m³ Ceiling

- ACGIH Threshold Limit Value (TLV):

2 mg/m³ Ceiling

Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Personal Respirators (NIOSH Approved):

If the exposure limit is exceeded and engineering controls are not feasible, a half facepiece particulate respirator (NIOSH type N95 or better filters) may be worn for up to ten times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest.

A full-face piece particulate respirator (NIOSH type N100 filters) may be worn up to 50 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency, or respirator supplier, whichever is lowest. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator.

9. Physical and Chemical Properties

Appearance:

White, deliquescent pellets or flakes.

Odor:

Odorless.

Solubility:

111 g/100 g of water.

Specific Gravity:

2.13

pH:

13 - 14 (0.5% soln)

% Volatiles by volume @ 21C (70F):

0

Boiling Point:

1390C (2534F)

Melting Point:

318C (604F)

Vapor Density (Air=1):

> 1.0

Vapor Pressure (mm Hg):

Negligible.

Evaporation Rate (BuAc=1):

No information found.

10. Stability and Reactivity

Stability:

Stable under ordinary conditions of use and storage. Very hygroscopic. Can slowly pick up moisture from air and react with carbon dioxide from air to form sodium carbonate.

Hazardous Decomposition Products:

Sodium oxide. Decomposition by reaction with certain metals releases flammable and explosive hydrogen gas.

Hazardous Polymerization:

Will not occur.

Incompatibilities:

Sodium hydroxide in contact with acids and organic halogen compounds, especially trichloroethylene, may causes violent reactions. Contact with nitromethane and other similar nitro compounds causes formation of shock-sensitive salts. Contact with metals such as aluminum, magnesium, tin, and zinc cause formation of flammable hydrogen gas. Sodium hydroxide, even in fairly dilute solution, reacts readily with various sugars to produce carbon monoxide. Precautions should be taken including monitoring the tank atmosphere for carbon monoxide to ensure safety of personnel before vessel entry.

Conditions to Avoid:

Moisture, dusting and incompatibles.

11. Toxicological Information

Irritation data: skin, rabbit: 500 mg/24H severe; eye rabbit: 50 ug/24H severe; investigated as a mutagen.

-----\Cancer Lists\-----			
Ingredient	---NTP Carcinogen---		IARC Category
	Known	Anticipated	
Sodium Hydroxide (1310-73-2)	No	No	None

12. Ecological Information

Environmental Fate:

No information found.

Environmental Toxicity:

No information found.

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

3/30/2009

SODIUM HYDROXIDE

Hazard Class: 8

UN/NA: UN1823

Packing Group: II

Information reported for product/size: 300LB

International (Water, I.M.O.)

Proper Shipping Name: SODIUM HYDROXIDE, SOLID

Hazard Class: 8

UN/NA: UN1823

Packing Group: II

Information reported for product/size: 300LB

15. Regulatory Information

-----\Chemical Inventory Status - Part 1\-----
Ingredient TSCA EC Japan Australia

Sodium Hydroxide (1310-73-2) Yes Yes Yes Yes

-----\Chemical Inventory Status - Part 2\-----
Ingredient --Canada--
Korea DSL NDSL Phil.

Sodium Hydroxide (1310-73-2) Yes Yes No Yes

-----\Federal, State & International Regulations - Part 1\-----
Ingredient -SARA 302- -SARA 313-
RQ TPQ List Chemical Catg.

Sodium Hydroxide (1310-73-2) No No No No

-----\Federal, State & International Regulations - Part 2\-----
Ingredient CERCLA RCRA TSCA
261.33 8(d)

Sodium Hydroxide (1310-73-2) 1000 No No

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No
SARA 311/312: Acute: Yes Chronic: No Fire: No Pressure: No
Reactivity: Yes (Pure / Solid)

Australian Hazchem Code: 2R

Poison Schedule: S6

WHMIS:

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

16. Other Information

NFPA Ratings: Health 3 Flammability 0 Reactivity 1

Label Hazard Warning:

POISON! DANGER! CORROSIVE. MAY BE FATAL IF SWALLOWED. HARMFUL IF INHALED. CAUSES BURNS TO ANY AREA OF CONTACT. REACTS WITH WATER, ACIDS AND OTHER MATERIALS.

