II. Suggested Format for the Remediation General Permit Notice of Intent (NOI)

A. General site information:

<table>
<tr><td rowspan="4">1. Name of site:
Colonial Oil</td><td colspan="3">Site address:
Street: 8 Emerson Avenue</td></tr>
<tr><td colspan="2">City: Chelmsford</td><td>State: MA
Zip: 01824</td></tr>
<tr><td colspan="3">Contact Person: Kim McCrady, Marchand Realty Trust</td></tr>
<tr><td colspan="3">Telephone: 978-256-0151 Email: kmcrady40@yahoo.com</td></tr>
<tr><td rowspan="4">2. Site owner
Marchand Realty Trust

Owner is (check one): ☐ Federal ☐ State/Tribal ■ Private
☐ Other; if so, specify:</td><td colspan="3">Mailing address:
Street: 8 Emerson Avenue</td></tr>
<tr><td colspan="2">City: Chelmsford</td><td>State: MA
Zip: 01824</td></tr>
<tr><td colspan="3">Contact Person: Kim McCrady, President</td></tr>
<tr><td colspan="3">Telephone: 978-256-0151 Email: colonialoil@yahoo.com</td></tr>
<tr><td rowspan="4">3. Site operator, if different than owner
Colonial Oil</td><td colspan="3">Mailing address:
Street: 8 Emerson Avenue</td></tr>
<tr><td colspan="2">City: Chelmsford</td><td>State: MA
~~Zip~~: 01824</td></tr>
<tr><td colspan="3">4. NPDES permit number assigned by EPA:

NPDES permit is (check all that apply: ■ RGP ☐ DGP ☐ CGP
☐ MSGP ☐ Individual NPDES permit ☐ Other; if so, specify:</td><td>5. Other regulatory program(s) that apply to the site (check all that apply):
☐ MA Chapter 21e; list RTN(s):

☐ NH Groundwater Management Permit or Groundwater Release Detection Permit:

☐ CERCLA
☐ UIC Program
☐ POTW Pretreatment
☐ CWA Section 404</td></tr>
</table>

B. Receiving water information:

1. Name of receiving water(s):	Waterbody identification of receiving water(s):	Classification of receiving water(s):
Golden Cove Stream, to River Meadow Brook, to Concord River	Concord River:Seg ID:MA82A-08	Concord River: Class B

Receiving water is (check any that apply): ☐ Outstanding Resource Water ☐ Ocean Sanctuary ☐ territorial sea ☐ Wild and Scenic River

2. Has the operator attached a location map in accordance with the instructions in B, above? (check one): ■ Yes ☐ No

Are sensitive receptors present near the site? (check one): ☐ Yes ■ No
If yes, specify:

3. Indicate if the receiving water(s) is listed in the State's Integrated List of Waters (i.e., CWA Section 303(d)). Include which designated uses are impaired, and any pollutants indicated. Also, indicate if a final TMDL is available for any of the indicated pollutants. For more information, contact the appropriate State as noted in Part 4.6 of the RGP. River Meadow Brook is not listed in the State's Integrated List of Waters

4. Indicate the seven day-ten-year low flow (7Q10) of the receiving water determined in accordance with the instructions in Appendix V for sites located in Massachusetts and Appendix VI for sites located in New Hampshire.	0 per Mass DEP
5. Indicate the requested dilution factor for the calculation of water quality-based effluent limitations (WQBELs) determined in accordance with the instructions in Appendix V for sites in Massachusetts and Appendix VI for sites in New Hampshire.	1.0 per Mass DEP

6. Has the operator received confirmation from the appropriate State for the 7Q10and dilution factor indicated? (check one): ■ Yes ☐ No
If yes, indicate date confirmation received: 8-8-17. Because Golden Cove Stream is a perennial stream, Mass DEP gave it a dilution factor of 1.0.

7. Has the operator attached a summary of receiving water sampling results as required in Part 4.2 of the RGP in accordance with the instruction in Appendix VIII? (check one): ■ Yes ☐ No

C. Source water information:

1. Source water(s) is (check any that apply):

■ Contaminated groundwater Has the operator attached a summary of influent sampling results as required in Part 4.2 of the RGP in accordance with the instruction in Appendix VIII? (check one): ■ Yes ☐ No	☐ Contaminated surface water Has the operator attached a summary of influent sampling results as required in Part 4.2 of the RGP in accordance with the instruction in Appendix VIII? (check one): ☐ Yes ☐ No	☐ The receiving water ☐ A surface water other than the receiving water; if so, indicate waterbody:	☐ Potable water; if so, indicate municipality or origin: ☐ Other; if so, specify:

2. Source water contaminants:	
a. For source waters that are contaminated groundwater or contaminated surface water, indicate are any contaminants present that are not included in the RGP? (check one): ☐ Yes ■ No If yes, indicate the contaminant(s) and the maximum concentration present in accordance with the instructions in Appendix VIII.	b. For a source water that is a surface water other than the receiving water, potable water or other, indicate any contaminants present at the maximum concentration in accordance with the instructions in Appendix VIII? (check one): ☐ Yes ☐ No
3. Has the source water been previously chlorinated or otherwise contains residual chlorine? (check one): ☐ Yes ■ No	

D. Discharge information

1.The discharge(s) is a(n) (check any that apply): ☐ Existing discharge ■ New discharge ☐ New source	
Outfall(s): Catch Basin that leads to a Route 495 drainage swale, which overflows into Golden Cove Stream. Golden Cove Stream flows in River Meadow Brook 1/2 mile west.	Outfall location(s): (Latitude, Longitude) 42 Degrees 36 Minutes 23.5 Seconds N 71 Degrees 20 Minutes 34 Seconds W
Discharges enter the receiving water(s) via (check any that apply): ☐ Direct discharge to the receiving water ■ Indirect discharge, if so, specify: ☐ A private storm sewer system ■ A municipal storm sewer system If the discharge enters the receiving water via a private or municipal storm sewer system: Has notification been provided to the owner of this system? (check one): ■ Yes ☐ No Has the operator has received permission from the owner to use such system for discharges? (check one): ■ Yes ☐ No, if so, explain, with an estimated timeframe for obtaining permission: Via Phone and email conversation. Must include Town on NOI distribution. No time frame discussed. Asked us to notify Con Comm. Has the operator attached a summary of any additional requirements the owner of this system has specified? (check one): ☐ Yes ■ No	
Provide the expected start and end dates of discharge(s) (month/year): September 7 to September 30, 2017 Indicate if the discharge is expected to occur over a duration of: ■ less than 12 months ☐ 12 months or more ☐ is an emergency discharge	
Has the operator attached a site plan in accordance with the instructions in D, above? (check one): ■ Yes ☐ No	

<table>
<tr><td>2. Activity Category: (check all that apply)</td><td colspan="2">3. Contamination Type Category: (check all that apply)</td></tr>
<tr><td rowspan="5">■ I – Petroleum-Related Site Remediation
☐ II – Non-Petroleum-Related Site Remediation
☐ III – Contaminated Site Dewatering
☐ IV – Dewatering of Pipelines and Tanks
☐ V – Aquifer Pump Testing
☐ VI – Well Development/Rehabilitation
☐ VII – Collection Structure Dewatering/Remediation
☐ VIII – Dredge-Related Dewatering</td><td colspan="2">a. If Activity Category I or II: (check all that apply)

■ A. Inorganics
■ B. Non-Halogenated Volatile Organic Compounds
☐ C. Halogenated Volatile Organic Compounds
■ D. Non-Halogenated Semi-Volatile Organic Compounds
☐ E. Halogenated Semi-Volatile Organic Compounds
■ F. Fuels Parameters</td></tr>
<tr><td colspan="2">b. If Activity Category III, IV, V, VI, VII or VIII: (check either G or H)</td></tr>
<tr><td>☐ G. Sites with Known Contamination</td><td>☐ H. Sites with Unknown Contamination</td></tr>
<tr><td>c. If Category III-G, IV-G, V-G, VI-G, VII-G or VIII-G: (check all that apply)

☐ A. Inorganics
☐ B. Non-Halogenated Volatile Organic Compounds
☐ C. Halogenated Volatile Organic Compounds
☐ D. Non-Halogenated Semi-Volatile Organic Compounds
☐ E. Halogenated Semi-Volatile Organic Compounds
☐ F. Fuels Parameters</td><td>d. If Category III-H, IV-H, V-H, VI-H, VII-H or VIII-H Contamination Type Categories A through F apply</td></tr>
</table>

4. Influent and Effluent Characteristics

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
A. Inorganics									
Ammonia	✔		1	See	.14	ND		Report mg/L	---
Chloride		✔	2	Attached	700	1,760,000		Report µg/l	---
Total Residual Chlorine		✔	2	Analytical	.038	.10		0.2 mg/L	
Total Suspended Solids		✔	1	Reports	.57	1740		30 mg/L	---
Antimony	✔		2		4.3	ND		206 µg/L	
Arsenic	✔		2		2.7	ND		104 µg/L	
Cadmium		✔	2		.70	36.4		10.2 µg/L	
Chromium III	✔		2		5.8	70		323 µg/L	
Chromium VI	✔		2		4.8	ND		323 µg/L	
Copper	✔		2		3.2	ND		242 µg/L	
Iron		✔	2		32	750		5,000 µg/L	
Lead	✔		2		2.6	ND		160 µg/L	
Mercury	✔		2		.083	ND		0.739 µg/L	
Nickel	✔		2		1.3	ND		1,450 µg/L	
Selenium	✔		1			ND		235.8 µg/L	
Silver	✔		2		3.1	ND		35.1 µg/L	
Zinc		✔	2		4	344		420 µg/L	
Cyanide	✔							178 mg/L	
B. Non-Halogenated VOCs									
Total BTEX	✔		2		Varies	ND		100 µg/L	---
Benzene	✔		2		.17	ND		5.0 µg/L	---
1,4 Dioxane	✔		1		52	ND		200 µg/L	---
Acetone	✔		1		.005	ND		7.97 mg/L	---
Phenol								1,080 µg/L	

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
C. Halogenated VOCs									
Carbon Tetrachloride	✔							4.4 µg/L	
1,2 Dichlorobenzene	✔							600 µg/L	---
1,3 Dichlorobenzene	✔							320 µg/L	---
1,4 Dichlorobenzene	✔							5.0 µg/L	---
Total dichlorobenzene	✔							763 µg/L in NH	---
1,1 Dichloroethane	✔							70 µg/L	---
1,2 Dichloroethane	✔							5.0 µg/L	---
1,1 Dichloroethylene	✔							3.2 µg/L	---
Ethylene Dibromide	✔							0.05 µg/L	---
Methylene Chloride	✔							4.6 µg/L	---
1,1,1 Trichloroethane	✔							200 µg/L	---
1,1,2 Trichloroethane	✔							5.0 µg/L	---
Trichloroethylene	✔							5.0 µg/L	---
Tetrachloroethylene	✔							5.0 µg/L	
cis-1,2 Dichloroethylene	✔							70 µg/L	---
Vinyl Chloride	✔							2.0 µg/L	---
D. Non-Halogenated SVOCs									
Total Phthalates	✔		1		2.1	ND		190 µg/L	
Diethylhexyl phthalate	✔				2.1	ND		101 µg/L	
Total Group I PAHs	✔		1		Varies	ND		1.0 µg/L	---
Benzo(a)anthracene	✔		1		.22	ND		As Total PAHs	
Benzo(a)pyrene	✔		1		.23	ND			
Benzo(b)fluoranthene	✔		1		.22	ND			
Benzo(k)fluoranthene	✔		1		.22	ND			
Chrysene	✔		1		.19	ND			
Dibenzo(a,h)anthracene	✔		1		.35	ND			
Indeno(1,2,3-cd)pyrene	✔		1		.35	ND			

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
Total Group II PAHs	✔		1		varies	ND		100 µg/L	---
Naphthalene	✔		1		1.1	ND		20 µg/L	---
E. Halogenated SVOCs									
Total PCBs	✔							0.000064 µg/L	---
Pentachlorophenol	✔							1.0 µg/L	---
F. Fuels Parameters									
Total Petroleum Hydrocarbons	✔		1		.25	ND		5.0 mg/L	---
Ethanol	✔							Report mg/L	---
Methyl-tert-Butyl Ether	✔		1		.25	ND		70 µg/L	
tert-Butyl Alcohol	✔		1		7.0	ND		120 µg/L in MA 40 µg/L in NH	---
tert-Amyl Methyl Ether	✔				.37	ND		90 µg/L in MA 140 µg/L in NH	---
Other (i.e., pH, temperature, hardness, salinity, LC_{50}, additional pollutants present); if so, specify:									
pH (SU)		✔	2			5.8			
Temperature (50 - 60 Deg.)		✔	1			60			
Hardness (mg/l)		✔	1		2.5	55.7			

E. Treatment system information

1. Indicate the type(s) of treatment that will be applied to effluent prior to discharge: (check all that apply)

☐ Adsorption/Absorption ☐ Advanced Oxidation Processes ☐ Air Stripping ☐ Granulated Activated Carbon ("GAC")/Liquid Phase Carbon Adsorption

☐ Ion Exchange ■ Precipitation/Coagulation/Flocculation ■ Separation/Filtration ■ Other; if so, specify: pH Adjustment

2. Provide a written description of all treatment system(s) or processes that will be applied to the effluent prior to discharge.

Treatment system that will consist of one or more 20,000-gallon fractionation tanks for aeration (oxidation) and precipitation of inorganic contaminates and course sedimentation removal. Bag filtration will be used for fine sedimentation removal. Neither chlorination nor de-chlorination will be conducted. If organics are encountered during the dewatering process, GAC will be added to the system.

Identify each major treatment component (check any that apply):

■ Fractionation tanks☐ Equalization tank ☐ Oil/water separator ☐ Mechanical filter ☐ Media filter

☐ Chemical feed tank ☐ Air stripping unit ■ Bag filter ☐ Other; if so, specify: pH adjustment

Indicate if either of the following will occur (check any that apply):

☐ Chlorination ☐ De-chlorination

3. Provide the **design flow capacity** in gallons per minute (gpm) of the most limiting component. Indicate the most limiting component: Is use of a flow meter feasible? (check one): ■ Yes ☐ No, if so, provide justification:	300
Provide the proposed maximum effluent flow in gpm.	300 at startup
Provide the average effluent flow in gpm.	100 at steady state
If Activity Category IV applies, indicate the estimated total volume of water that will be discharged:	

4. Has the operator attached a schematic of flow in accordance with the instructions in E, above? (check one): ■ Yes ☐ No

F. Chemical and additive information

1. Indicate the type(s) of chemical or additive that will be applied to effluent prior to discharge or that may otherwise be present in the discharge(s): (check all that apply)

☐ Algaecides/biocides ☐ Antifoams ☐ Coagulants ☐ Corrosion/scale inhibitors ☐ Disinfectants ■ Flocculants ☐ Neutralizing agents ☐ Oxidants ☐ Oxygen ☐ scavengers ■ pH conditioners ☐ Bioremedial agents, including microbes ☐ Chlorine or chemicals containing chlorine ☐ Other; if so, specify:

2. Provide the following information for each chemical/additive, using attachments, if necessary:

a. Product name, chemical formula, and manufacturer of the chemical/additive;
b. Purpose or use of the chemical/additive or remedial agent;
c. Material Safety Data Sheet (MSDS) and Chemical Abstracts Service (CAS) Registry number for each chemical/additive;
d. The frequency (hourly, daily, etc.), duration (hours, days), quantity (maximum and average), and method of application for the chemical/additive;
e. Any material compatibility risks for storage and/or use including the control measures used to minimize such risks; and
f. If available, the vendor's reported aquatic toxicity (NOAEL and/or LC50 in percent for aquatic organism(s)).

3. Has the operator attached an explanation which demonstrates that the addition of such chemicals/additives may be authorized under this general permit in accordance with the instructions in F, above? (check one): ☐ Yes ■ No; if no, has the operator attached data that demonstrates each of the 126 priority pollutants in CWA Section 307(a) and 40 CFR Part 423.15(j)(1) are non-detect in discharges with the addition of the proposed chemical/additive? (check one): ■ Yes ☐ No

G. Endangered Species Act eligibility determination

1. Indicate under which criterion the discharge(s) is eligible for coverage under this general permit:

☐ **FWS Criterion A**: No endangered or threatened species or critical habitat are in proximity to the discharges or related activities or come in contact with the "action area".

■ **FWS Criterion B**: Formal or informal consultation with the FWS under section 7 of the ESA resulted in either a no jeopardy opinion (formal consultation) or a written concurrence by FWS on a finding that the discharges and related activities are "not likely to adversely affect" listed species or critical habitat (informal consultation). Has the operator completed consultation with FWS? (check one): ■ Yes ☐ No; if no, is consultation underway? (check one): ☐ Yes ☐ No

☐ **FWS Criterion C**: Using the best scientific and commercial data available, the effect of the discharges and related activities on listed species and critical habitat have been evaluated. Based on those evaluations, a determination is made by EPA, or by the operator and affirmed by EPA, that the discharges and related activities will have "no effect" on any federally threatened or endangered listed species or designated critical habitat under the jurisdiction of the FWS. This determination was made by: (check one) ☐ the operator ☐ EPA ☐ Other; if so, specify:

☐ **NMFS Criterion**: A determination made by EPA is affirmed by the operator that the discharges and related activities will have "no effect" or are "not likely to adversely affect" any federally threatened or endangered listed species or critical habitat under the jurisdiction of NMFS and will not result in any take of listed species. Has the operator previously completed consultation with NMFS? (check one): ☐ Yes ☐ No

2. Has the operator attached supporting documentation of ESA eligibility in accordance with the instructions in Appendix I, and G, above? (check one): ☐ Yes ■ No

Does the supporting documentation include any written concurrence or finding provided by the Services? (check one): ☐ Yes ☐ No; if yes, attach.