Label Precautions:

Do not get in eyes, on skin, or on clothing.

Do not breathe dust.

Keep container closed.

Use only with adequate ventilation.

Wash thoroughly after handling.

Label First Aid:

If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen. In all cases get medical attention immediately.

Product Use:

Laboratory Reagent.

Revision Information:

No Changes.

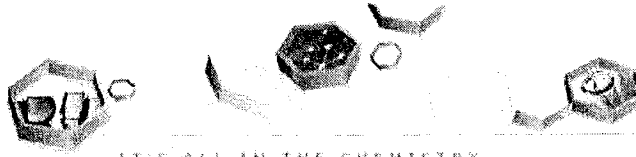
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3/30/2009

SODIUM HYDROXIDE

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Prepared by: Environmental Health & Safety
Phone Number: (314) 654-1600 (U.S.A.)



IT'S ALL IN THE CHEMISTRY

03/31/09

Technical Report for

ExxonMobil

GSCMA:01-021 1269 Furnace Brook Parkway Quincy MA

Accutest Job Number: M81249

Sampling Date: 03/13/09



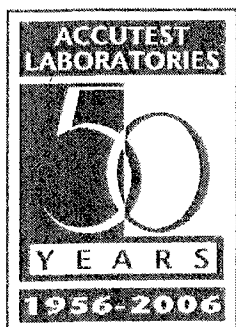
Report to:

Kleinfelder

bstraley@kleinfelder.com

ATTN: Beck Straley

Total number of pages in report: 76



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Reza Fand
Lab Director

Client Service contact: Kristen Blanchard 508-481-6200

Certifications: MA (M-MA136) CT (PH-0109) NH (2502) RI (00071) ME (MA0136) FL (E87579)
NY (11791) NJ (MA926) PA (68-01121) NC (653) IL (200018) NAVY USACE

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Test results relate only to samples analyzed.

Table of Contents

-1-

Section 1: Sample Summary	3
Section 2: Sample Results	4
2.1: M81249-1: MW01	5
2.2: M81249-2: MW101	7
2.3: M81249-2A: MW101	16
2.4: M81249-3: MW102	17
Section 3: Misc. Forms	19
3.1: Parameter Certifications (MA)	20
3.2: Chain of Custody	21
3.3: EPH Form	22
3.4: VPH Form	25
Section 4: GC/MS Volatiles - QC Data Summaries	28
4.1: Method Blank Summary	29
4.2: Blank Spike/Blank Spike Duplicate Summary	32
4.3: Matrix Spike/Matrix Spike Duplicate Summary	35
4.4: Surrogate Recovery Summaries	38
Section 5: GC/MS Semi-volatiles - QC Data Summaries	39
5.1: Method Blank Summary	40
5.2: Blank Spike/Blank Spike Duplicate Summary	42
5.3: Matrix Spike/Matrix Spike Duplicate Summary	44
5.4: Surrogate Recovery Summaries	46
Section 6: GC Volatiles - QC Data Summaries	48
6.1: Method Blank Summary	49
6.2: Blank Spike/Blank Spike Duplicate Summary	50
6.3: Surrogate Recovery Summaries	51
Section 7: GC Semi-volatiles - QC Data Summaries	52
7.1: Method Blank Summary	53
7.2: Blank Spike/Blank Spike Duplicate Summary	55
7.3: Blank Spike Summary	56
7.4: Matrix Spike/Matrix Spike Duplicate Summary	57
7.5: Surrogate Recovery Summaries	58
Section 8: Metals Analysis - QC Data Summaries	60
8.1: Prep QC MP13205: Sb,As,Cd,Cr,Cu,Fe,Pb,Ni,Se,Ag,Zn	61
8.2: Prep QC MP13207: Hg	69
Section 9: General Chemistry - QC Data Summaries	72
9.1: Method Blank and Spike Results Summary	73
9.2: Blank Spike Duplicate Results Summary	74
9.3: Duplicate Results Summary	75
9.4: Matrix Spike Results Summary	76

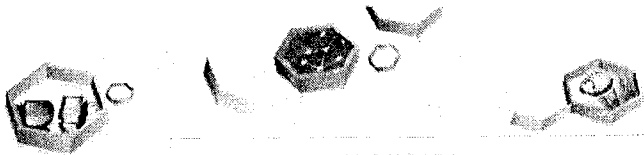
Sample Summary

ExxonMobil

Job No: M81249

GSCMA:01-021 1269 Furnace Brook Parkway Quincy MA

Sample Number	Collected Date	Time By	Received	Matrix Code Type	Client Sample ID
M81249-1	03/13/09	10:45 BJS	03/13/09	AQ Ground Water	MW01
M81249-2	03/13/09	09:00 BJS	03/13/09	AQ Ground Water	MW101
M81249-2A	03/13/09	09:00 BJS	03/13/09	AQ Ground Water	MW101
M81249-3	03/13/09	10:15 BJS	03/13/09	AQ Ground Water	MW102



IT'S ALL IN THE CHEMISTRY

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	MW01	Date Sampled:	03/13/09
Lab Sample ID:	M81249-1	Date Received:	03/13/09
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	MADEP VPH REV 1.1		
Project:	GSCMA:01-021 1269 Furnace Brook Parkway Quincy MA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BD26071.D	1	03/17/09	AF	n/a	n/a	GBD1247
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

MA-VPH List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	2.0	2.0	ug/l	
100-41-4	Ethylbenzene	ND	2.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	1.0	ug/l	
91-20-3	Naphthalene	ND	3.0	3.0	ug/l	
108-88-3	Toluene	ND	2.0	2.0	ug/l	
	m,p-Xylene	ND	2.0	2.0	ug/l	
95-47-6	o-Xylene	ND	2.0	2.0	ug/l	
	C5- C8 Aliphatics (Unadj.)	ND	50	50	ug/l	
	C9- C12 Aliphatics (Unadj.)	ND	50	50	ug/l	
	C9- C10 Aromatics (Unadj.)	ND	50	50	ug/l	
	C5- C8 Aliphatics	ND	50	50	ug/l	
	C9- C12 Aliphatics	ND	50	50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
615-59-8	2,5-Dibromotoluene	96%		70-130%
615-59-8	2,5-Dibromotoluene	95%		70-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW01
 Lab Sample ID: M81249-1
 Matrix: AQ - Ground Water
 Method: MADEP EPH REV 1.1 SW846 3510C
 Project: GSCMA:01-021 1269 Furnace Brook Parkway Quincy MA

Date Sampled: 03/13/09
 Date Received: 03/13/09
 Percent Solids: n/a

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BG6147.D	1	03/17/09	DG	03/13/09	OP18062	GBG217
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1040 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.8	4.8	ug/l	
208-96-8	Acenaphthylene	ND	4.8	4.8	ug/l	
120-12-7	Anthracene	ND	4.8	4.8	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.8	4.8	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.8	4.8	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.8	4.8	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.8	4.8	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.8	4.8	ug/l	
218-01-9	Chrysene	ND	4.8	4.8	ug/l	
53-70-3	Dibenz(a,h)anthracene	ND	4.8	4.8	ug/l	
206-44-0	Fluoranthene	ND	4.8	4.8	ug/l	
86-73-7	Fluorene	ND	4.8	4.8	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.8	4.8	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.8	4.8	ug/l	
91-20-3	Naphthalene	ND	4.8	4.8	ug/l	
85-01-8	Phenanthrene	ND	4.8	4.8	ug/l	
129-00-0	Pyrene	ND	4.8	4.8	ug/l	
	C11-C22 Aromatics (Unadj.)	ND	96	96	ug/l	
	C9-C18 Aliphatics	ND	96	96	ug/l	
	C19-C36 Aliphatics	104	96	96	ug/l	
	C11-C22 Aromatics	ND	96	96	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	105%		40-140%
321-60-8	2-Fluorobiphenyl	97%		40-140%
3386-33-2	1-Chlorooctadecane	48%		40-140%
580-13-2	2-Bromonaphthalene	57%		40-140%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW101