H. National Historic Preservation Act eligibility determination

1. Indicate under which criterion the discharge(s) is eligible for coverage under this general permit:

■ **Criterion A**: No historic properties are present. The discharges and discharge-related activities (e.g., BMPs) do not have the potential to cause effects on historic properties.

☐ **Criterion B**: Historic properties are present. Discharges and discharge related activities do not have the potential to cause effects on historic properties.

☐ **Criterion C**: Historic properties are present. The discharges and discharge-related activities have the potential to have an effect or will have an adverse effect on historic properties.

2. Has the operator attached supporting documentation of NHPA eligibility in accordance with the instructions in H, above? (check one): ■ Yes ☐ No

Does the supporting documentation include any written agreement with the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer (TPHO), or other tribal representative that outlines measures the operator will carry out to mitigate or prevent any adverse effects on historic properties? (check one): ☐ Yes ■ No

I. Supplemental information

Describe any supplemental information being provided with the NOI. Include attachments if required or otherwise necessary.

Site plan, Site Locus, Stream Stats, Analytical Reports, NHPA Confirmation, MACRIS Results, Dilution Factor Calc., MSDS for Flocculant and Sodium BiCarbonate

Has the operator attached data, including any laboratory case narrative and chain of custody used to support the application? (check one): ■ Yes ☐ No

Has the operator attached the certification requirement for the Best Management Practices Plan (BMPP)? (check one): ☐ Yes ■ No

J. Certification requirement

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 gathered and evaluated 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, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

BMPP certification statement:	BMPP meeting the requirements of this general permit will be developed and implemented upon initiation of discharge.
Notification provided to the appropriate State, including a copy of this NOI, if required.	Check one: Yes ■ No ☐
Notification provided to the municipality in which the discharge is located, including a copy of this NOI, if requested.	Check one: Yes ■ No ☐
Notification provided to the owner of a private or municipal storm sewer system, if such system is used for site discharges, including a copy of this NOI, if requested.	Check one: Yes ■ No ☐ NA ☐
Permission obtained from the owner of a private or municipal storm sewer system, if such system is used for site discharges. If yes, attach additional conditions. If no, attach explanation and timeframe for obtaining permission.	Check one: Yes ■ No ☐ NA ☐
Notification provided to the owner/operator of the area associated with activities covered by an additional discharge permit(s). Additional discharge permit is (check one): ■ RGP ☐ DGP ☐ CGP ☐ MSGP ☐ Individual NPDES permit ☐ Other; if so, specify:	Check one: Yes ■ No ☐ NA ☐
Signature:	Date: 8/19/17
Print Name and Title: Robert P. Coluccio, Senior Engineer	

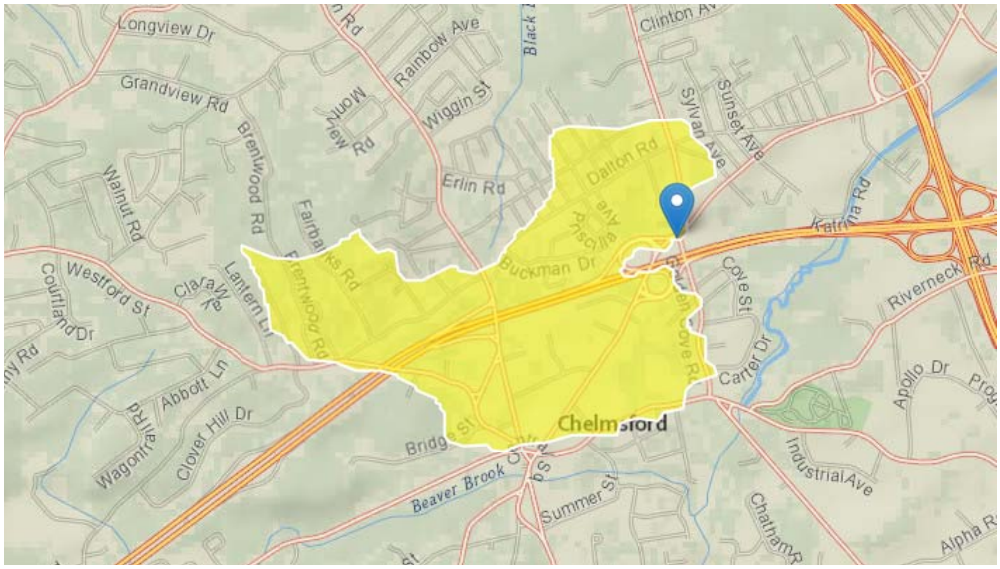
MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT

Town of Chelmsford, MA makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.

Parcels updated 06/01/2017
Properties updated 07/11/2017

Colonial Oil Chelmsford StreamStats Report

Region ID: MA
Workspace ID: MA20170802094731767000
Clicked Point (Latitude, Longitude): 42.60652, -71.34285
Time: 2017-08-02 09:48:33 -0400



NOI for RGP to discharge to Golden Cove Stream

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.8	square miles
BSLDEM250	Mean basin slope computed from 1:250K DEM		percent
DRFTPERSTR	Area of stratified drift per unit of stream length		square mile per mile
MAREGION	Region of Massachusetts 0 for Eastern 1 for Western	0	dimensionless
BSLDEM10M	Mean basin slope computed from 10 m DEM		percent
PCTSNDGRV	Percentage of land surface underlain by sand and gravel deposits		percent
FOREST	Percentage of area covered by forest		percent

Low-Flow Statistics Parameters [Statewide Low Flow WRIR00 4135]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.8	square miles	1.61	149
BSLDEM250	Mean Basin Slope from 250K DEM		percent	0.32	24.6
DRFTPERSTR	Stratified Drift per Stream Length		square mile per mile	0	1.29
MAREGION	Massachusetts Region	0	dimensionless	0	1

Low-Flow Statistics Flow Report [Statewide Low Flow WRIR00 4135]

Statistic	Value	Unit

Low-Flow Statistics Citations

Flow-Duration Statistics Parameters [Statewide Low Flow WRIR00 4135]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.8	square miles	1.61	149
DRFTPERSTR	Stratified Drift per Stream Length		square mile per mile	0	1.29
MAREGION	Massachusetts Region	0	dimensionless	0	1
BSLDEM250	Mean Basin Slope from 250K DEM		percent	0.32	24.6

Flow-Duration Statistics Flow Report [Statewide Low Flow WRIR00 4135]

Statistic	Value	Unit

Flow-Duration Statistics Citations

August Flow-Duration Statistics Parameters [Statewide Low Flow WRIR00 4135]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.8	square miles	1.61	149
BSLDEM250	Mean Basin Slope from 250K DEM		percent	0.32	24.6
DRFTPERSTR	Stratified Drift per Stream Length		square mile per mile	0	1.29
MAREGION	Massachusetts Region	0	dimensionless	0	1

August Flow-Duration Statistics Flow Report [Statewide Low Flow WRIR00 4135]

Statistic	Value	Unit

August Flow-Duration Statistics Citations

Bankfull Statistics Parameters [Bankfull Statewide SIR2013 5155]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.8	square miles	0.6	329
BSLDEM10M	Mean Basin Slope from 10m DEM		percent	2.2	23.9

Bankfull Statistics Flow Report [Bankfull Statewide SIR2013 5155]

Statistic	Value	Unit

Bankfull Statistics Citations

Probability Statistics Parameters [Perennial Flow Probability]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.8	square miles	0.01	1.99
PCTSNDGRV	Percent Underlain By Sand And Gravel		percent	0	100
FOREST	Percent Forest		percent	0	100
MAREGION	Massachusetts Region	0	dimensionless	0	1

Probability Statistics Flow Report [Perennial Flow Probability]

Statistic	Value	Unit

Probability Statistics Citations

Map Theme Legends

Storm Drain System

From: Ruan, Xiaodan (DEP) (DEP) <xiaodan.ruan@state.ma.us>
To: rpcoluccio <rpcoluccio@aol.com>
Subject: RE: StreamStat Report for Colonial Oil
Date: Tue, Aug 8, 2017 2:55 pm

Hi Bob,

Because the brook might become intermittent during low flow season, no dilution will be granted for the discharge and the dilution factor equals to 1. Please let me know if you have any questions.

Thank you.
Xiaodan

From: rpcoluccio [mailto:rpcoluccio@aol.com]
Sent: Tuesday, August 08, 2017 12:16 PM
To: Ruan, Xiaodan (DEP)
Subject: RE: StreamStat Report for Colonial Oil

I only know that the town engineer, Christina Papadopoulos, told me that it might run dry.

Sent via the Samsung Galaxy S7, an AT&T 4G LTE smartphone

-------- Original message --------
From: "Ruan, Xiaodan (DEP)" <xiaodan.ruan@state.ma.us>
Date: 8/8/17 11:29 AM (GMT-05:00)
To: rpcoluccio <rpcoluccio@aol.com>
Subject: RE: StreamStat Report for Colonial Oil

Hi Bob,

I think we talked about this over the phone but could you remind me again if the brook goes dry during low flow season? Or does it have continuous flow?

Thanks,
Xiaodan

From: rpcoluccio [mailto:rpcoluccio@aol.com]
Sent: Monday, August 07, 2017 10:36 AM
To: Ruan, Xiaodan (DEP)
Subject: Fwd: StreamStat Report for Colonial Oil

The site address is Colonial Oil, 8 Emerson Avenue, Chelmsford, Ma.

Can you confirm receipt even if you don't get to it right away?

Bob Coluccio
Web Engineering
781.844.8323

Sent via the Samsung Galaxy S7, an AT&T 4G LTE smartphone

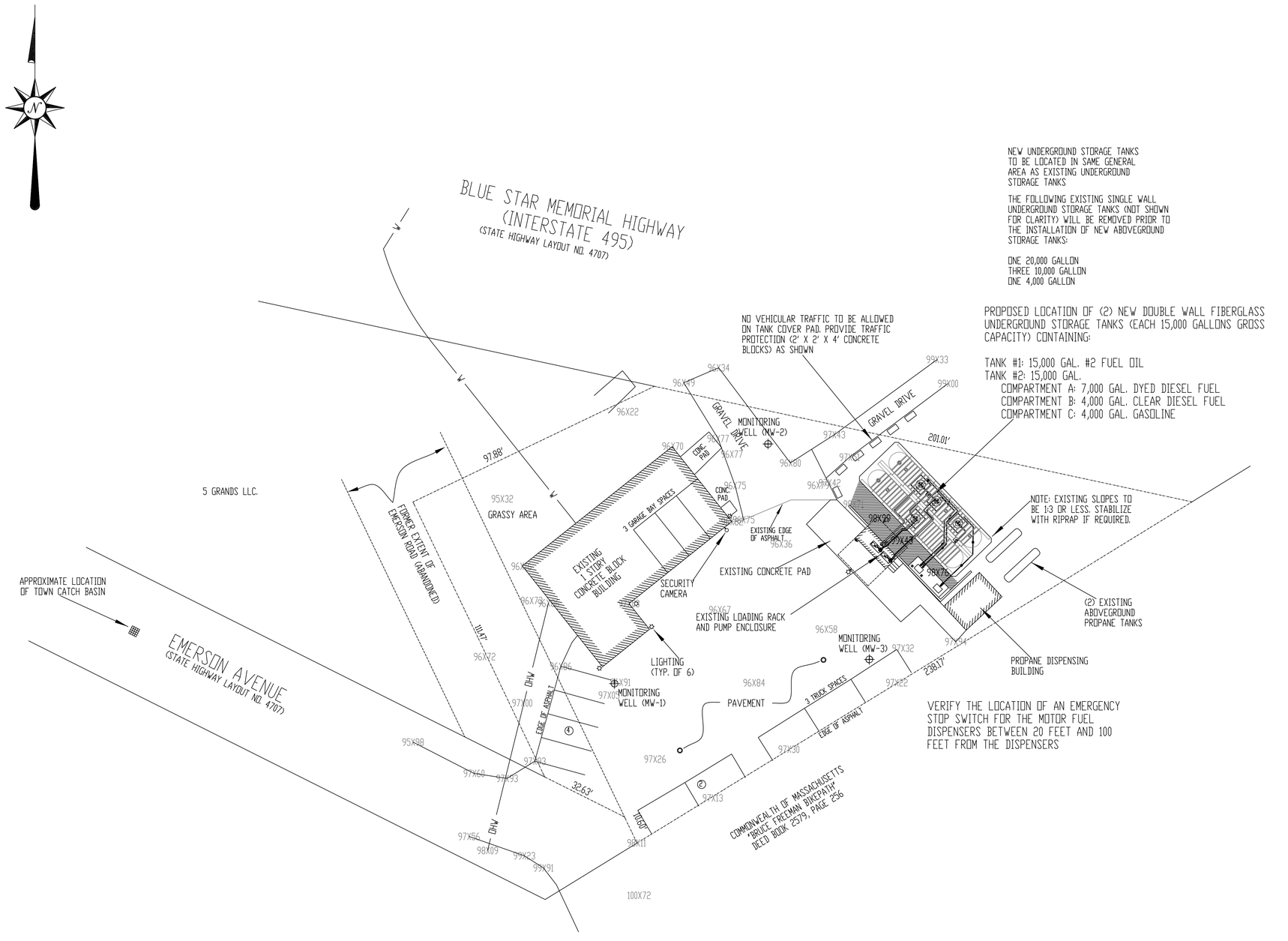
-------- Original message --------
From: rpcoluccio@aol.com
Date: 8/2/17 10:10 AM (GMT-05:00)
To: Catherine.Vakalopoulos@MassMail.State.MA.US
Subject: StreamStat Report

Cathy

Attached is a new StreamStat report. Is this something you can take a look at and let me know what you think? Strangely, it didn't give me any low flow data. Would that be because it is very low or because there is no data? Would I go with a dilution factor of 1?

DRAWING LIST:

A-1 SITE PLAN - PROPOSED MODIFICATIONS
M-1 PIPING / MECHANICAL
M-2 TANK ELEVATIONS
S-1 CONCRETE



96X80 EXISTING SPOT ELEVATION
[XX.X] PROPOSED SPOT ELEVATION (APPROX.)
☼ EXISTING LIGHTING (TYPICAL OF 7)

NOTE: ALL GASOLINE RELATED EQUIPMENT TO BE CARB APPROVED PER EXECUTIVE ORDER VR-401-E

GENERAL TESTING NOTES:

1) ALL SUMPS SHALL PASS A TIGHTNESS TEST AT INSTALLATION TO ENSURE THE SUMP IS LIQUID TIGHT BY USING VACUUM, PRESSURE, OR LIQUID TESTING. THE STANDARD FOR FAILING IS 1 INCH OR GREATER LOSS OF WATER WITHIN ONE HOUR.
2) AFTER INSTALLATION, BACKFILLING AND SURFACING TO GRADE, BUT PRIOR TO PUTTING REGULATED SUBSTANCE INTO THE TANK, EACH TANK AND ALL PIPING SHALL PASS A TIGHTNESS TEST PURSUANT TO 310 CMR 80.32.
3) ALL UST SYSTEMS SHALL BE INSPECTED BY THE PERSON, WHO PREPARES THE DRAWING OR AS-BUILT PLANS IN ACCORDANCE WITH 310 CMR 80.16(7), OR THEIR DESIGNATED REPRESENTATIVE, PRIOR TO BEING BACKFILLED, TO ENSURE THE UST SYSTEM IS INSTALLED IN ACCORDANCE WITH 310 CMR 80.14 THROUGH 80.22.
4) IF THE PERSON WHO PREPARES THE DRAWING OR AS-BUILT PLANS, OR THEIR DESIGNATED REPRESENTATIVE, DETERMINES THE UST SYSTEM IS NOT INSTALLED IN ACCORDANCE WITH 310 CMR 80.14 THROUGH 80.22, THE UST SYSTEM SHALL NOT BE BACKFILLED UNTIL THE OWNER OR OPERATOR OF THE UST SYSTEM COMPLIES WITH ALL REQUIREMENTS AT 310 CMR 80.14 THROUGH 80.22.
5) PROVIDE ENGINEER WITH TANK MANUFACTURER'S CHECKLIST COMPLETED BY CONTRACTOR.

GENERAL NOTES:

1) NEW TANKS TO BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH UL 1316 'GLASS-FIBER REINFORCED PLASTIC UNDERGROUND STORAGE TANKS FOR PETROLEUM PRODUCTS, ALCOHOLS, AND ALCOHOL-GASOLINE MIXTURES.'
2) ALL CONSTRUCTION TO MEET OR EXCEED:
   A) MASSACHUSETTS BUILDING CODES
   B) NFPA 1 'FIRE CODE'
   C) NFPA 30 'FLAMMABLE AND COMBUSTIBLE LIQUIDS CODE'
   D) NFPA 30A 'CODE FOR MOTOR FUEL DISPENSING FACILITIES AND REPAIR GARAGES'
   E) 527 CMR 1.00 'MASSACHUSETTS COMPREHENSIVE FIRE SAFETY CODE'
   F) NATIONAL ELECTRICAL CODE
   G) THE LATEST STANDARD OF AISC (AMERICAN INSTITUTE OF STEEL CONSTRUCTION)
3) ELECTRICAL CLASSIFICATION: CLASS I DIV 1/2 AROUND GASOLINE AND PROPANE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE. ELECTRICAL UNCLASSIFIED OUTSIDE THESE AREAS.
4) ALL STRUCTURES TO MEET OR EXCEED THE LATEST REVISION OF AISC AND A58 SPECIFICATIONS.
5) ALL STRUCTURES TO MEET OR EXCEED MASSACHUSETTS BUILDING CODES.
6) PIPING AND VENTING TO MEET OR EXCEED ASME B31 'PRESSURE PIPING CODE' AND API 2000 FOR 'VENTING ATMOSPHERIC AND LOW PRESSURE STORAGE TANKS.'
7) ALL TANKS TO BE EQUIPPED WITH FILL TERMINATION SET AT 95% CAPACITY.
8) TANKS TO BE EQUIPPED WITH INVENTORY CONTROL MONITOR WITH HIGH LEVEL ALARM SET AT 90% CAPACITY. AUDIBLE/VISIBLE HIGH LEVEL ALARM TO HAVE ACKNOWLEDGE SWITCH.
9) ALL PIPING TO HAVE PRESSURE RELIEF AROUND ALL FLOW BLOCKING DEVICES (TO RELIEVE BACK TO UNDERGROUND TANKS.
10) TANKS TO BE LABELED FOR CONTENTS USING 2" MIN. LETTERING (COLOR TO CONTRAST TANK COLOR) AND WITH THE DOT FIRE RATING SYSTEM SYMBOL.
11) TANKS TO BE LABELED WITH MAXIMUM FILL HEIGHT IN PLAIN VIEW OF OFFLOADING OPERATIONS.
12) THE SELF-SERVICE DISPENSING OF MOTOR FUELS BY THE PUBLIC IS PROHIBITED.