Lab Sample ID: M81249-2

Date Sampled: 03/13/09

Matrix: AQ - Ground Water

Date Received: 03/13/09

Method: SW846 8260B

Percent Solids: n/a

Project: GSCMA:01-021 1269 Furnace Brook Parkway Quincy MA

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	P35445.D	1	03/19/09	AMY	n/a	n/a	MSP1176
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	3.2	ug/l	
71-43-2	Benzene	ND	0.50	0.22	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.27	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.31	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.80	ug/l	
75-25-2	Bromoform	ND	1.0	0.37	ug/l	
74-83-9	Bromomethane	ND	2.0	0.78	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	0.93	ug/l	
104-51-8	n-Butylbenzene	9.7	5.0	0.48	ug/l	
135-98-8	sec-Butylbenzene	1.8	5.0	0.42	ug/l	J
98-06-6	tert-Butylbenzene	ND	5.0	0.43	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.62	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.47	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.26	ug/l	
75-00-3	Chloroethane	ND	2.0	0.56	ug/l	
67-66-3	Chloroform	ND	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	2.0	0.45	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.26	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.22	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	1.5	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.89	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	0.31	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.36	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.27	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.27	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.44	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.23	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.52	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.43	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.47	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.25	ug/l	

ND = Not detected MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW101	Date Sampled:	03/13/09
Lab Sample ID:	M81249-2	Date Received:	03/13/09
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	GSCMA:01-021 1269 Furnace Brook Parkway Quincy MA		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
142-28-9	1,3-Dichloropropane	ND	5.0	0.16	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	0.47	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.34	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.32	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	19	ug/l	
100-41-4	Ethylbenzene	3.8	1.0	0.32	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.87	ug/l	
591-78-6	2-Hexanone	ND	5.0	0.71	ug/l	
74-88-4	Iodomethane	ND	5.0	0.38	ug/l	
98-82-8	Isopropylbenzene	1.9	5.0	0.42	ug/l	J
99-87-6	p-Isopropyltoluene	1.2	5.0	0.35	ug/l	J
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.26	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	0.32	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.28	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.4	ug/l	
91-20-3	Naphthalene	4.1	5.0	0.77	ug/l	J
103-65-1	n-Propylbenzene	8.3	5.0	0.30	ug/l	
100-42-5	Styrene	ND	5.0	0.24	ug/l	
994-05-8	tert-Amyl Methyl Ether	ND	2.0	0.90	ug/l	
75-65-0	Tert Butyl Alcohol	ND	20	5.7	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	0.31	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.25	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.52	ug/l	
108-88-3	Toluene	ND	1.0	0.31	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	1.2	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.41	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.49	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.29	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.38	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.98	ug/l	
95-63-6	1,2,4-Trimethylbenzene	73.4	5.0	0.26	ug/l	
108-67-8	1,3,5-Trimethylbenzene	24.8	5.0	0.32	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	0.78	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.31	ug/l	
1330-20-7	Xylene (total)	18.1	1.0	0.26	ug/l	

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID:	MW101	Date Sampled:	03/13/09
Lab Sample ID:	M81249-2	Date Received:	03/13/09
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	MADEP VPH REV 1.1		
Project:	GSCMA:01-021 1269 Furnace Brook Parkway Quincy MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BD26072.D	1	03/17/09	AF	n/a	n/a	GBD1247
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

MA-VPH List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	2.0	2.0	ug/l	
100-41-4	Ethylbenzene	3.4	2.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	1.0	ug/l	
91-20-3	Naphthalene	3.9	3.0	3.0	ug/l	
108-88-3	Toluene	ND	2.0	2.0	ug/l	
	m,p-Xylene	11.1	2.0	2.0	ug/l	
95-47-6	o-Xylene	ND	2.0	2.0	ug/l	
	C5- C8 Aliphatics (Unadj.)	163	50	50	ug/l	
	C9- C12 Aliphatics (Unadj.)	335	50	50	ug/l	
	C9- C10 Aromatics (Unadj.)	246	50	50	ug/l	
	C5- C8 Aliphatics	163	50	50	ug/l	
	C9- C12 Aliphatics	73.5	50	50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
615-59-8	2,5-Dibromotoluene	94%		70-130%
615-59-8	2,5-Dibromotoluene	93%		70-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW101	Date Sampled: 03/13/09
Lab Sample ID: M81249-2	Date Received: 03/13/09
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: MADEP EPH REV 1.1 SW846 3510C	
Project: GSCMA:01-021 1269 Furnace Brook Parkway Quincy MA	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BG6183.D	1	03/18/09	WZ	03/13/09	OP18062	GBG218
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	5.0	5.0	ug/l	
208-96-8	Acenaphthylene	ND	5.0	5.0	ug/l	
120-12-7	Anthracene	ND	5.0	5.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.0	5.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.0	5.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.0	5.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.0	5.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.0	5.0	ug/l	
218-01-9	Chrysene	ND	5.0	5.0	ug/l	
53-70-3	Dibenz(a,h)anthracene	ND	5.0	5.0	ug/l	
206-44-0	Fluoranthene	ND	5.0	5.0	ug/l	
86-73-7	Fluorene	ND	5.0	5.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	5.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.0	5.0	ug/l	
91-20-3	Naphthalene	ND	5.0	5.0	ug/l	
85-01-8	Phenanthrene	ND	5.0	5.0	ug/l	
129-00-0	Pyrene	ND	5.0	5.0	ug/l	
	C11-C22 Aromatics (Unadj.)	149	100	100	ug/l	
	C9-C18 Aliphatics	141	100	100	ug/l	
	C19-C36 Aliphatics	114	100	100	ug/l	
	C11-C22 Aromatics	149	100	100	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	78%		40-140%
321-60-8	2-Fluorobiphenyl	64%		40-140%
3386-33-2	1-Chlorooctadecane	43%		40-140%
580-13-2	2-Bromonaphthalene	67%		40-140%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW101	Date Sampled: 03/13/09
Lab Sample ID: M81249-2	Date Received: 03/13/09
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: EPA 608 EPA 608	
Project: GSCMA:01-021 1269 Furnace Brook Parkway Quincy MA	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	YZ51918.D	1	03/17/09	CZ	03/13/09	OP18061	GYZ2206
Run #2							