THIS DRAWING TAKEN FROM A PLAN OF LAND BY HANCOCK ASSOCIATES OF CHELMSFORD, MASSACHUSETTS, DATED MAY 23, 2017 AND SHOULD NOT BE USED FOR THE DETERMINATION OF PROPERTY LINES, METES, BOUNDS, ETC.

WEB ENGINEERING ASSOCIATES, INC.
111 SUMMER STREET, SCITUATE, MASSACHUSETTS 02066

DATE: 5/9/17	FILE: PROPOSED F WEB ENGINEERING DRAWING NUMBER 1738	DRAWN BY: JAS
SCALE: 1" = 20'		JOB #: 17-E-023

COLONIAL OIL
8 EMERSON AVENUE, CHELMSFORD, MASSACHUSETTS

SITE PLAN - PROPOSED MODIFICATIONS

DRAWING No: A-1

PUMP

INJECTION PUMP

F FILTER

M METER

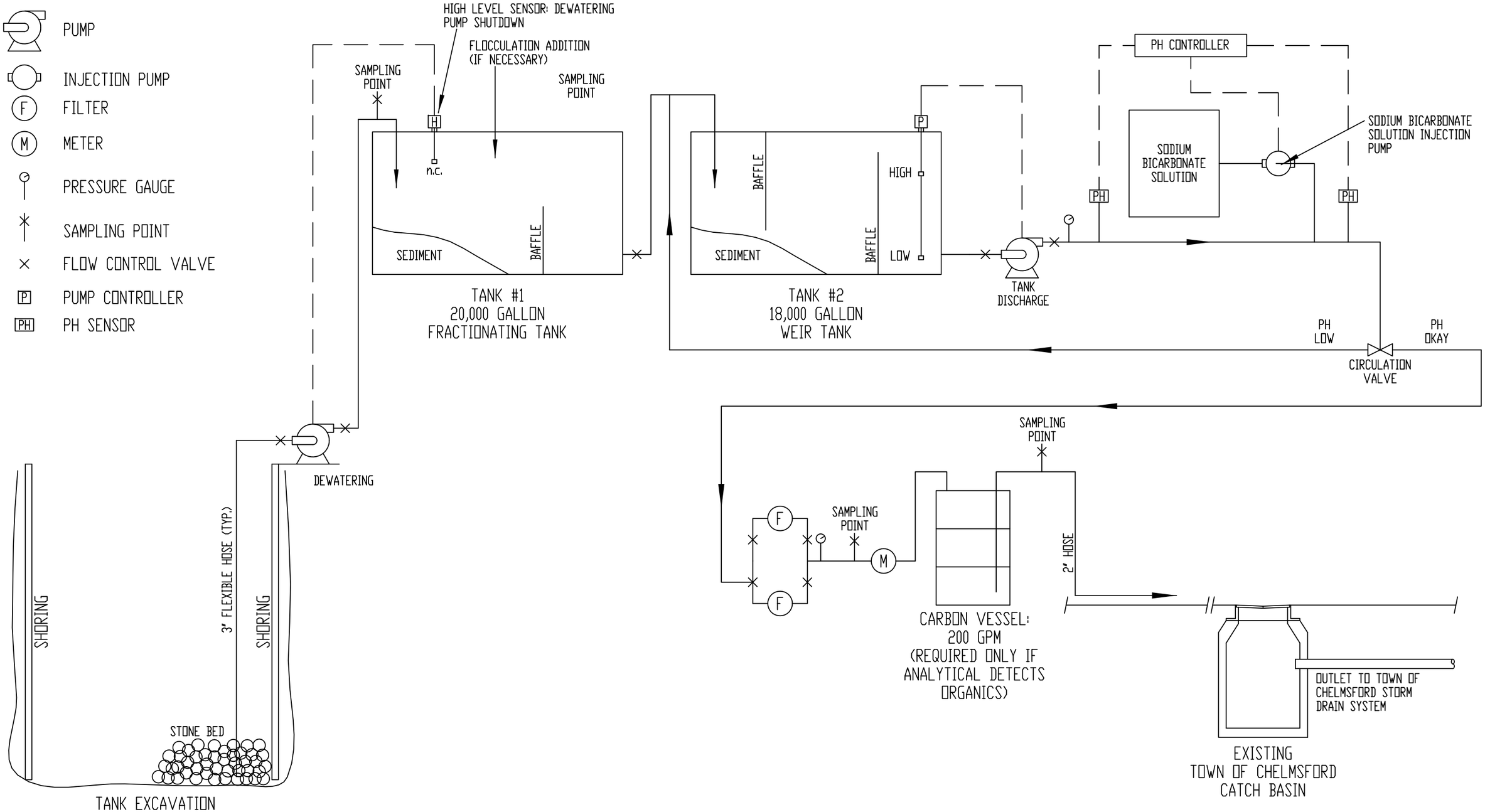
PRESSURE GAUGE

SAMPLING POINT

× FLOW CONTROL VALVE

P PUMP CONTROLLER

PH PH SENSOR



EXCAVATION DEWATERING AND TREATMENT SYSTEM

WEB ENGINEERING ASSOCIATES, INC.
111 SUMMER STREET, SCITUATE, MASSACHUSETTS 02066

DATE: 5/9/17	FILE: WATER TREATMENT SCHEMATIC	DRAWN BY: JAS
SCALE: NONE		JOB #: 17-E-023

COLONIAL OIL
8 EMERSON AVENUE, CHELMSFORD, MASSACHUSETTS

WATER TREATMENT SYSTEM SCHEMATIC

United States Department of the Interior

FISH AND WILDLIFE SERVICE

New England Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5087
http://www.fws.gov/newengland

January 20, 2017

To Whom It May Concern:

This project was reviewed for the presence of federally listed or proposed, threatened or endangered species or critical habitat per instructions provided on the U.S. Fish and Wildlife Service's New England Field Office website:

http://www.fws.gov/newengland/EndangeredSpec-Consultation.htm (accessed January 2017)

Based on information currently available to us, no federally listed or proposed, threatened or endangered species or critical habitat under the jurisdiction of the U.S. Fish and Wildlife Service are known to occur in the project area(s). Preparation of a Biological Assessment or further consultation with us under section 7 of the Endangered Species Act is not required. No further Endangered Species Act coordination is necessary for a period of one year from the date of this letter, unless additional information on listed or proposed species becomes available.

Thank you for your cooperation. Please contact Maria Tur of this office at 603-223-2541 if we can be of further assistance.

Sincerely yours,

Thomas R. Chapman
Supervisor
New England Field Office

Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

Search Criteria: Town(s): Chelmsford; Street No: 8; Street Name: emerson Ave; Resource Type(s): Area;

Inv. No.	Property Name	Street	Town	Year

e-Hardcopy 2.0
Automated Report

Technical Report for

Web Engineering Associates, Inc.

Colonial Oil, 8 Emerson Street, Chelmsford, MA

17-E-026

SGS Accutest Job Number: MC50632

Sampling Date: 06/12/17

Report to:

Web Engineering Associates
P.O. Box 710
North Scituate, MA 02061
sesolutions1@comcast.net

ATTN: Andrew Brolowski

Total number of pages in report: 47

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

H. (Brad) Madadian
Lab Director

Client Service contact: Daniel Axelrod 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) FL (E87579) NJ (MA926) PA (6801121) LA (AI171119) ND (R-188) NC (653) IL (002337) WI (399080220) DoD ELAP (L-A-B L2235)

Sections: 1 2 3 4 5 6 7 8 9 10

Table of Contents

Sample Summary

Web Engineering Associates, Inc.

Job No: MC50632

Colonial Oil, 8 Emerson Street, Chelmsford, MA
Project No: 17-E-026

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
MC50632-1	06/12/17	12:30	AB	06/12/17	AQ	Ground Water	MW-2
MC50632-2	06/12/17	14:00	AB	06/12/17	AQ	Ground Water	MW-3

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Web Engineering Associates, Inc. **Job No** MC50632

Site: Colonial Oil, 8 Emerson Street, Chelmsford, MA **Report Date** 6/19/2017 3:11:23 PM

2 Sample(s) were collected on 06/12/2017 and were received at SGS Accutest New England on 06/12/2017 properly preserved, at 5.4 Deg. C and intact. These Samples received a job number of MC50632. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GC By Method MADEP VPH REV 1.1

Matrix: AQ **Batch ID:** GWX4077

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

Metals By Method SW846 6010C

Matrix: AQ **Batch ID:** N:MP1431

- Analysis performed at SGS Accutest, Dayton, NJ.

Metals By Method SW846 7470A

Matrix: AQ **Batch ID:** N:MP1443

- Mercury: Analysis performed at SGS Accutest, Dayton, NJ.

Wet Chemistry By Method EPA 1664A

Matrix: AQ **Batch ID:** N:GP6038

- MC50632-2 for HEM Oil and Grease: Analysis performed at SGS Accutest, Dayton, NJ.
- MC50632-1 for HEM Oil and Grease: Analysis performed at SGS Accutest, Dayton, NJ.

Wet Chemistry By Method EPA 300/SW846 9056A

Matrix: AQ **Batch ID:** N:GP5978

- MC50632-1 for Chloride: Analysis performed at SGS Accutest, Dayton, NJ.
- MC50632-2 for Chloride: Analysis performed at SGS Accutest, Dayton, NJ.

Wet Chemistry By Method SM21 4500HB/EPA150.1

Matrix: AQ **Batch ID:** GN55920

- MC50632-2 for pH: Analysis performed past the required 15 minutes of collection time/holding time.
- MC50632-1 for pH: Analysis performed past the required 15 minutes of collection time/holding time.

Wet Chemistry By Method SW846 7196A

Matrix: AQ **Batch ID:** GN55919

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

SGS Accutest New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety. The Laboratory Director for SGS Accutest New England or assignee as verified by the signature on the cover page has authorized the release of this report(MC50632).

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	SGS Accutest New England	**Job No**	MC50632
Site:	WEBMAN: Colonial Oil, 8 Emerson Street, Chelmsford, MA	**Report Date**	6/19/2017 9:05:06 AM

On 06/13/2017, 2 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at SGS Accutest at a maximum corrected temperature of 4.3 C. Samples were intact and chemically preserved, unless noted below. A SGS Accutest Job Number of MC50632 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Metals By Method SW846 6010C

Matrix: AQ **Batch ID:** MP1431

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TD4626-1SDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Chromium, Copper, Iron, Nickel, Silver, Zinc are outside control limits for sample MP1431-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

Metals By Method SW846 7470A

Matrix: AQ **Batch ID:** MP1443

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

Wet Chemistry By Method EPA 1664A

Matrix: AQ **Batch ID:** GP6038

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

Wet Chemistry By Method EPA 300/SW846 9056A

Matrix: AQ **Batch ID:** GP5978

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

SGS Accutest certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

SGS Accutest is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by SGS Accutest indicated via signature on the report cover

Sample Results

Report of Analysis

SGS Accutest

Report of Analysis

Client Sample ID:	MW-2		
Lab Sample ID:	MC50632-1	**Date Sampled:**	06/12/17
Matrix:	AQ - Ground Water	**Date Received:**	06/12/17
		Percent Solids:	n/a
Project:	WEBMAN: Colonial Oil, 8 Emerson Street, Chelmsford, MA		

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Antimony	4.3 U	6.0	4.3	ug/l	1	06/14/17	06/15/17	AB	SW846 6010C [2]	SW846 3010A [3]
Arsenic	2.7 U	3.0	2.7	ug/l	1	06/14/17	06/15/17	AB	SW846 6010C [2]	SW846 3010A [3]
Cadmium	36.4	3.0	0.70	ug/l	1	06/14/17	06/15/17	AB	SW846 6010C [2]	SW846 3010A [3]
Chromium	2.1 B	10	0.85	ug/l	1	06/14/17	06/15/17	AB	SW846 6010C [2]	SW846 3010A [3]
Copper	4.1 B	10	3.2	ug/l	1	06/14/17	06/15/17	AB	SW846 6010C [2]	SW846 3010A [3]
Iron	750	100	32	ug/l	1	06/14/17	06/15/17	AB	SW846 6010C [2]	SW846 3010A [3]
Lead	2.6 U	3.0	2.6	ug/l	1	06/14/17	06/15/17	AB	SW846 6010C [2]	SW846 3010A [3]
Mercury	0.083 U	0.20	0.083	ug/l	1	06/14/17	06/14/17	JA	SW846 7470A [1]	SW846 7470A [4]
Nickel	8.0 B	10	1.3	ug/l	1	06/14/17	06/15/17	AB	SW846 6010C [2]	SW846 3010A [3]
Silver	3.1 U	10	3.1	ug/l	1	06/14/17	06/15/17	AB	SW846 6010C [2]	SW846 3010A [3]
Zinc	344	20	4.0	ug/l	1	06/14/17	06/15/17	AB	SW846 6010C [2]	SW846 3010A [3]

(1) Instrument QC Batch: MA42223
(2) Instrument QC Batch: MA42234
(3) Prep QC Batch: MP1431
(4) Prep QC Batch: MP1443

Report of Analysis

Client Sample ID:	MW-2		
Lab Sample ID:	MC50632-1	**Date Sampled:**	06/12/17
Matrix:	AQ - Ground Water	**Date Received:**	06/12/17
Method:	MADEP VPH REV 1.1	**Percent Solids:**	n/a
Project:	Colonial Oil, 8 Emerson Street, Chelmsford, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	WX80826.D	1	06/14/17 21:46	AF	n/a	n/a	GWX4077
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

MA-VPH List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	2,3,4-Trifluorotoluene	89%		70-130%
	2,3,4-Trifluorotoluene	93%		70-130%

ND = Not detected
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

SGS Accutest

Report of Analysis

Client Sample ID:	MW-2		
Lab Sample ID:	MC50632-1	**Date Sampled:**	06/12/17
Matrix:	AQ - Ground Water	**Date Received:**	06/12/17
		Percent Solids:	n/a
Project:	WEBMAN: Colonial Oil, 8 Emerson Street, Chelmsford, MA		

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Chloride	1760	20	0.70	mg/l	10	06/15/17 10:14	TG	EPA 300/SW846 9056A
HEM Oil and Grease	1.2 U	5.6	1.2	mg/l	1	06/15/17 14:00	TT	EPA 1664A

RL = Reporting Limit
MDL = Method Detection Limit

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

SGS Accutest

Report of Analysis

Client Sample ID:	MW-3		
Lab Sample ID:	MC50632-2	**Date Sampled:**	06/12/17
Matrix:	AQ - Ground Water	**Date Received:**	06/12/17
		Percent Solids:	n/a
Project:	WEBMAN: Colonial Oil, 8 Emerson Street, Chelmsford, MA		

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Antimony	4.3 U	6.0	4.3	ug/l	1	06/14/17	06/15/17	AB	SW846 6010C [2]	SW846 3010A [3]
Arsenic	2.7 U	3.0	2.7	ug/l	1	06/14/17	06/15/17	AB	SW846 6010C [2]	SW846 3010A [3]
Cadmium	0.70 U	3.0	0.70	ug/l	1	06/14/17	06/15/17	AB	SW846 6010C [2]	SW846 3010A [3]
Chromium	0.90 B	10	0.85	ug/l	1	06/14/17	06/15/17	AB	SW846 6010C [2]	SW846 3010A [3]
Copper	3.2 U	10	3.2	ug/l	1	06/14/17	06/15/17	AB	SW846 6010C [2]	SW846 3010A [3]
Iron	86.5 B	100	32	ug/l	1	06/14/17	06/15/17	AB	SW846 6010C [2]	SW846 3010A [3]
Lead	2.6 U	3.0	2.6	ug/l	1	06/14/17	06/15/17	AB	SW846 6010C [2]	SW846 3010A [3]
Mercury	0.083 U	0.20	0.083	ug/l	1	06/14/17	06/14/17	JA	SW846 7470A [1]	SW846 7470A [4]
Nickel	1.3 U	10	1.3	ug/l	1	06/14/17	06/15/17	AB	SW846 6010C [2]	SW846 3010A [3]
Silver	3.1 U	10	3.1	ug/l	1	06/14/17	06/15/17	AB	SW846 6010C [2]	SW846 3010A [3]
Zinc	4.0 U	20	4.0	ug/l	1	06/14/17	06/15/17	AB	SW846 6010C [2]	SW846 3010A [3]

(1) Instrument QC Batch: MA42223
(2) Instrument QC Batch: MA42234
(3) Prep QC Batch: MP1431
(4) Prep QC Batch: MP1443

Report of Analysis

Client Sample ID:	MW-3		
Lab Sample ID:	MC50632-2	**Date Sampled:**	06/12/17
Matrix:	AQ - Ground Water	**Date Received:**	06/12/17
Method:	MADEP VPH REV 1.1	**Percent Solids:**	n/a
Project:	Colonial Oil, 8 Emerson Street, Chelmsford, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	WX80827.D	1	06/14/17 22:24	AF	n/a	n/a	GWX4077
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

MA-VPH List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	2,3,4-Trifluorotoluene	89%		70-130%
	2,3,4-Trifluorotoluene	93%		70-130%

ND = Not detected
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

SGS Accutest

Report of Analysis

Client Sample ID:	MW-3		
Lab Sample ID:	MC50632-2	**Date Sampled:**	06/12/17
Matrix:	AQ - Ground Water	**Date Received:**	06/12/17
		Percent Solids:	n/a
Project:	WEBMAN: Colonial Oil, 8 Emerson Street, Chelmsford, MA		

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Chloride	133	2.0	0.070	mg/l	1	06/14/17 14:03	TG	EPA 300/SW846 9056A
HEM Oil and Grease	1.4 B	5.5	1.2	mg/l	1	06/15/17 14:00	TT	EPA 1664A

RL = Reporting Limit
MDL = Method Detection Limit

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

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Parameter Certifications (MA)
- Chain of Custody
- MCP Form
- MCP Form (SGS Accutest New Jersey)
- VPH Form
- Sample Tracking Chronicle
- QC Evaluation: MA MCP Limits

Parameter Certifications

Job Number: MC50632
Account: WEBMAN Web Engineering Associates, Inc.
Project: Colonial Oil, 8 Emerson Street, Chelmsford, MA

The following parameters included in this report are certified by the state of MA.

Parameter	CAS#	Method	Mat	Certification Status
pH		**SM21 4500HB/EPA150.1**	AQ	Accutest is certified for this parameter.

SGS ACCUTEST

CHAIN OF CUSTODY

PAGE 1 OF 1

SGS Accutest of New England
50 D'Angelo Drive/495 Technology Center West, Building One Marlborough, MA 01752
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

FED-EX Tracking #	Bottle Order Control #
SGS Accutest Quote #	SGS Accutest Job # MC50632

Client / Reporting Information

- Company Name: Web Engineering Ass, Inc.
- Street Address: 111 Summer St
- City / State / Zip: N. Situck, MA 02066
- Project Contact / E-mail: Brdowski / [illegible]solutions1@comcast.net
- Phone # / Fax #: 781.546.2161 / .. 2192
- Sampler(s) Name(s) / Phone #: Brdowski 5082744228

Project Information

- Project Name: Colonial Oil
- Street: 8 Emerson St
- City: Chelmsford, MA
- Project#: 17-E-026
- Client PO#:
- Project Manager: Coluccio

Billing Information (If different from Report to)

- Company Name:
- Street Address:
- City / State / Zip:
- Attention: / PO#:

Requested Analysis (see TEST CODE sheet): METALS (1); OGT1664; MAUPH+ (2); XCR, CHL; PH

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB- Equipment Blank; RB- Rinse Blank; TB-Trip Blank

SGS Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Date	Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE / ICE	DI Water	MEOH	ENCORE	Bisulfate	METALS (1)	OGT1664	MAUPH+ (2)	XCR, CHL	PH	LAB USE ONLY
-1	MW-2		6/12/17	1230			1			X		X					X					
	MW-2						3	X				X						X				
	MW-2						3	X				X							X			
	MW-2						1					X								X		
	MW-2						1					X									X	9A
-2	MW-3		6/12/17	14:00			1			X		X					X					3E4
	MW-3						2	X				X						X				
	MW-3						3	X				X							X			
	MW-3						1					X								X		INITIAL ASSESSMENT
	MW-3						1					X									X	LABEL VERIFICATION

Turnaround Time (Business days)

- ☐ Std. 10 Business Days
- ☒ Std. 5 Business Days (By Contract only)
- ☐ 5 Day RUSH
- ☐ 3 Day EMERGENCY
- ☐ 2 Day EMERGENCY
- ☐ 1 Day EMERGENCY

Emergency & Rush T/A data available VIA Lablink

Approved By (SGS Accutest PM): / Date:

Data Deliverable Information

- ☐ Commercial "A" (Level 1)
- ☒ Commercial "B" (Level 2)
- ☐ FULLT1 (Level 3+4)
- ☐ CT RCP
- ☒ MA MCP UPH ranges
- ☐ NYASP Category A
- ☐ NYASP Category B
- ☐ State Forms
- ☐ EDD Format
- ☒ Other EPA

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

Comments / Special Instructions

(1) EPA metals: Antimony, Arsenic, Cadmium, Chromium (Total); Cu, Fe, Hg, Ni, Silver, Zinc & Lead.
(2) UPH ranges + BTEX & mtbe

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 Andrew Brdowski	12 June 17 1510	1 [signature]	2		2
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #	☐ Intact ☐ Not intact / Preserved where applicable ☐	On Ice ☑ / Cooler Temp. 5.9°C

MC50632: Chain of Custody
Page 1 of 2

SGS Accutest NE Sample Receipt Summary

Job Number: MC50632 **Client:** WEB **Project:** COLONIAL OIL

Date / Time Received: 6/12/2017 3:10:00 PM **Delivery Method:** Client **Airbill #'s:**

Cooler Temps (Initial/Adjusted): #1: (5.9/5.4);

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☐		☑

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Thermometer ID:	IRGUN1;		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	2		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☑	☐
2. Trip Blank listed on COC:	☐		☑	☐
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☑		☐	☐

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Comments: Collection date/time were not noted by client on COC. Dates and times were added per labels by SGS staff.
MW-2 6/12/17 @ 12:30
MW-3 6/12/17 @ 14:00

Massachusetts Department of Environmental Protection Bureau of Waste Site Cleanup	WSC-CAM	Exhibit VII A
	July 1, 2010	Revision No. 1
	Final	

Exhibit VII A-2: MassDEP Analytical Protocol Certification Form

MassDEP Analytical Protocol Certification Form

Laboratory Name:	SGS Accutest- Marlborough	Project #:	MC50632
Project Location:	Colonial Oil, 8 Emerson Street, Chelmsford, MA	MADEP RTN	None

This form provides certifications for the following data set: list Laboratory Sample ID Numbers(s)
MC50632-1,MC50632-2

Matrices: Groundwater/Surface Water (X) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other ( )

CAM Protocol (check all that apply below):

8260 VOC ( ) CAM IIA	7470/7471 Hg (X) CAM III B	MassDEP VPH (X) CAM IV A	8081 Pesticides ( ) CAM V B	7196 Hex Cr (X) CAM VI B	Mass DEP APH ( ) CAM IX A
8270 SVOC ( ) CAM II B	7010 Metals ( ) CAM III C	MassDEP EPH ( ) CAM IV B	8151 Herbicides ( ) CAM V C	8330 Explosives ( ) CAM VIII A	TO-15 VOC ( ) CAM IX B
6010 Metals (X) CAM III A	6020 Metals ( ) CAM III D	8082 PCB ( ) CAM V A	9014 Total Cyanide/PAC ( ) CAM VI A	6860 Perchlorate ( ) CAM VIII B	

Affirmative Responses to Questions A Through F are required for "Presumptive Certainty status

A	Were all samples received in a condition consistent with those described on the Chain-of Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	☐ Yes	☑ No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	☑ Yes	☐ No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☑ Yes	☐ No
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	☑ Yes	☐ No
E	VPH, EPH, APH, and TO-15 only: a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☑ Yes ☑ Yes	☐ No ☐ No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	☑ Yes	☐ No

Responses to questions G, H, and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols	☑ Yes	☐ No [1]
	Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data useability and representativeness requirements described in 310 CMR 40.1056(2)(k) and WSC-07-350.		
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	☑ Yes	☐ No [1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☐ Yes	☑ No [1]

[1] ***All Negative responses must be addressed in an attached Environmental Laboratory case narrative.***

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

Signature: _____ **Position:** **Laboratory Director**

Printed Name: **H. (Brad) Madadian** **Date:** **19-Jun-17**

Massachusetts Department of Environmental Protection Bureau of Waste Site Cleanup	WSC-CAM	Exhibit VII A
	July 1, 2010	Revision No. 1
	Final	

Exhibit VII A-2: MassDEP Analytical Protocol Certification Form

MassDEP Analytical Protocol Certification Form

Laboratory Name:	Accutest Mid-Atlantic	Project #:	MC50632
Project Location:#01074,	WEBMAN: Colonial Oil, 8 Emerson Street, Chelmsford, MA	MADEP RTN	None

This form provides certifications for the following data set: list Laboratory Sample ID Numbers(s)
MC50632-1,MC50632-2

Matrices: Groundwater/Surface Water (X) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other ( )

CAM Protocol (check all that apply below):

8260 VOC ( ) CAM IIA	7470/7471 Hg (X) CAM III B	MassDEP VPH ( ) CAM IV A	8081 Pesticides ( ) CAM V B	7196 Hex Cr ( ) CAM VI B	Mass DEP APH ( ) CAM IX A
8270 SVOC ( ) CAM II B	7010 Metals ( ) CAM III C	MassDEP EPH ( ) CAM IV B	8151 Herbicides ( ) CAM V C	8330 Explosives ( ) CAM VIII A	TO-15 VOC ( ) CAM IX B
6010 Metals (X) CAM III A	6020 Metals ( ) CAM III D	8082 PCB ( ) CAM V A	9014 Total Cyanide/PAC ( ) CAM VI A	6860 Perchlorate ( ) CAM VIII B	

Affirmative Responses to Questions A Through F are required for "Presumptive Certainty status

A	Were all samples received in a condition consistent with those described on the Chain-of Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	☑ Yes	☐ No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	☑ Yes	☐ No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☑ Yes	☐ No
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	☑ Yes	☐ No
E	VPH, EPH, APH, and TO-15 only: a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐ Yes ☐ Yes	☐ No ☐ No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	☑ Yes	☐ No

Responses to questions G, H, and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols	☑ Yes	☐ No [1]
	Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data useability and representativeness requirements described in 310 CMR 40.1056(2)(k) and WSC-07-350.		
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	☑ Yes	☐ No [1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☐ Yes	☑ No [1]

[1] ***All Negative responses must be addressed in an attached Environmental Laboratory case narrative.***

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

Signature: Nancy F. Cole **Position:** **Laboratory Director**

Printed Name: **Nancy F. Cole** **Date:** **19-Jun-17**

MADEP VPH FORM

Matrix	**Aqueous** ☑	**Soil** ☐	**Sediment** ☐	**Other** ☐			
Containers	**Satisfactory** ☑	**Broken** ☐	**Leaking** ☐				
Aqueous Preservatives	**N/A** ☐	**pH <= 2** ☑	**pH > 2** ☐				
Temperature	**Received on Ice** ☐	**Received at 4 Deg. C** ☐	**Other** ☑	Rec'd at 5.4 Deg. C			
Methanol	**N/A**						

Method for Ranges: MADEP VPH REV 1.1
Method for Target Analytes: MADEP VPH REV 1.1
VPH Surrogate Standards
PID:
FID:

Client ID: MW-2 **Lab ID:** MC50632-1
Date Collected: 6/12/2017 **Date Received:** 6/12/2017

Date Extracted:	First Date Run:	Last Date Run:
N/A	6/14/2017	N/A
% Solids:	**Low Dilution:**	**High Dilution:**
N/A	1	N/A

Unadjusted Ranges	CAS #	Elution Range	Units	Result	RDL	Q
C5- C8 Aliphatics (Unadj.)		N/A	ug/l	ND [A]	50	
C9- C10 Aromatics (Unadj.)		N/A	ug/l	ND [A]	50	
C9- C12 Aliphatics (Unadj.)		N/A	ug/l	ND [A]	50	
Target Analytes						
Ethylbenzene	100-41-4	C9-C12	ug/l	ND	2	
Toluene	108-88-3	C5-C8	ug/l	ND	2	
Methyl Tert Butyl Ether	1634-04-4	C5-C8	ug/l	ND	1	
Benzene	71-43-2	C5-C8	ug/l	ND	1	
Naphthalene	91-20-3	N/A	ug/l	ND	3	
o-Xylene	95-47-6	C9-C12	ug/l	ND	2	
m,p-Xylene		C9-C12	ug/l	ND	2	
Adjusted Ranges						
C5- C8 Aliphatics		N/A	ug/l	ND [B]	50	
C9- C12 Aliphatics		N/A	ug/l	ND [C]	50	

Surrogate Recoveries			Acceptance Range
FID:2,3,4-Trifluorotoluene	%	93	70-130 %
PID:2,3,4-Trifluorotoluene	%	89	70-130 %

Footnotes

A Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range

B Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range. C5-C8 Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range.

C Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range. C9-C12 aliphatic Hydrocarbons exclude conc of Target Analytes eluting in that range AND concentration of C9-C10 Aromatic Hydrocarbons.

Z A 'J' qualifier indicates an estimated value

Were all QA/QC procedures REQUIRED by the VPH Method followed?	☑ **Yes** ☐	**No- Details Attatched**
Were all performance/acceptance standards for required QA/QC procedures achieved?	☑ **Yes** ☐	**No- Details Attatched**
Were any significant modifications made to the VPH method, as specified in Sect. 11.3?	☑ **No** ☐	**Yes- Details Attatched**

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.

Signature _____ **Postition** **Laboratory Director**

Printed Name **H. (Brad) Madadian** **Date** **6/19/2017**

MADEP VPH FORM

Matrix	**Aqueous** ☑	**Soil** ☐	**Sediment** ☐	**Other** ☐			
Containers	**Satisfactory** ☑	**Broken** ☐	**Leaking** ☐				
Aqueous Preservatives	**N/A** ☐	**pH <= 2** ☑	**pH > 2** ☐				
Temperature	**Received on Ice** ☐	**Received at 4 Deg. C** ☐	**Other** ☑	Rec'd at 5.4 Deg. C			
Methanol	**N/A**						

Method for Ranges: MADEP VPH REV 1.1
Method for Target Analytes: MADEP VPH REV 1.1
VPH Surrogate Standards
PID:
FID:

Client ID: MW-3 **Lab ID:** MC50632-2
Date Collected: 6/12/2017 **Date Received:** 6/12/2017

Date Extracted:	First Date Run:	Last Date Run:
N/A	6/14/2017	N/A
% Solids:	**Low Dilution:**	**High Dilution:**
N/A	1	N/A

Unadjusted Ranges	CAS #	Elution Range	Units	Result	RDL	Q
C5- C8 Aliphatics (Unadj.)		N/A	ug/l	ND [A]	50	
C9- C10 Aromatics (Unadj.)		N/A	ug/l	ND [A]	50	
C9- C12 Aliphatics (Unadj.)		N/A	ug/l	ND [A]	50	
Target Analytes						
Ethylbenzene	100-41-4	C9-C12	ug/l	ND	2	
Toluene	108-88-3	C5-C8	ug/l	ND	2	
Methyl Tert Butyl Ether	1634-04-4	C5-C8	ug/l	ND	1	
Benzene	71-43-2	C5-C8	ug/l	ND	1	
Naphthalene	91-20-3	N/A	ug/l	ND	3	
o-Xylene	95-47-6	C9-C12	ug/l	ND	2	
m,p-Xylene		C9-C12	ug/l	ND	2	
Adjusted Ranges						
C5- C8 Aliphatics		N/A	ug/l	ND [B]	50	
C9- C12 Aliphatics		N/A	ug/l	ND [C]	50	

Surrogate Recoveries			Acceptance Range
FID:2,3,4-Trifluorotoluene	%	93	70-130 %
PID:2,3,4-Trifluorotoluene	%	89	70-130 %

Footnotes

A Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range

B Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range. C5-C8 Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range.

C Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range. C9-C12 aliphatic Hydrocarbons exclude conc of Target Analytes eluting in that range AND concentration of C9-C10 Aromatic Hydrocarbons.

Z A 'J' qualifier indicates an estimated value

Were all QA/QC procedures REQUIRED by the VPH Method followed? ☑ Yes ☐ No- Details Attatched
Were all performance/acceptance standards for required QA/QC procedures achieved? ☑ Yes ☐ No- Details Attatched
Were any significant modifications made to the VPH method, as specified in Sect. 11.3? ☑ No ☐ Yes- Details Attatched

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.

Signature _____ **Postition** Laboratory Director

Printed Name H. (Brad) Madadian **Date** 6/19/2017

Internal Sample Tracking Chronicle

Web Engineering Associates, Inc.

Job No: MC50632

Colonial Oil, 8 Emerson Street, Chelmsford, MA
Project No: 17-E-026

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC50632-1	Collected: 12-JUN-17 12:30 By: AB		Received: 12-JUN-17 By: TF			
MW-2						
MC50632-1	SW846 7196A	13-JUN-17 10:00	EAL			XCR
MC50632-1	SM21 4500HB/EPA150.1	13-JUN-17 10:32	EAL			PH
MC50632-1	SW846 7470A	14-JUN-17 11:26	ANJ	14-JUN-17	ANJ	HG
MC50632-1	MADEP VPH REV 1.1	14-JUN-17 21:46	AF			VMAVPH
MC50632-1	SW846 6010C	15-JUN-17 04:11	ANJ	14-JUN-17	ANJ	AG,AS,CD,CR,CU,FE,NI,PB,SB,ZN
MC50632-1	EPA 300/SW846 9056A	15-JUN-17 10:14	ANJ	15-JUN-17		CHL
MC50632-1	EPA 1664A	15-JUN-17 14:00	ANJ	15-JUN-17	ANJ	OG1664
MC50632-2	Collected: 12-JUN-17 14:00 By: AB		Received: 12-JUN-17 By: TF			
MW-3						
MC50632-2	SW846 7196A	13-JUN-17 10:00	EAL			XCR
MC50632-2	SM21 4500HB/EPA150.1	13-JUN-17 10:34	EAL			PH
MC50632-2	SW846 7470A	14-JUN-17 11:27	ANJ	14-JUN-17	ANJ	HG
MC50632-2	EPA 300/SW846 9056A	14-JUN-17 14:03	ANJ	14-JUN-17		CHL
MC50632-2	MADEP VPH REV 1.1	14-JUN-17 22:24	AF			VMAVPH
MC50632-2	SW846 6010C	15-JUN-17 04:15	ANJ	14-JUN-17	ANJ	AG,AS,CD,CR,CU,FE,NI,PB,SB,ZN
MC50632-2	EPA 1664A	15-JUN-17 14:00	ANJ	15-JUN-17	ANJ	OG1664

QC Evaluation: MA MCP Limits

Job Number: MC50632
Account: Web Engineering Associates, Inc.
Project: Colonial Oil, 8 Emerson Street, Chelmsford, MA
Collected: 06/12/17

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits

No Exceptions found.

* Sample used for QC is not from job MC50632

GC Volatiles

6

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries

Method Blank Summary

Job Number: MC50632
Account: WEBMAN Web Engineering Associates, Inc.
Project: Colonial Oil, 8 Emerson Street, Chelmsford, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GWX4077-MB	WX80805.D	1	06/14/17	AF	n/a	n/a	GWX4077

The QC reported here applies to the following samples: **Method:** MADEP VPH REV 1.1

MC50632-1, MC50632-2

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

CAS No.	Surrogate Recoveries		Limits
	2,3,4-Trifluorotoluene	104%	70-130%
	2,3,4-Trifluorotoluene	99%	70-130%

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC50632
Account: WEBMAN Web Engineering Associates, Inc.
Project: Colonial Oil, 8 Emerson Street, Chelmsford, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GWX4077-BSP	WX80806.D	1	06/14/17	AF	n/a	n/a	GWX4077
GWX4077-BSD	WX80807.D	1	06/14/17	AF	n/a	n/a	GWX4077

The QC reported here applies to the following samples: **Method:** MADEP VPH REV 1.1

MC50632-1, MC50632-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	50	52.3	105	53.7	107	3	70-130/25
100-41-4	Ethylbenzene	50	51.7	103	53.5	107	3	70-130/25
1634-04-4	Methyl Tert Butyl Ether	50	54.7	109	57.2	114	4	70-130/25
91-20-3	Naphthalene	50	52.9	106	55.3	111	4	70-130/25
108-88-3	Toluene	50	52.2	104	53.9	108	3	70-130/25
	m,p-Xylene	100	103	103	107	107	4	70-130/25
95-47-6	o-Xylene	50	51.8	104	53.7	107	4	70-130/25
	C5- C8 Aliphatics (Unadj.)	150	147	98	153	102	4	70-130/25
	C9- C12 Aliphatics (Unadj.)	150	129	86	130	87	1	70-130/25
	C9- C10 Aromatics (Unadj.)	50	52.6	105	54.5	109	4	70-130/25

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
	2,3,4-Trifluorotoluene	103%	106%	70-130%
	2,3,4-Trifluorotoluene	96%	98%	70-130%

* = Outside of Control Limits.

Volatile Surrogate Recovery Summary

Job Number: MC50632
Account: WEBMAN Web Engineering Associates, Inc.
Project: Colonial Oil, 8 Emerson Street, Chelmsford, MA

Method: MADEP VPH REV 1.1 **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]	S1 [b]
MC50632-1	WX80826.D	89	93
MC50632-2	WX80827.D	89	93
GWX4077-BSD	WX80807.D	106	98
GWX4077-BSP	WX80806.D	103	96
GWX4077-MB	WX80805.D	104	99

Surrogate Compounds	Recovery Limits
S1 = 2,3,4-Trifluorotoluene	70-130%

(a) Recovery from GC signal #2
(b) Recovery from GC signal #1

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC50632
Account: WEBMAN - Web Engineering Associates, Inc.
Project: Colonial Oil, 8 Emerson Street, Chelmsford, MA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Chromium, Hexavalent	GN55919	0.010	0.0	mg/l	.1	0.10	100.0	85-115%

Associated Samples:
Batch GN55919: MC50632-1, MC50632-2
(*) Outside of QC limits

BLANK SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC50632
Account: WEBMAN - Web Engineering Associates, Inc.
Project: Colonial Oil, 8 Emerson Street, Chelmsford, MA

Analyte	Batch ID	Units	Spike Amount	BSD Result	RPD	QC Limit
Chromium, Hexavalent	GN55919	mg/l	.1	0.10	0.0	20%

Associated Samples:
Batch GN55919: MC50632-1, MC50632-2
(*) Outside of QC limits

Misc. Forms

Custody Documents and Other Forms

(SGS Accutest New Jersey)

Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- QC Evaluation: MA MCP Limits

CHAIN OF CUSTODY

SGS ACCUTEST

50 D'Angelo Drive, 495 Technology Center West, Bldg One, Marlborough, MA 01752
TEL: 508-481-6200 FAX: 508-481-7753
www.sgs.com

FED-EX Tracking # 727375163374 | Bottle Order Control # | SGS Accutest Quote # | SGS Accutest Job MC50632

Client / Reporting Information	Project Information	Billing Information (if different from Report to)
Company Name: SGS Accutest	Project Name: Colonial Oil, 8 Emerson Street, Chelmsford, MA	
Street Address: 50 D'Angelo Drive, 495 Technolgy Center West, BLDG One	Street	
City: Marlbourough, State: MA, Zip: 0175;	City, State	Company Name
Project Contact: Dan Axelrod, E-mail: Dan Axelrod@accutest.com	Project #	Street Address
Phone #: 508-481-6200, Fax #	Client Purchase Order #	City, State, Zip
Sampler(s) Name(s): AB, Phone	Project Manager	Attention:

Requested Analysis (see TEST CODE sheet)

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB-Equipment Blank; RB- Rinse Blank; TB-Trip Blank

SGS Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	Preserved: HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	AG,AS,CD,CHL,CR,CU,FE,HG,NI,OG1664,PB,SB,ZN	LAB USE ONLY
1	MW-2		6/12/17	12:30:00 PM	AB	AQ	4	x		x		x				X	
2	MW-3		6/12/17	2:00:00 PM	AB	AQ	4	x		x		x				X	L37 A11 G46T3

INITIAL ASESSMENT JR TRS

LABEL VERIFICATION TRS

Turnaround Time (Business days) | Data Deliverable Information | Comments / Special Instructions

Approved By (SGS Accutest PM): / Date:

- [ ] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [X] other Due 6/19/2017

Emergency & Rush T/A data available VIA Lablink

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] NJ Reduced
- [ ] Commercial "C"
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [X] Other MAMCP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

Ship to ALNJ – 5 Day TAT

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Tir	Received By:	Relinquished By:	Date Time:	Received By:
1	6-12-17	1 FEDX	2 FEDX	6/13/17 0930	2
Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
3		3	4		4
Relinquished by:	Date Time:	Received By:	Custody Seal # 58 Recvd [X] Intact [ ] Not intact	Preserved where applicable [X]	On Ice [X]	Cooler Temp. 3.0c IR
5		5				

TRS 6/13/17

8.1

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SGS Accutest Sample Receipt Summary

Job Number: MC50632 **Client:** _____ **Project:** _____

Date / Time Received: 6/13/2017 9:30:00 AM **Delivery Method:** _____ **Airbill #'s:** _____

Cooler Temps (Raw Measured) °C: Cooler 1: (3.0);

Cooler Temps (Corrected) °C: Cooler 1: (4.3);

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	IR Gun		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	1		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☐	☑
2. Trip Blank listed on COC:	☐		☐	☑
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☐		☐	☑

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Comments

SM089-02
Rev. Date 12/1/16

8.1

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MC50632: Chain of Custody
Page 2 of 2

Internal Sample Tracking Chronicle

SGS Accutest New England

Job No: MC50632

WEBMAN: Colonial Oil, 8 Emerson Street, Chelmsford, MA
Project No: 17-E-026

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC50632-1 MW-2	Collected: 12-JUN-17 12:30 By: AB		Received: 12-JUN-17 By: DDH			
MC50632-1	SW846 7470A	14-JUN-17 11:26	JA	14-JUN-17	JA	HG
MC50632-1	SW846 6010C	15-JUN-17 04:11	AB	14-JUN-17	RKK	AG,AS,CD,CR,CU,FE,NI,PB,SB,ZN
MC50632-1	EPA 300/SW846 9056A	15-JUN-17 10:14	TG	15-JUN-17	TG	CHL
MC50632-1	EPA 1664A	15-JUN-17 14:00	TT	15-JUN-17	TT	OG1664
MC50632-2 MW-3	Collected: 12-JUN-17 14:00 By: AB		Received: 12-JUN-17 By: DDH			
MC50632-2	SW846 7470A	14-JUN-17 11:27	JA	14-JUN-17	JA	HG
MC50632-2	EPA 300/SW846 9056A	14-JUN-17 14:03	TG	14-JUN-17	TG	CHL
MC50632-2	SW846 6010C	15-JUN-17 04:15	AB	14-JUN-17	RKK	AG,AS,CD,CR,CU,FE,NI,PB,SB,ZN
MC50632-2	EPA 1664A	15-JUN-17 14:00	TT	15-JUN-17	TT	OG1664

QC Evaluation: MA MCP Limits

Job Number: MC50632
Account: SGS Accutest New England
Project: WEBMAN: Colonial Oil, 8 Emerson Street, Chelmsford, MA
Collected: 06/12/17

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits

No Exceptions found.

* Sample used for QC is not from job MC50632

Metals Analysis

QC Data Summaries

(SGS Accutest New Jersey)

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC50632
Account: ALNE - SGS Accutest New England
Project: WEBMAN: Colonial Oil, 8 Emerson Street, Chelmsford, MA

QC Batch ID: MP1431
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/14/17

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	7.1	33		
Antimony	6.0	1.9	4.3	0.40	<6.0
Arsenic	3.0	1.5	2.7	1.5	<3.0
Barium	200	.2	1.3		
Beryllium	1.0	.1	.4		
Bismuth	20	2.6	5		
Boron	100	1.2	13		
Cadmium	3.0	.3	.7	0.30	<3.0
Calcium	5000	3.3	29		
Chromium	10	.8	.85	0.0	<10
Cobalt	50	.5	.72		
Copper	10	.9	3.2	0.20	<10
Iron	100	2.7	32	1.5	<100
Lead	3.0	2.2	2.6	1.7	<3.0
Lithium	50	3.1	15		
Magnesium	5000	17	64		
Manganese	15	.1	.42		
Molybdenum	20	.4	1.4		
Nickel	10	.4	1.3	2.1	<10
Palladium	50	1.7			
Phosphorus	50	2.1	13		
Potassium	10000	47	230		
Selenium	10	2.5	6.6		
Silicon	200	2.2	45		
Silver	10	1	3.1	0.80	<10
Sodium	10000	16	130		
Strontium	10	.1	.3		
Sulfur	50	4	15		
Thallium	2.0	1.9	1.6		
Tin	10	1.3	2.4		
Titanium	10	.6	1.8		
Tungsten	50	2	14		
Vanadium	50	.8	1.3		

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC50632
Account: ALNE - SGS Accutest New England
Project: WEBMAN: Colonial Oil, 8 Emerson Street, Chelmsford, MA

QC Batch ID: MP1431
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/14/17

Metal	RL	IDL	MDL	MB raw	final
Zinc	20	.2	4	5.7	<20
Zirconium	10	.5	2		

Associated samples MP1431: MC50632-1, MC50632-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC50632
Account: ALNE - SGS Accutest New England
Project: WEBMAN: Colonial Oil, 8 Emerson Street, Chelmsford, MA

QC Batch ID: MP1431
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/14/17 06/14/17

Metal	BSP Result	Spikelot MPSPK2	% Rec	QC Limits	BSD Result	Spikelot MPSPK2	% Rec	BSD RPD	QC Limit
Aluminum	anr								
Antimony	2040	2000	102.0	80-120	2070	2000	103.5	1.5	20
Arsenic	2020	2000	101.0	80-120	2020	2000	101.0	0.0	20
Barium	anr								
Beryllium	anr								
Bismuth									
Boron									
Cadmium	2050	2000	102.5	80-120	2080	2000	104.0	1.5	20
Calcium	anr								
Chromium	2050	2000	102.5	80-120	2090	2000	104.5	1.9	20
Cobalt	anr								
Copper	2040	2000	102.0	80-120	2070	2000	103.5	1.5	20
Iron	26000	25000	104.0	80-120	26400	25000	105.6	1.5	20
Lead	2090	2000	104.5	80-120	2130	2000	106.5	1.9	20
Lithium									
Magnesium	anr								
Manganese	anr								
Molybdenum									
Nickel	2080	2000	104.0	80-120	2120	2000	106.0	1.9	20
Palladium									
Phosphorus									
Potassium	anr								
Selenium	anr								
Silicon									
Silver	257	250	102.8	80-120	261	250	104.4	1.5	20
Sodium	anr								
Strontium									
Sulfur									
Thallium	anr								
Tin									
Titanium									
Tungsten									
Vanadium	anr								

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC50632
Account: ALNE - SGS Accutest New England
Project: WEBMAN: Colonial Oil, 8 Emerson Street, Chelmsford, MA

QC Batch ID: MP1431
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:			06/14/17					06/14/17	
Metal	BSP Result	Spikelot MPSPK2	% Rec	QC Limits	BSD Result	Spikelot MPSPK2	% Rec	BSD RPD	QC Limit
Zinc	2080	2000	104.0	80-120	2120	2000	106.0	1.9	20
Zirconium									

Associated samples MP1431: MC50632-1, MC50632-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC50632
Account: ALNE - SGS Accutest New England
Project: WEBMAN: Colonial Oil, 8 Emerson Street, Chelmsford, MA

QC Batch ID: MP1431
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/14/17

Metal	TD4626-1 Original	SDL 1:5	%DIF	QC Limits
Aluminum	anr			
Antimony	0.00	0.00	NC	0-10
Arsenic	0.00	0.00	NC	0-10
Barium	anr			
Beryllium	anr			
Bismuth				
Boron				
Cadmium	0.00	0.00	NC	0-10
Calcium	anr			
Chromium	1.10	0.00	100.0(a)	0-10
Cobalt	anr			
Copper	2.30	5.30	130.4(a)	0-10
Iron	6.60	21.9	231.8(a)	0-10
Lead	0.00	0.00	NC	0-10
Lithium				
Magnesium	anr			
Manganese	anr			
Molybdenum				
Nickel	0.900	0.00	100.0(a)	0-10
Palladium				
Phosphorus				
Potassium	anr			
Selenium	anr			
Silicon				
Silver	1.00	0.00	100.0(a)	0-10
Sodium	anr			
Strontium				
Sulfur				
Thallium	anr			
Tin				
Titanium				
Tungsten				
Vanadium	anr			

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC50632
Account: ALNE - SGS Accutest New England
Project: WEBMAN: Colonial Oil, 8 Emerson Street, Chelmsford, MA

QC Batch ID: MP1431
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/14/17

Metal	TD4626-1 Original	SDL 1:5	%DIF	QC Limits
Zinc	7.60	11.0	44.7 (a)	0-10
Zirconium				

Associated samples MP1431: MC50632-1, MC50632-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC50632
Account: ALNE - SGS Accutest New England
Project: WEBMAN: Colonial Oil, 8 Emerson Street, Chelmsford, MA

QC Batch ID: MP1443
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 06/14/17

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.20	.058	.083	0.032	<0.20

Associated samples MP1443: MC50632-1, MC50632-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC50632
Account: ALNE - SGS Accutest New England
Project: WEBMAN: Colonial Oil, 8 Emerson Street, Chelmsford, MA

QC Batch ID: MP1443
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 06/14/17 06/14/17

Metal	BSP Result	Spikelot HGPW3	% Rec	QC Limits	BSD Result	Spikelot HGPW3	% Rec	BSD RPD	QC Limit
Mercury	2.1	2	105.0	80-120	2.2	2	110.0	4.7	

Associated samples MP1443: MC50632-1, MC50632-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

General Chemistry

QC Data Summaries

(SGS Accutest New Jersey)

Includes the following where applicable:

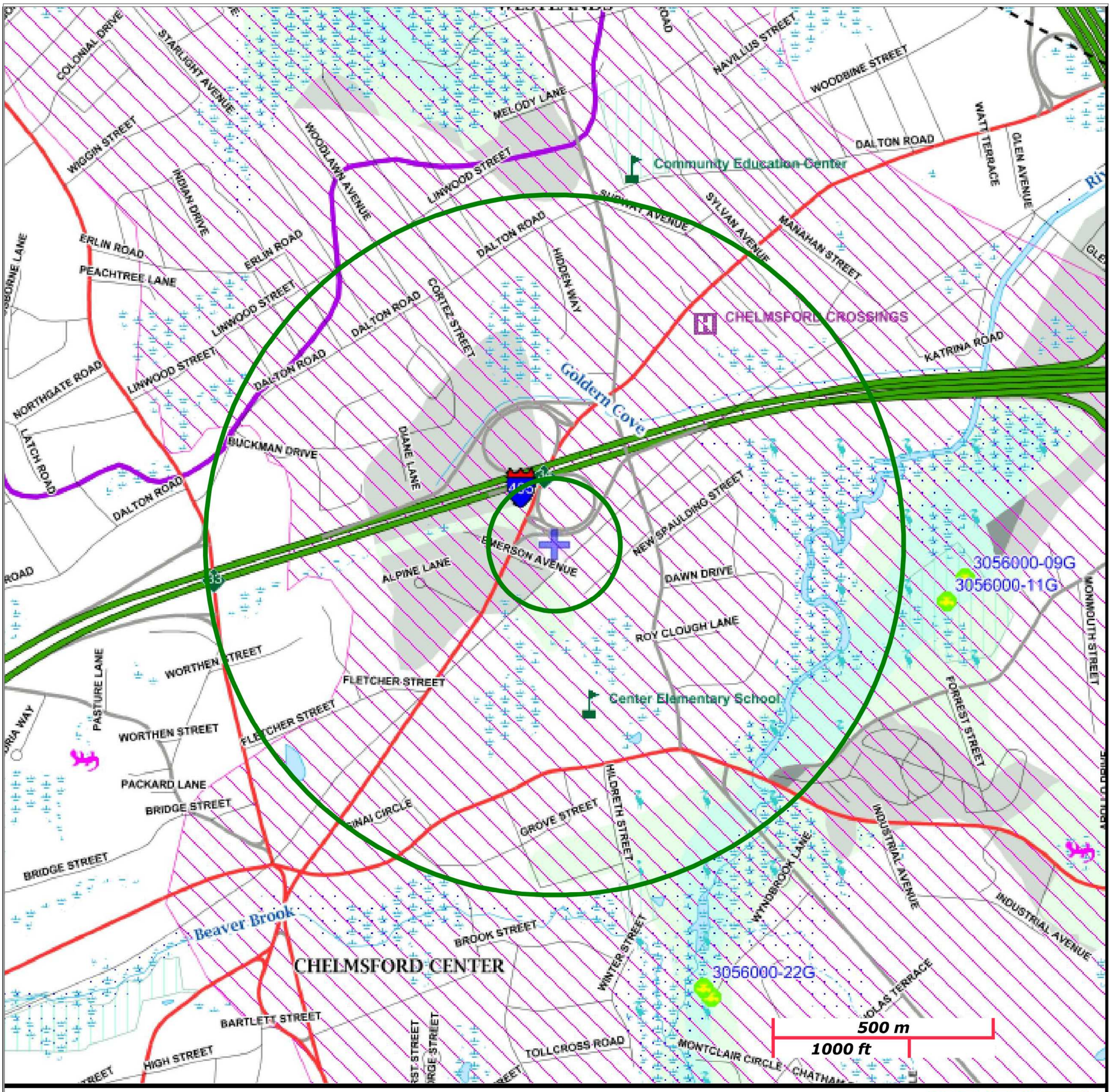
- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC50632
Account: ALNE - SGS Accutest New England
Project: WEBMAN: Colonial Oil, 8 Emerson Street, Chelmsford, MA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Chloride	GP5978/GN65565	2.0	0.30	mg/l	80	79.7	99.6	90-110%
Chloride	GP5978/GN65645	2.0	0.35	mg/l	80	79.8	99.8	90-110%
HEM Oil and Grease	GP6038/GN65642	5.0	0.0	mg/l	40.22	38.2	95.0	78-114%
Sulfate	GP5978/GN65565	10	0.0	mg/l	80	78.4	98.0	90-110%
Sulfate	GP5978/GN65645	10	0.0	mg/l	80	78.7	98.4	90-110%

Associated Samples:
Batch GP5978: MC50632-1, MC50632-2
Batch GP6038: MC50632-1, MC50632-2
(*) Outside of QC limits



SCALE IN FEET
0 500
250 1,000

DATE: 06/20/2017
DRAWN BY: AWB
JOB#: 17-E-026
FILE:\WEB_COLONIAL-OIL-17-E-026_SITE-DEP-PHASE1-MAP_V1

WEB ENGINEERING ASSOCIATES, INC.
111 SUMMER ST., SCITUATE, MASSACHUSETTS 02066

SITE: COLONIAL OIL
8 EMERSON AVENUE, CHELMSFORD, MASSACHUSETTS

FIGURE 1:
SITE LOCATION WITHIN MADEP
BWSC PHASE 1 SITE ASSESSMENT
MAP: 500 FEET & 0.5 MILE RADII
WITH PRIORITY RESOURCES

e-Hardcopy 2.0
Automated Report

Technical Report for

Web Engineering Associates, Inc.

Colonial Oil, 8 Emerson Avenue, Chelmsford, MA

17-E-026

SGS Accutest Job Number: JC48393

Sampling Date: 08/04/17

Report to:

Web Engineering Associates
111 Summer Street
Scituate, MA 02066
RPColuccio@AOL.com; wbaird65@aol.com;
rocklacrosse@hotmail.com
ATTN: Bob Coluccio

Total number of pages in report: 47

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

Nancy Cole
Laboratory Director

Client Service contact: Rocus Peters 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (L-A-B L2248)

August 21, 2017

Mr. Bob Coluccio
Web Engineering Associates
111 Summar Street
Scituate, MA 02066

Re: SGS Accutest –Dayton, Jobs # JC48393 – Reissues

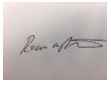
Dear Mr. Coluccio,

The final reports for SGS Accutest job number JC48393 has edited to reflect corrections to the data package. These edits have been incorporated into the revised report attached.

Specifically, the Method Detention Limits reporting has been made for the Metals section. The attached revised report incorporates these revisions.

SGS Accutest apologizes for this occurrence and for any inconvenience this situation may have caused. Please contact me at (732) 329-0200 if I can be of further assistance in this matter.

Sincerely,



SGS Accutest

Sections: 1 2 3 4 5 6 7 8 9 10

Table of Contents

Sample Summary

Web Engineering Associates, Inc.

Job No: JC48393

Colonial Oil, 8 Emerson Avenue, Chelmsford, MA
Project No: 17-E-026

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
JC48393-1	08/04/17	08:45	BC	08/04/17	AQ	Ground Water	GOLDEN COVE BROOK
JC48393-2	08/04/17	09:00	BC	08/04/17	AQ	Ground Water	MW-3

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	Web Engineering Associates, Inc.	**Job No**	JC48393
Site:	Colonial Oil, 8 Emerson Avenue, Chelmsford, MA	**Report Date**	8/10/2017 4:47:20 PM

On 08/05/2017, 2 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at SGS Accutest at a maximum corrected temperature of 3.6 C. Samples were intact and chemically preserved, unless noted below. A SGS Accutest Job Number of JC48393 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section. Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Please refer to certification exceptions summary for additional certification information.

Extractables by GC By Method SW846 8100M

Matrix: AQ **Batch ID:** M:OP49867

- The data for SW846 8100M meets quality control requirements.
- JC48393-2: Analysis performed at SGS Accutest, Marlborough, MA.

Metals By Method SW846 6010C

Matrix: AQ **Batch ID:** MP2309

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TD7118-1SDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Copper, Iron, Nickel, Silver, Zinc are outside control limits for sample MP2309-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
- JC48393-2 for Chromium: Elevated sample detection limit due to difficult sample matrix.
- JC48393-2 for Selenium: Elevated sample detection limit due to difficult sample matrix.
- JC48393-2 for Cadmium: Elevated sample detection limit due to difficult sample matrix.

Metals By Method SW846 7470A

Matrix: AQ **Batch ID:** MP2321

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

Wet Chemistry By Method SM21 4500CL F

Matrix: AQ **Batch ID:** M:GN55981

- The data for SM21 4500CL F meets quality control requirements.
- JC48393-2 for Total Residual Chlorine: Analysis performed past the required 15 minutes of collection time/holding time. Analysis performed at SGS Accutest, Marlborough, MA.

Wet Chemistry By Method SM21 4500HB/EPA150.1

Matrix: AQ **Batch ID:** M:GN55982

- The data for SM21 4500HB/EPA150.1 meets quality control requirements.
- JC48393-2 for pH: Analysis performed past the required 15 minutes of collection time/holding time. Analysis performed at SGS Accutest, Marlborough, MA.
- JC48393-1 for pH: Analysis performed past the required 15 minutes of collection time/holding time. Analysis performed at SGS Accutest, Marlborough, MA.

Wet Chemistry By Method SM2340 C-11

Matrix: AQ	Batch ID: GN67843

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

Wet Chemistry By Method SM2540 D-11

Matrix: AQ	Batch ID: GN67855

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

Wet Chemistry By Method SM4500NH3 H-11LACHAT

Matrix: AQ	Batch ID: GP7001

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

Wet Chemistry By Method SW846 6010/7196A M

Matrix: AQ	Batch ID: R164835

- The data for SW846 6010/7196A M meets quality control requirements.
- JC48393-1 for Chromium, Trivalent: Calculated as: (Chromium) - (Chromium, Hexavalent)

Matrix: AQ	Batch ID: R164836

- The data for SW846 6010/7196A M meets quality control requirements.
- JC48393-2 for Chromium, Trivalent: Calculated as: (Chromium) - (Chromium, Hexavalent)

Wet Chemistry By Method SW846 7196A

Matrix: AQ	Batch ID: M:GN55979

- The data for SW846 7196A meets quality control requirements.
- JC48393-1 for Chromium, Hexavalent: Analysis performed at SGS Accutest, Marlborough, MA.
- JC48393-2 for Chromium, Hexavalent: Analysis performed at SGS Accutest, Marlborough, MA.

SGS Accutest certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

SGS Accutest is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by SGS Accutest indicated via signature on the report cover

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	SGS Accutest New Jersey	**Job No**	JC48393
Site:	WEBMAN: Colonial Oil, 8 Emerson Avenue, Chelmsford, MA	**Report Date**	8/10/2017 2:18:31 PM

2 Sample(s) were collected on 08/04/2017 and were received at SGS Accutest New England on 08/04/2017 properly preserved, at 1.4 Deg. C and intact. These Samples received a job number of JC48393. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Extractables by GC By Method SW846 8100M

Matrix: AQ **Batch ID:** OP49867

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

Wet Chemistry By Method SM21 4500CL F

Matrix: AQ **Batch ID:** GN55981

- All method blanks for this batch meet method specific criteria.
- JC48393-2 for Total Residual Chlorine: Analysis performed past the required 15 minutes of collection time/holding time.

Wet Chemistry By Method SM21 4500HB/EPA150.1

Matrix: AQ **Batch ID:** GN55982

- JC48393-2 for pH: Analysis performed past the required 15 minutes of collection time/holding time.
- JC48393-1 for pH: Analysis performed past the required 15 minutes of collection time/holding time.

Wet Chemistry By Method SW846 7196A

Matrix: AQ **Batch ID:** GN55979

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

SGS Accutest New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety. The Laboratory Director for SGS Accutest New England or assignee as verified by the signature on the cover page has authorized the release of this report(JC48393).

Summary of Hits

Job Number: JC48393
Account: Web Engineering Associates, Inc.
Project: Colonial Oil, 8 Emerson Avenue, Chelmsford, MA
Collected: 08/04/17

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JC48393-1	**GOLDEN COVE BROOK**					
Copper		5.4 B	10	3.2	ug/l	SW846 6010C
Iron		745	100	32	ug/l	SW846 6010C
Nickel		3.9 B	10	1.3	ug/l	SW846 6010C
Zinc		24.9	20	4.0	ug/l	SW846 6010C
Hardness, Total as CaCO3		127	4.0	2.5	mg/l	SM2340 C-11
pH [a]		6.6			su	SM21 4500HB/EPA150.1
JC48393-2	**MW-3**					
Chromium [b]		70.0	50	4.3	ug/l	SW846 6010C
Chromium, Trivalent [c]		0.070	0.060	0.0058	mg/l	SW846 6010/7196A M
Hardness, Total as CaCO3		55.7	4.0	2.5	mg/l	SM2340 C-11
Solids, Total Suspended		1740	4.0	0.57	mg/l	SM2540 D-11
Total Residual Chlorine [a]		0.10	0.050	0.038	mg/l	SM21 4500CL F
pH [a]		5.9			su	SM21 4500HB/EPA150.1

(a) Analysis performed past the required 15 minutes of collection time/holding time. Analysis performed at SGS Accutest, Marlborough, MA.
(b) Elevated sample detection limit due to difficult sample matrix.
(c) Calculated as: (Chromium) - (Chromium, Hexavalent)

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: GOLDEN COVE BROOK
Lab Sample ID: JC48393-1
Matrix: AQ - Ground Water
Project: Colonial Oil, 8 Emerson Avenue, Chelmsford, MA

Date Sampled: 08/04/17
Date Received: 08/04/17
Percent Solids: n/a

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Antimony	4.3 U	6.0	4.3	ug/l	1	08/07/17	08/08/17	ND	SW846 6010C [2]	SW846 3010A [3]
Arsenic	2.7 U	3.0	2.7	ug/l	1	08/07/17	08/08/17	ND	SW846 6010C [2]	SW846 3010A [3]
Chromium	0.85 U	10	0.85	ug/l	1	08/07/17	08/08/17	ND	SW846 6010C [2]	SW846 3010A [3]
Copper	5.4 B	10	3.2	ug/l	1	08/07/17	08/08/17	ND	SW846 6010C [2]	SW846 3010A [3]
Iron	745	100	32	ug/l	1	08/07/17	08/08/17	ND	SW846 6010C [2]	SW846 3010A [3]
Lead	2.6 U	3.0	2.6	ug/l	1	08/07/17	08/08/17	ND	SW846 6010C [2]	SW846 3010A [3]
Mercury	0.083 U	0.20	0.083	ug/l	1	08/08/17	08/08/17	JA	SW846 7470A [1]	SW846 7470A [4]
Nickel	3.9 B	10	1.3	ug/l	1	08/07/17	08/08/17	ND	SW846 6010C [2]	SW846 3010A [3]
Selenium	6.6 U	10	6.6	ug/l	1	08/07/17	08/08/17	ND	SW846 6010C [2]	SW846 3010A [3]
Silver	3.1 U	10	3.1	ug/l	1	08/07/17	08/08/17	ND	SW846 6010C [2]	SW846 3010A [3]
Zinc	24.9	20	4.0	ug/l	1	08/07/17	08/08/17	ND	SW846 6010C [2]	SW846 3010A [3]

(1) Instrument QC Batch: MA42557
(2) Instrument QC Batch: MA42560
(3) Prep QC Batch: MP2309
(4) Prep QC Batch: MP2321

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:	GOLDEN COVE BROOK		
Lab Sample ID:	JC48393-1	**Date Sampled:**	08/04/17
Matrix:	AQ - Ground Water	**Date Received:**	08/04/17
		Percent Solids:	n/a
Project:	Colonial Oil, 8 Emerson Avenue, Chelmsford, MA		

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent [a]	0.0015 U	0.010	0.0015	mg/l	1	08/04/17 17:50	AMA	SW846 7196A
Chromium, Trivalent [b]	0.0024 U	0.020	0.0024	mg/l	1	08/08/17 18:39	ND	SW846 6010/7196A M
Hardness, Total as CaCO3	127	4.0	2.5	mg/l	1	08/07/17 11:55	ST	SM2340 C-11
Nitrogen, Ammonia	0.14 U	0.20	0.14	mg/l	1	08/07/17 11:55	BM	SM4500NH3 H-11LACHAT
pH [c]	6.6			su	1	08/04/17 17:40	AMA	SM21 4500HB/EPA150.1

(a) Analysis performed at SGS Accutest, Marlborough, MA.
(b) Calculated as: (Chromium) - (Chromium, Hexavalent)
(c) Analysis performed past the required 15 minutes of collection time/holding time. Analysis performed at SGS Accutest, Marlborough, MA.

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:	MW-3		
Lab Sample ID:	JC48393-2	**Date Sampled:**	08/04/17
Matrix:	AQ - Ground Water	**Date Received:**	08/04/17
Method:	SW846 8100M SW846 3510C	**Percent Solids:**	n/a
Project:	Colonial Oil, 8 Emerson Avenue, Chelmsford, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	CR5768.D	1	08/10/17 13:00	AMA	08/09/17 14:30	M:OP49867	M:GCR1345
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
	TPH (C8-C40)	ND	0.25	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	72%		40-140%

(a) Analysis performed at SGS Accutest, Marlborough, MA.

ND = Not detected
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:	MW-3		
Lab Sample ID:	JC48393-2	**Date Sampled:**	08/04/17
Matrix:	AQ - Ground Water	**Date Received:**	08/04/17
		Percent Solids:	n/a
Project:	Colonial Oil, 8 Emerson Avenue, Chelmsford, MA		

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Cadmium [a]	3.5 U	15	3.5	ug/l	1	08/07/17	08/08/17	ND	SW846 6010C [1]	SW846 3010A [2]
Chromium [a]	70.0	50	4.3	ug/l	1	08/07/17	08/08/17	ND	SW846 6010C [1]	SW846 3010A [2]
Selenium [a]	33 U	50	33	ug/l	1	08/07/17	08/08/17	ND	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA42560
(2) Prep QC Batch: MP2309

(a) Elevated sample detection limit due to difficult sample matrix.

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:	MW-3		
Lab Sample ID:	JC48393-2	**Date Sampled:**	08/04/17
Matrix:	AQ - Ground Water	**Date Received:**	08/04/17
		Percent Solids:	n/a
Project:	Colonial Oil, 8 Emerson Avenue, Chelmsford, MA		

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent [a]	0.0015 U	0.010	0.0015	mg/l	1	08/04/17 17:50	AMA	SW846 7196A
Chromium, Trivalent [b]	0.070	0.060	0.0058	mg/l	1	08/08/17 18:43	ND	SW846 6010/7196A M
Hardness, Total as CaCO3	55.7	4.0	2.5	mg/l	1	08/07/17 11:55	ST	SM2340 C-11
Nitrogen, Ammonia	0.14 U	0.20	0.14	mg/l	1	08/07/17 11:57	BM	SM4500NH3 H-11LACHAT
Solids, Total Suspended	1740	4.0	0.57	mg/l	1	08/07/17 18:00	TZW	SM2540 D-11
Total Residual Chlorine [c]	0.10	0.050	0.038	mg/l	1	08/04/17 18:31	AMA	SM21 4500CL F
pH [c]	5.9			su	1	08/04/17 17:45	AMA	SM21 4500HB/EPA150.1

(a) Analysis performed at SGS Accutest, Marlborough, MA.
(b) Calculated as: (Chromium) - (Chromium, Hexavalent)
(c) Analysis performed past the required 15 minutes of collection time/holding time. Analysis performed at SGS Accutest, Marlborough, MA.

RL = Reporting Limit
MDL = Method Detection Limit
U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Certification Exceptions
- Chain of Custody
- MCP Form
- MCP Form (SGS Accutest New England)
- Sample Tracking Chronicle
- QC Evaluation: MA MCP Limits

Parameter Certification Exceptions

Job Number: JC48393
Account: WEBMAN Web Engineering Associates, Inc.
Project: Colonial Oil, 8 Emerson Avenue, Chelmsford, MA

The following parameters included in this report are exceptions to NELAC certification.
The certification status of each is indicated below.

Parameter	CAS#	Method	Mat	Certification Status
Chromium, Trivalent		**SW846 6010/7196A M**	AQ	Accutest is not certified for this parameter.[a]

(a) Lab cert for analyte not supported by NJDEP, OQA. Only methods/analytes required for reporting by the State of NJ can be certified in NJ. Use of this analyte for compliance must be verified through the appropriate regulatory office.

Certification exceptions shown are based on the New Jersey DEP certifications. Applicability in other states may vary. Please contact your laboratory representative if additional information is required for a specific regulatory program.

SGS ACCUTEST GW

CHAIN OF CUSTODY

SGS Accutest of New England
50 D'Angelo Drive/495 Technology Center West, Building One Marlborough, MA 01752
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

PAGE ___ OF ___

FED-EX Tracking #: 7273 7516 5230
Bottle Order Control #: JC48393
SGS Accutest Quote #:
SGS Accutest Job #: ~~JC48385~~ 8/5/17

Client / Reporting Information
Company Name: Web Engineering
Street Address: 111 Summer Street
City / State / Zip: Scituate MA 02066
Project Contact: Bob Coluccio E-mail: RPCOLUCCIO@AOL.Com
Phone #: 781-844-8323 Fax #:
Sampler(s) Name(s): Bob Coluccio Phone #: 781-844-8323

Project Information
Project Name: Colonial Oil
Street: 8 Emerson Ave
City: Chelmsford
Project#:
Client PO#: Colonial Oil
Project Manager: Bob Coluccio

Billing Information (If different from Report to)
Company Name:
Street Address:
City / State / Zip:
Attention: PO#:

Matrix Codes: DW - Drinking Water, GW - Ground Water, WW - Water, SW - Surface Water, SO - Soil, SL- Sludge, SED-Sediment, OI - Oil, LIQ - Other Liquid, AIR - Air, SOL - Other Solid, WP - Wipe, FB-Field Blank, EB- Equipment Blank, RB- Rinse Blank, TB-Trip Blank

Requested Analysis (see TEST CODE sheet)

SGS Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Date	Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	Bisulfate	Hardness	Amonia	pH	Sb, As, Cr, Cu, Fe, Pb	Hg, Ni, Ag, Zn, Antimony	Se, Cd	TSS	Total Resid chlorine	TPH 8100	Hexevalent Cr, Tri Cr	LAB USE ONLY
1	Golden Cove Brook		8/4	845	BC	W	5			1	1	3					X	X	X	X	X					X	
2	MW-3		8/4	9:00	BC	W	6			1	1	4					X	X	X			X	X	X	X	X	G31

Cd No!

SGS-ACCUTEST MARLBOR 8-4-17

Turnaround Time (Business days)
- [ ] Std. 10 Business Days
- [x] Std. 5 Business Days (By Contract only)
- [ ] 5 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [ ] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved By (SGS Accutest PM): / Date:

INITIAL ASSESSMENT 2B Day
LABEL VERIFICATION MH

Data Deliverable Information
- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] CT RCP
- [ ] MA MCP
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format ________
- [ ] Other ________

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

Comments / Special Instructions
Email results to RPCOLUCCIO@AOL.CoM

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
Relinquished by Sampler: 1 [signature]	8/4/17 10:00 AM	1 [signature]	2 [signature]	8/4/17 1640	2 [signature]
Relinquished by Sampler: 3 [signature]	8-4-17	3 FEDX	4 FX	8/5/17 9:50	4 [signature]
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal # 695	[x] Intact [ ] Not intact; Preserved where applicable TC	On Ice [x]; Cooler Temp. ~~4°~~ 2.3°C

SGS Accutest Sample Receipt Summary

Job Number: JC48393 **Client:** WEB Engineering **Project:** Colonial Oil

Date / Time Received: 8/5/2017 9:50:00 AM **Delivery Method:** FedEx **Airbill #'s:** 727375165230

Cooler Temps (Raw Measured) °C: Cooler 1: (2.3);

Cooler Temps (Corrected) °C: Cooler 1: (3.6);

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	IR Gun		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	1		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☐	☑
2. Trip Blank listed on COC:	☐		☐	☑
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☐		☐	☑

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☐		☑
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Comments

SM089-02
Rev. Date 12/1/16

Responded to by: rocus peters Response Date: 8/7

-1,-2 proceed and run XCR out of hold.

Per Client Bob Collucio

JC48393: Chain of Custody
Page 3 of 3

Massachusetts Department of Environmental Protection Bureau of Waste Site Cleanup	WSC-CAM	Exhibit VII A
	July 1, 2010	Revision No. 1
	Final	

Exhibit VII A-2: MassDEP Analytical Protocol Certification Form

MassDEP Analytical Protocol Certification Form

Laboratory Name:	Accutest Mid-Atlantic	Project #:	JC48393
Project Location:#01074,	Colonial Oil, 8 Emerson Avenue, Chelmsford, MA	MADEP RTN	None

This form provides certifications for the following data set: list Laboratory Sample ID Numbers(s)
JC48393-1,JC48393-2

Test method: Refer to case narrative.

Matrices: Groundwater/Surface Water (X) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other ( )

CAM Protocol (check all that apply below):

8260 VOC ( ) CAM IIA	7470/7471 Hg (X) CAM III B	MassDEP VPH ( ) CAM IV A	8081 Pesticides ( ) CAM V B	7196 Hex Cr (X) CAM VI B	Mass DEP APH ( ) CAM IX A
8270 SVOC ( ) CAM II B	7010 Metals ( ) CAM III C	MassDEP EPH ( ) CAM IV B	8151 Herbicides ( ) CAM V C	8330 Explosives ( ) CAM VIII A	TO-15 VOC ( ) CAM IX B
6010 Metals (X) CAM III A	6020 Metals ( ) CAM III D	8082 PCB ( ) CAM V A	9014 Total Cyanide/PAC ( ) CAM VI A	6860 Perchlorate ( ) CAM VIII B	

Affirmative Responses to Questions A Through F are required for "Presumptive Certainty status

A	Were all samples received in a condition consistent with those described on the Chain-of Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	☐ Yes	☑ No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	☑ Yes	☐ No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☑ Yes	☐ No
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	☑ Yes	☐ No
E	VPH, EPH, APH, and TO-15 only: a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐ Yes ☐ Yes	☐ No ☐ No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	☑ Yes	☐ No

Responses to questions G, H, and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols	☐ Yes	☑ No [1]
	Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data useability and representativeness requirements described in 310 CMR 40.1056(2)(k) and WSC-07-350.		
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	☑ Yes	☐ No [1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☑ Yes	☐ No [1]

[1] ***All Negative responses must be addressed in an attached Environmental Laboratory case narrative.***

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

Signature: Nancy F. Cole **Position:** **Laboratory Director**

Printed Name: **Nancy F. Cole** **Date:** **10-Aug-17**

Massachusetts Department of Environmental Protection Bureau of Waste Site Cleanup	WSC-CAM	Exhibit VII A
	July 1, 2010	Revision No. 1
	Final	

Exhibit VII A-2: MassDEP Analytical Protocol Certification Form

MassDEP Analytical Protocol Certification Form

Laboratory Name:	SGS Accutest- Marlborough	Project #:	JC48393
Project Location:	WEBMAN: Colonial Oil, 8 Emerson Avenue, Chelmsford, MA	MADEP RTN	None

This form provides certifications for the following data set: list Laboratory Sample ID Numbers(s)
JC48393-1,JC48393-2

Test method: Refer to case narrative.

Matrices: Groundwater/Surface Water (X) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other ( )

CAM Protocol (check all that apply below):

8260 VOC ( ) CAM IIA	7470/7471 Hg ( ) CAM III B	MassDEP VPH ( ) CAM IV A	8081 Pesticides ( ) CAM V B	7196 Hex Cr (X) CAM VI B	Mass DEP APH ( ) CAM IX A
8270 SVOC ( ) CAM II B	7010 Metals ( ) CAM III C	MassDEP EPH ( ) CAM IV B	8151 Herbicides ( ) CAM V C	8330 Explosives ( ) CAM VIII A	TO-15 VOC ( ) CAM IX B
6010 Metals ( ) CAM III A	6020 Metals ( ) CAM III D	8082 PCB ( ) CAM V A	9014 Total Cyanide/PAC ( ) CAM VI A	6860 Perchlorate ( ) CAM VIII B	

Affirmative Responses to Questions A Through F are required for "Presumptive Certainty status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	☐ Yes	☑ No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	☑ Yes	☐ No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☑ Yes	☐ No
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	☑ Yes	☐ No
E	VPH, EPH, APH, and TO-15 only: a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐ Yes ☐ Yes	☐ No ☐ No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	☑ Yes	☐ No

Responses to questions G, H, and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols	☑ Yes	☐ No [1]
	Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data useability and representativeness requirements described in 310 CMR 40.1056(2)(k) and WSC-07-350.		
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	☑ Yes	☐ No [1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☑ Yes	☐ No [1]

[1] ***All Negative responses must be addressed in an attached Environmental Laboratory case narrative.***

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

Signature: _____ **Position:** **Laboratory Director**

Printed Name: **H. (Brad) Madadian** **Date:** **10-Aug-17**

Internal Sample Tracking Chronicle

Web Engineering Associates, Inc.

Job No: JC48393

Colonial Oil, 8 Emerson Avenue, Chelmsford, MA
Project No: 17-E-026

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JC48393-1	Collected: 04-AUG-17 08:45 By: BC		Received: 04-AUG-17 By: DDH			
GOLDEN COVE BROOK						
JC48393-1	SM21 4500HB/EPA150.1	04-AUG-17 17:40	AMA			PHLAB
JC48393-1	SW846 7196A	04-AUG-17 17:50	AMA			XCR
JC48393-1	SM2340 C-11	07-AUG-17 11:55	ST			HRD
JC48393-1	SM4500NH3 H-11LACHAT	07-AUG-17 11:55	BM	07-AUG-17	BM	AMN
JC48393-1	SW846 7470A	08-AUG-17 11:34	JA	08-AUG-17	JA	HG
JC48393-1	SW846 6010C	08-AUG-17 18:39	ND	07-AUG-17	CSF	AG,AS,CR,CU,FE,NI,PB,SB,SE,ZN
JC48393-1	SW846 6010/7196A M	08-AUG-17 18:39	ND			CR3
JC48393-2	Collected: 04-AUG-17 09:00 By: BC		Received: 04-AUG-17 By: DDH			
MW-3						
JC48393-2	SM21 4500HB/EPA150.1	04-AUG-17 17:45	AMA			PHLAB
JC48393-2	SW846 7196A	04-AUG-17 17:50	AMA			XCR
JC48393-2	SM21 4500CL F	04-AUG-17 18:31	AMA			TRC
JC48393-2	SM2340 C-11	07-AUG-17 11:55	ST			HRD
JC48393-2	SM4500NH3 H-11LACHAT	07-AUG-17 11:57	BM	07-AUG-17	BM	AMN
JC48393-2	SM2540 D-11	07-AUG-17 18:00	TZW			TSS
JC48393-2	SW846 6010C	08-AUG-17 18:43	ND	07-AUG-17	CSF	CD,CR,SE
JC48393-2	SW846 6010/7196A M	08-AUG-17 18:43	ND			CR3
JC48393-2	SW846 8100M	10-AUG-17 13:00	AMA	09-AUG-17	AMA	B8100TPH

QC Evaluation: MA MCP Limits

Job Number: JC48393
Account: Web Engineering Associates, Inc.
Project: Colonial Oil, 8 Emerson Avenue, Chelmsford, MA
Collected: 08/04/17

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits

No Exceptions found.

* Sample used for QC is not from job JC48393

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JC48393
Account: WEBMAN - Web Engineering Associates, Inc.
Project: Colonial Oil, 8 Emerson Avenue, Chelmsford, MA

QC Batch ID: MP2309
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 08/07/17

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	7.1	33		
Antimony	6.0	1.9	4.3	1.4	<6.0
Arsenic	3.0	1.5	2.7	0.70	<3.0
Barium	200	.2	1.3		
Beryllium	1.0	.1	.4		
Bismuth	20	2.6	5		
Boron	100	1.2	13		
Cadmium	3.0	.3	.7	0.0	<3.0
Calcium	5000	3.3	29		
Chromium	10	.8	.85	0.0	<10
Cobalt	50	.5	.72		
Copper	10	.9	3.2	3.4	<10
Iron	100	2.7	32	4.1	<100
Lead	3.0	2.2	2.6	-1.1	<3.0
Lithium	50	3.1	15		
Magnesium	5000	17	64		
Manganese	15	.1	.42		
Molybdenum	20	.4	1.4		
Nickel	10	.4	1.3	0.30	<10
Phosphorus	50	2.1	13		
Potassium	10000	47	230		
Selenium	10	2.5	6.6	2.1	<10
Silicon	200	2.2	45		
Silver	10	1	3.1	0.60	<10
Sodium	10000	16	130		
Strontium	10	.1	.3		
Sulfur	50	4	15		
Thallium	2.0	1.9	1.6		
Tin	10	1.3	2.4		
Titanium	10	.6	1.8		
Tungsten	50	2	14		
Vanadium	50	.8	1.3		
Zinc	20	.2	4	-0.30	<20

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JC48393
Account: WEBMAN - Web Engineering Associates, Inc.
Project: Colonial Oil, 8 Emerson Avenue, Chelmsford, MA

QC Batch ID: MP2309
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 08/07/17

Metal	RL	IDL	MDL	MB raw	final
Zirconium	10	.5	2		

Associated samples MP2309: JC48393-1, JC48393-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JC48393
Account: WEBMAN - Web Engineering Associates, Inc.
Project: Colonial Oil, 8 Emerson Avenue, Chelmsford, MA

QC Batch ID: MP2309
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 08/07/17 08/07/17

Metal	BSP Result	Spikelot MPSPK2	% Rec	QC Limits	BSD Result	Spikelot MPSPK2	% Rec	BSD RPD	QC Limit
Aluminum	anr								
Antimony	2050	2000	102.5	80-120	2070	2000	103.5	1.0	20
Arsenic	2020	2000	101.0	80-120	2030	2000	101.5	0.5	20
Barium	anr								
Beryllium	anr								
Bismuth									
Boron									
Cadmium	2070	2000	103.5	80-120	2080	2000	104.0	0.5	20
Calcium	anr								
Chromium	2080	2000	104.0	80-120	2090	2000	104.5	0.5	20
Cobalt	anr								
Copper	2040	2000	102.0	80-120	2050	2000	102.5	0.5	20
Iron	25900	25000	103.6	80-120	26200	25000	104.8	1.2	20
Lead	2050	2000	102.5	80-120	2060	2000	103.0	0.5	20
Lithium									
Magnesium	anr								
Manganese	anr								
Molybdenum									
Nickel	2050	2000	102.5	80-120	2070	2000	103.5	1.0	20
Phosphorus									
Potassium	anr								
Selenium	2040	2000	102.0	80-120	2050	2000	102.5	0.5	20
Silicon									
Silver	263	250	105.2	80-120	263	250	105.2	0.0	20
Sodium	anr								
Strontium									
Sulfur									
Thallium	anr								
Tin									
Titanium									
Tungsten									
Vanadium	anr								
Zinc	2070	2000	103.5	80-120	2070	2000	103.5	0.0	20

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JC48393
Account: WEBMAN - Web Engineering Associates, Inc.
Project: Colonial Oil, 8 Emerson Avenue, Chelmsford, MA

QC Batch ID: MP2309
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 08/07/17 08/07/17

Metal	BSP Result	Spikelot MPSPK2	% Rec	QC Limits	BSD Result	Spikelot MPSPK2	% Rec	BSD RPD	QC Limit
Zirconium									

Associated samples MP2309: JC48393-1, JC48393-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: JC48393
Account: WEBMAN - Web Engineering Associates, Inc.
Project: Colonial Oil, 8 Emerson Avenue, Chelmsford, MA

QC Batch ID: MP2309
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 08/07/17

Metal	TD7118-1 Original	SDL 1:5	%DIF	QC Limits
Aluminum	anr			
Antimony	0.00	0.00	NC	0-10
Arsenic	0.00	0.00	NC	0-10
Barium	anr			
Beryllium	anr			
Bismuth				
Boron				
Cadmium	0.00	0.00	NC	0-10
Calcium	anr			
Chromium	0.00	0.00	NC	0-10
Cobalt	anr			
Copper	4.00	38.3	857.5(a)	0-10
Iron	38.3	51.5	34.5 (a)	0-10
Lead	0.00	0.00	NC	0-10
Lithium				
Magnesium	anr			
Manganese	anr			
Molybdenum				
Nickel	1.30	2.20	69.2 (a)	0-10
Phosphorus				
Potassium	anr			
Selenium	0.00	0.00	NC	0-10
Silicon				
Silver	1.40	6.50	364.3(a)	0-10
Sodium	anr			
Strontium				
Sulfur				
Thallium	anr			
Tin				
Titanium				
Tungsten				
Vanadium	anr			
Zinc	5.60	16.4	192.9(a)	0-10

SERIAL DILUTION RESULTS SUMMARY

Login Number: JC48393
Account: WEBMAN - Web Engineering Associates, Inc.
Project: Colonial Oil, 8 Emerson Avenue, Chelmsford, MA

QC Batch ID: MP2309 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 08/07/17

	TD7118-1		QC
Metal	Original SDL 1:5	%DIF	Limits
Zirconium			

Associated samples MP2309: JC48393-1, JC48393-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JC48393
Account: WEBMAN - Web Engineering Associates, Inc.
Project: Colonial Oil, 8 Emerson Avenue, Chelmsford, MA

QC Batch ID: MP2321 Methods: SW846 7470A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 08/08/17

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.20	.058	.083	0.016	<0.20

Associated samples MP2321: JC48393-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JC48393
Account: WEBMAN - Web Engineering Associates, Inc.
Project: Colonial Oil, 8 Emerson Avenue, Chelmsford, MA

QC Batch ID: MP2321
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 08/08/17 08/08/17

Metal	BSP Result	Spikelot HGPW3	% Rec	QC Limits	BSD Result	Spikelot HGPW3	% Rec	BSD RPD	QC Limit
Mercury	2.0	2	100.0	80-120	2.1	2	105.0	4.9	

Associated samples MP2321: JC48393-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: JC48393
Account: WEBMAN - Web Engineering Associates, Inc.
Project: Colonial Oil, 8 Emerson Avenue, Chelmsford, MA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Hardness, Total as CaCO3	GN67843	4.0	0.0	mg/l	160	163	101.9	80-120%
Hardness, Total as CaCO3	GN67843			mg/l	80	83.6	104.5	80-120%
Nitrogen, Ammonia	GP7001/GN67848	0.20	0.0	mg/l	1	1.00	100.0	80-120%
Solids, Total Suspended	GN67855	4.0	0.0	mg/l				

Associated Samples:
Batch GP7001: JC48393-1, JC48393-2
Batch GN67843: JC48393-1, JC48393-2
Batch GN67855: JC48393-2
(*) Outside of QC limits

Misc. Forms

Custody Documents and Other Forms

(SGS Accutest New England)

Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- QC Evaluation: MA MCP Limits

CHAIN OF CUSTODY

SGS ACCUTEST
2235 Route 130, Dayton, NJ 08810
TEL 732-329-0200 FAX 732-329-3499/3480
www.sgs.com

FED-EX Tracking #: | Bottle Order Control #:
SGS Accutest Quote #: | SGS Accutest Job: JC48393

Client / Reporting Information

Company Name: SGS Accutest
Street Address: 2235 Route 130
City: Dayton State: NJ Zip: 08810
Project Contact: michelle.jenkins@sgs.com E-mail:
Phone #: 732-329-0200 Fax #:
Sampler(s) Name(s): BC Phone:

Project Information

Project Name: Colonial Oil, 8 Emerson Avenue, Chelmsford, MA
Street:
City: State:
Project #:
Client Purchase Order #:
Project Manager:

Billing Information (if different from Report to)

Company Name:
Street Address:
City: State: Zip:
Attention:

Requested Analysis (see TEST CODE sheet)

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank
EB-Equipment Blank
RB- Rinse Blank
TB-Trip Blank

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	BB100TPH_PHLAB_TRC_XCR_	PHLAB_XCR_	LAB USE ONLY
1	GOLDEN COVE BROOK		8/4/17	8:45:00 AM	BC	AQ											X	
2	MW-3		8/4/17	9:00:00 AM	BC	AQ										X		

Turnaround Time (Business days)

Approved By (SGS Accutest PM): / Date:

- [ ] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [X] other Due 8/14/2017

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] NJ Reduced
- [ ] Commercial "C"
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [X] Other MAMCP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

Comments / Special Instructions

ALNE kept volume to run

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Tim	Received By:	Relinquished By:	Date Time:	Received By:
1		1	2		2
Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
3		3	4		4
Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice	Cooler Temp.
5		5	☐ Intact ☐ Not intact	☐	☐	

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JC48393: Chain of Custody
Page 1 of 3
SGS Accutest New England

GW

SGS ACCUTEST

CHAIN OF CUSTODY

SGS Accutest of New England
50 D'Angelo Drive/495 Technology Center West, Building One Marlborough, MA 01752
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

PAGE ___ OF ___

FED-EX Tracking #: 7273 7516 5230
Bottle Order Control #: JC48393
SGS Accutest Quote #:
SGS Accutest Job #: ~~JC48385~~

Client / Reporting Information

Company Name: [redacted] Engineering
Street Address: 111 Summer Street
City / State / Zip: Scituate MA 02066
Project Contact / E-mail: Bob Coluccio RPCOLUCCIO@AOL.Com
Phone #: 781-844-8323
Fax #:
Sampler(s) Name(s) / Phone #: Bob Coluccio 781-844-8323

Project Information

Project Name: Colonial Oil
Street: 8 Emerson Ave
City: Chelmsford
Project#:
Client PO#: Colonial Oil
Project Manager: Bob Coluccio

Billing Information (If different from Report to)

Company Name:
Street Address:
City / State / Zip:
Attention: / PO#:

Requested Analysis (see TEST CODE sheet)

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL - Sludge; SED - Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB - Field Blank; EB - Equipment Blank; RB - Rinse Blank; TB - Trip Blank

SGS Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Date	Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	Bisulfate	Hardness	Amonia	pH	Sb, As, Cr, Cu, Fe, Pb	Hg, Ni, Ag, Zn, Antimony	Se, Cd	TSS	Total Resid chlorine	TPH 8100	Hexevalent Cr, Tri Cr		LAB USE ONLY
1	Golden Cove Brook		8/4	845	BC	W	5			1	1	3					X	X	X	X	X	[redacted]				X		
2	MW-3		8/4	9:00	BC	W	6			1	1	4					X	X	X		X	X	X	X	X	X		G31

Cd No!

SGS-ACCUTEST MARLBOR 8-4-17

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] CT RCP
- [ ] MA MCP
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format ______
- [ ] Other ______

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

Turnaround Time (Business days) / Approved By (SGS Accutest PM): / Date:

- [ ] Std. 10 Business Days
- [x] Std. 5 Business Days (By Contract only)
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY

Emergency & Rush T/A data available VIA Lablink

INITIAL ASESSMENT 2B Dm
LABEL VERIFICATION MH

Comments / Special Instructions

Email results to RPCOLUCCIO@AOL.Com

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Date Time:	Received By:		Date Time:	Received By:
1 Relinquished by Sampler: [signature]	8/4/17 10:00 AM	1 [signature]	2 Relinquished By: [signature]	8/4/17 1640	2 [signature]
3 Relinquished by Sampler: [signature]	8-4-17	3 FEDX	4 Relinquished By: FX	8/5/17 9:50	4 [signature]
5 Relinquished by:	Date Time:	5 Received By:	Custody Seal # 695	Intact / Not intact; Preserved where applicable 76	On Ice; Cooler Temp. 1.4°C IR 2.3°C

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JC48393: Chain of Custody
Page 2 of 3

SGS Accutest Sample Receipt Summary

Job Number: JC48393 **Client:** ALNJ **Project:** COLONIAL OIL

Date / Time Received: 8/4/2017 4:40:00 PM **Delivery Method:** SGS COURIER **Airbill #'s:**

Cooler Temps (Initial/Adjusted): #1: (1.4/1.4);

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Thermometer ID:	IRGUN1;		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	1		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☑	☐
2. Trip Blank listed on COC:	☐		☑	☐
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☐		☐	☑

Comments

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

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JC48393: Chain of Custody
Page 3 of 3

Internal Sample Tracking Chronicle

SGS Accutest New Jersey

Job No: JC48393

WEBMAN: Colonial Oil, 8 Emerson Avenue, Chelmsford, MA
Project No: 17-E-026

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JC48393-1	Collected: 04-AUG-17 08:45 By: BC		Received: 04-AUG-17 By: TF			
GOLDEN COVE BROOK						
JC48393-1	SM21 4500HB/EPA150.1	04-AUG-17 17:40	VY			PHLAB
JC48393-1	SW846 7196A	04-AUG-17 17:50	EAL			XCR
JC48393-2	Collected: 04-AUG-17 09:00 By: BC		Received: 04-AUG-17 By: TF			
MW-3						
JC48393-2	SM21 4500HB/EPA150.1	04-AUG-17 17:45	VY			PHLAB
JC48393-2	SW846 7196A	04-AUG-17 17:50	EAL			XCR
JC48393-2	SM21 4500CL F	04-AUG-17 18:31	VY			TRC
JC48393-2	SW846 8100M	10-AUG-17 13:00	AP	09-AUG-17	AJ	B8100TPH

QC Evaluation: MA MCP Limits

Job Number: JC48393
Account: SGS Accutest New Jersey
Project: WEBMAN: Colonial Oil, 8 Emerson Avenue, Chelmsford, MA
Collected: 08/04/17

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits

No Exceptions found.

* Sample used for QC is not from job JC48393

GC Semi-volatiles

QC Data Summaries

(SGS Accutest New England)

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries

Method Blank Summary

Job Number: JC48393
Account: ALNJ SGS Accutest New Jersey
Project: WEBMAN: Colonial Oil, 8 Emerson Avenue, Chelmsford, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP49867-MB	CR5765.D	1	08/10/17	AP	08/09/17	OP49867	GCR1345

The QC reported here applies to the following samples: **Method:** SW846 8100M

JC48393-2

CAS No.	Compound	Result	RL	Units	Q
	TPH (C8-C40)	ND	0.25	mg/l	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	79%	40-140%

Blank Spike/Blank Spike Duplicate Summary

Job Number: JC48393
Account: ALNJ SGS Accutest New Jersey
Project: WEBMAN: Colonial Oil, 8 Emerson Avenue, Chelmsford, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP49867-BS	CR5766.D	1	08/10/17	AP	08/09/17	OP49867	GCR1345
OP49867-BSD	CR5767.D	1	08/10/17	AP	08/09/17	OP49867	GCR1345

The QC reported here applies to the following samples: **Method:** SW846 8100M

JC48393-2

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	BSD mg/l	BSD %	RPD	Limits Rec/RPD
	TPH (C8-C40)	0.70	0.74	106	0.59	84	23	60-120/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
84-15-1	o-Terphenyl	81%	63%	40-140%

* = Outside of Control Limits.

Semivolatile Surrogate Recovery Summary

Job Number: JC48393
Account: ALNJ SGS Accutest New Jersey
Project: WEBMAN: Colonial Oil, 8 Emerson Avenue, Chelmsford, MA

Method: SW846 8100M **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]
JC48393-2	CR5768.D	72
OP49867-BS	CR5766.D	81
OP49867-BSD	CR5767.D	63
OP49867-MB	CR5765.D	79

Surrogate Compounds	Recovery Limits
S1 = o-Terphenyl	40-140%

(a) Recovery from GC signal #1

General Chemistry

QC Data Summaries

(SGS Accutest New England)

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: JC48393
Account: ALNJ - SGS Accutest New Jersey
Project: WEBMAN: Colonial Oil, 8 Emerson Avenue, Chelmsford, MA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Chromium, Hexavalent	GN55979	0.010	0.0	mg/l	.1	0.10	100.0	85-115%
Total Residual Chlorine	GN55981	0.050	0.0	mg/l	1.0	1.1	110.0	80-120%

Associated Samples:
Batch GN55979: JC48393-1, JC48393-2
Batch GN55981: JC48393-2
(*) Outside of QC limits

BLANK SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: JC48393
Account: ALNJ - SGS Accutest New Jersey
Project: WEBMAN: Colonial Oil, 8 Emerson Avenue, Chelmsford, MA

Analyte	Batch ID	Units	Spike Amount	BSD Result	RPD	QC Limit
Chromium, Hexavalent	GN55979	mg/l	.1	0.10	0.0	20%

Associated Samples:
Batch GN55979: JC48393-1, JC48393-2
(*) Outside of QC limits

e-Hardcopy 2.0
Automated Report

Technical Report for

Web Engineering Associates, Inc.

Colonial Oil, 8 Emerson Avenue, Chelmsford, MA

SGS Accutest Job Number: JC48965

Sampling Date: 08/14/17

Report to:

Web Engineering Associates
111 Summer Street
Scituate, MA 02066
sesolutions1@comcast.net; wbaird65@aol.com;
rocklacrosse@hotmail.com
ATTN: Andrew Brolowski

Total number of pages in report: **465**

NELAP ACCREDITED TNI LABORATORY

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

Nancy Cole
Laboratory Director

Client Service contact: Rocus Peters 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (L-A-B L2248)

August 18, 2017

Mr. Andrew Brolowski
Web Engineering Associates
111 Summer Street
Scituate, MA 02066

Re: SGS Accutest –Dayton, Jobs # JC48965 – Reissues

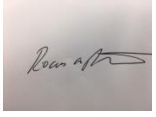
Dear Mr. Brolowski,

The final reports for SGS Accutest job number JC48965 has edited to reflect corrections to the data package. These edits have been incorporated into the revised report attached.

Specifically, the project information has been revised to meet client's requirement. The attached revised report incorporates these revisions.

Please contact me at (732) 329-0200 if I can be of further assistance in this matter.

Sincerely,



SGS Accutest

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Sample Summary

Web Engineering Associates, Inc.

Job No: JC48965

Colonial Oil, 8 Emerson Avenue, Chelmsford, MA

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
JC48965-1	08/14/17	11:30	RPC	08/14/17	AQ	Ground Water	MW-3

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	Web Engineering Associates, Inc.	**Job No**	JC48965
Site:	Colonial Oil, 8 Emerson Avenue, Chelmsford, MA	**Report Date**	8/18/2017 12:32:43 P

On 08/14/2017, 1 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at SGS Accutest at a maximum corrected temperature of 2.4 C. Samples were intact and chemically preserved, unless noted below. A SGS Accutest Job Number of JC48965 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Volatiles by GCMS By Method SW846 8260C

Matrix: AQ **Batch ID:** VL8248

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- JC48965-1 for Trichlorofluoromethane: This compound in the associated CCV is outside the method criteria of 20%, biased high.

Extractables by GCMS By Method SW846 8270D

Matrix: AQ **Batch ID:** OP5356

- All samples were extracted within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- JC48965-1 for 2,4,6-Tribromophenol: This compound in CCV is outside method requirements (bias high)
- JC48965-1 for Pentachlorophenol: Quadratic regression was employed for this compound in associated ICAL.
- JC48965-1 for Benzoic Acid: Quadratic regression was employed for this compound in associated ICAL.
- JC48965-1 for 4,6-Dinitro-o-cresol: Quadratic regression was employed for this compound in associated ICAL.
- JC48965-1 for 2,4-Dinitrophenol: Quadratic regression was employed for this compound in associated ICAL.

Extractables by GCMS By Method SW846 8270D BY SIM

Matrix: AQ **Batch ID:** OP5356A

- All samples were extracted within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- JC48965-1 for Acenaphthene: This compound is outside the MCP limits in the associated BSD biased low.
- JC48965-1 for Benzo(b)fluoranthene: This compound in CCV is outside method requirements (bias high)

SGS Accutest certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

SGS Accutest is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by SGS Accutest indicated via signature on the report cover

Summary of Hits

Job Number: JC48965
Account: Web Engineering Associates, Inc.
Project: Colonial Oil, 8 Emerson Avenue, Chelmsford, MA
Collected: 08/14/17

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JC48965-1	**MW-3**					

No hits reported in this sample.

Sample Results

Report of Analysis

SGS Accutest

Report of Analysis

Client Sample ID: MW-3
Lab Sample ID: JC48965-1
Matrix: AQ - Ground Water
Method: SW846 8260C
Project: Colonial Oil, 8 Emerson Avenue, Chelmsford, MA

Date Sampled: 08/14/17
Date Received: 08/14/17
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	L293615.D	1	08/15/17 20:23	JC	n/a	n/a	VL8248
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA MCP List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.25	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.38	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
104-51-8	n-Butylbenzene	ND	2.0	0.27	ug/l	
135-98-8	sec-Butylbenzene	ND	2.0	0.27	ug/l	
98-06-6	tert-Butylbenzene	ND	2.0	0.34	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.23	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	ND	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
95-49-8	o-Chlorotoluene	ND	2.0	0.30	ug/l	
106-43-4	p-Chlorotoluene	ND	2.0	0.24	ug/l	
108-20-3	Di-Isopropyl ether	ND	2.0	0.20	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.9	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	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:	MW-3		
Lab Sample ID:	JC48965-1	**Date Sampled:**	08/14/17
Matrix:	AQ - Ground Water	**Date Received:**	08/14/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Colonial Oil, 8 Emerson Avenue, Chelmsford, MA		

VOA MCP List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.28	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.30	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.29	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
123-91-1	1,4-Dioxane	ND	130	52	ug/l	
60-29-7	Ethyl Ether	ND	2.0	0.41	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.34	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.25	ug/l	
99-87-6	p-Isopropyltoluene	ND	2.0	0.24	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.25	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.45	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
91-20-3	Naphthalene	ND	5.0	1.1	ug/l	
103-65-1	n-Propylbenzene	ND	2.0	0.24	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
75-65-0	Tert Butyl Alcohol	ND	10	7.0	ug/l	
994-05-8	tert-Amyl Methyl Ether	ND	2.0	0.37	ug/l	
637-92-3	tert-Butyl Ethyl Ether	ND	2.0	0.20	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.19	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
109-99-9	Tetrahydrofuran	ND	10	4.7	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.27	ug/l	
75-69-4	Trichlorofluoromethane [a]	ND	2.0	0.60	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.47	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.24	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	ug/l	
	m,p-Xylene	ND	1.0	0.43	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	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:	MW-3		
Lab Sample ID:	JC48965-1	**Date Sampled:**	08/14/17
Matrix:	AQ - Ground Water	**Date Received:**	08/14/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Colonial Oil, 8 Emerson Avenue, Chelmsford, MA		

VOA MCP List

CAS No.	Compound	Result	RL	MDL	Units	Q
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		80-120%
17060-07-0	1,2-Dichloroethane-D4	107%		81-124%
2037-26-5	Toluene-D8	100%		80-120%
460-00-4	4-Bromofluorobenzene	99%		80-120%

(a) This compound in the associated CCV is outside the method criteria of 20%, biased high.

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

SGS Accutest

Report of Analysis

Client Sample ID:	MW-3		
Lab Sample ID:	JC48965-1	**Date Sampled:**	08/14/17
Matrix:	AQ - Ground Water	**Date Received:**	08/14/17
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
Project:	Colonial Oil, 8 Emerson Avenue, Chelmsford, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2M97172.D	1	08/16/17 05:03	CS	08/15/17 16:30	OP5356	E2M4319
Run #2							

	Initial Volume	Final Volume
Run #1	940 ml	1.0 ml
Run #2		

ABN Semivolatiles MCP list

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid [a]	ND	21	2.1	ug