	Initial Volume	Final Volume
Run #1	800 ml	5.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	0.63	0.036	ug/l	
11104-28-2	Aroclor 1221	ND	0.63	0.075	ug/l	
11141-16-5	Aroclor 1232	ND	0.63	0.095	ug/l	
53469-21-9	Aroclor 1242	ND	0.63	0.045	ug/l	
12672-29-6	Aroclor 1248	ND	0.63	0.073	ug/l	
11097-69-1	Aroclor 1254	ND	0.63	0.084	ug/l	
11096-82-5	Aroclor 1260	ND	0.63	0.029	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	90%		44-132%
877-09-8	Tetrachloro-m-xylene	93%		44-132%
2051-24-3	Decachlorobiphenyl	35%		12-151%
2051-24-3	Decachlorobiphenyl	49%		12-151%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW101	Date Sampled:	03/13/09
Lab Sample ID:	M81249-2	Date Received:	03/13/09
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	GSCMA:01-021 1269 Furnace Brook Parkway Quincy MA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Antimony	1.6 U	6.0	1.6	ug/l	1	03/16/09	03/17/09 PY	SW846 6010B ¹	SW846 3010A ³
Arsenic	18.6	10	1.8	ug/l	1	03/16/09	03/17/09 PY	SW846 6010B ¹	SW846 3010A ³
Cadmium	2.0 B	4.0	1.9	ug/l	1	03/16/09	03/17/09 PY	SW846 6010B ¹	SW846 3010A ³
Chromium	167	10	1.1	ug/l	1	03/16/09	03/17/09 PY	SW846 6010B ¹	SW846 3010A ³
Copper	164	25	4.0	ug/l	1	03/16/09	03/17/09 PY	SW846 6010B ¹	SW846 3010A ³
Iron	93500	100	13	ug/l	1	03/16/09	03/17/09 PY	SW846 6010B ¹	SW846 3010A ³
Lead	395	5.0	2.7	ug/l	1	03/16/09	03/17/09 PY	SW846 6010B ¹	SW846 3010A ³
Mercury	0.048 U	0.20	0.048	ug/l	1	03/16/09	03/17/09 CF	SW846 7470A ²	SW846 7470A ⁴
Nickel	93.1	40	1.3	ug/l	1	03/16/09	03/17/09 PY	SW846 6010B ¹	SW846 3010A ³
Selenium	3.5 U	10	3.5	ug/l	1	03/16/09	03/17/09 PY	SW846 6010B ¹	SW846 3010A ³
Silver	1.3 U	5.0	1.3	ug/l	1	03/16/09	03/17/09 PY	SW846 6010B ¹	SW846 3010A ³
Zinc	519	20	1.5	ug/l	1	03/16/09	03/17/09 PY	SW846 6010B ¹	SW846 3010A ³

- (1) Instrument QC Batch: MA10254
 (2) Instrument QC Batch: MA10255
 (3) Prep QC Batch: MP13205
 (4) Prep QC Batch: MP13207

RL = Reporting Limit
 MDL = Method Detection Limit

U = Indicates a result < MDL
 B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: MW101
Lab Sample ID: M81249-2
Matrix: AQ - Ground Water
Project: GSCMA:01-021 1269 Furnace Brook Parkway Quincy MA

Date Sampled: 03/13/09
Date Received: 03/13/09
Percent Solids: n/a

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	< 0.010	0.010	mg/l	1	03/13/09 14:55	NJ	SW846 7196A
Cyanide	0.010	0.010	mg/l	1	03/19/09 10:54	MA	EPA 335.4
HEM Oil And Grease	< 4.1	4.1	mg/l	1	03/13/09	BF	EPA 1664
Solids, Total Suspended	3410	20	mg/l	5	03/16/09	BF	SM21 2540D
Total Residual Chlorine	< 0.050	0.050	mg/l	1	03/13/09 16:00	NJ	SM21 4500CL F
pH	5.8		su	1	03/13/09 18:50	SAP	SM21 4500H-B

RL = Reporting Limit

Report of Analysis

Page 1 of 1

Client Sample ID: MW101	Date Sampled: 03/13/09
Lab Sample ID: M81249-2A	Date Received: 03/13/09
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8270C BY SIM SW846 3510C	
Project: GSCMA:01-021 1269 Furnace Brook Parkway Quincy MA	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F40620.D	1	03/18/09	PN	03/16/09	OP18070	MSF1924
Run #2							

	Initial Volume	Final Volume
Run #1	900 ml	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
87-86-5	Pentachlorophenol	ND	1.1		ug/l	
83-32-9	Acenaphthene	0.12	0.11	0.038	ug/l	
208-96-8	Acenaphthylene	0.042	0.11	0.038	ug/l	J
120-12-7	Anthracene	ND	0.11	0.050	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.056	0.039	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.11	0.028	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.056	0.056	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.11	0.038	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.11	0.042	ug/l	
218-01-9	Chrysene	ND	0.11	0.027	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.11	0.025	ug/l	
206-44-0	Fluoranthene	ND	0.11	0.040	ug/l	
86-73-7	Fluorene	0.17	0.11	0.038	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.11	0.031	ug/l	
91-57-6	2-Methylnaphthalene	5.3	0.22	0.079	ug/l	
91-20-3	Naphthalene	4.2	0.11	0.061	ug/l	
85-01-8	Phenanthrene	0.16	0.056	0.042	ug/l	
129-00-0	Pyrene	ND	0.11	0.030	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	42%		10-110%
4165-62-2	Phenol-d5	27%		10-110%
118-79-6	2,4,6-Tribromophenol	90%		10-141%
4165-60-0	Nitrobenzene-d5	85%		30-130%
321-60-8	2-Fluorobiphenyl	96%		30-130%
1718-51-0	Terphenyl-d14	80%		30-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID:	MW102	Date Sampled:	03/13/09
Lab Sample ID:	M81249-3	Date Received:	03/13/09
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	MADEP VPH REV 1.1		
Project:	GSCMA:01-021 1269 Furnace Brook Parkway Quincy MA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BD26073.D	1	03/17/09	AF	n/a	n/a	GBD1247
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

MA-VPH List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	2.0	2.0	ug/l	
100-41-4	Ethylbenzene	ND	2.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	1.0	ug/l	
91-20-3	Naphthalene	9.2	3.0	3.0	ug/l	
108-88-3	Toluene	ND	2.0	2.0	ug/l	
	m,p-Xylene	ND	2.0	2.0	ug/l	
95-47-6	o-Xylene	ND	2.0	2.0	ug/l	
	C5- C8 Aliphatics (Unadj.)	ND	50	50	ug/l	
	C9- C12 Aliphatics (Unadj.)	108	50	50	ug/l	
	C9- C10 Aromatics (Unadj.)	78.5	50	50	ug/l	
	C5- C8 Aliphatics	ND	50	50	ug/l	
	C9- C12 Aliphatics	ND	50	50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
615-59-8	2,5-Dibromotoluene	94%		70-130%
615-59-8	2,5-Dibromotoluene	93%		70-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW102
Lab Sample ID: M81249-3
Matrix: AQ - Ground Water
Method: MADEP EPH REV 1.1 SW846 3510C
Project: GSCMA:01-021 1269 Furnace Brook Parkway Quincy MA

Date Sampled: 03/13/09

Date Received: 03/13/09

Percent Solids: n/a

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BG6184.D	1	03/18/09	WZ	03/13/09	OP18062	GBG218
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	5.0	5.0	ug/l	
208-96-8	Acenaphthylene	ND	5.0	5.0	ug/l	
120-12-7	Anthracene	ND	5.0	5.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.0	5.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.0	5.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.0	5.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.0	5.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.0	5.0	ug/l	
218-01-9	Chrysene	ND	5.0	5.0	ug/l	
53-70-3	Dibenz(a,h)anthracene	ND	5.0	5.0	ug/l	
206-44-0	Fluoranthene	ND	5.0	5.0	ug/l	
86-73-7	Fluorene	ND	5.0	5.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	5.0	ug/l	
91-57-6	2-Methylnaphthalene	14.9	5.0	5.0	ug/l	
91-20-3	Naphthalene	6.6	5.0	5.0	ug/l	
85-01-8	Phenanthrene	ND	5.0	5.0	ug/l	
129-00-0	Pyrene	ND	5.0	5.0	ug/l	
	C11-C22 Aromatics (Unadj.)	199	100	100	ug/l	
	C9-C18 Aliphatics	114	100	100	ug/l	
	C19-C36 Aliphatics	ND	100	100	ug/l	
	C11-C22 Aromatics	177	100	100	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	69%		40-140%
321-60-8	2-Fluorobiphenyl	63%		40-140%
3386-33-2	1-Chlorooctadecane	31% ^a		40-140%
580-13-2	2-Bromonaphthalene	76%		40-140%

(a) Outside control limits due to possible matrix interference. Confirmed by refractionation.

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

MDL - Method Detection Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound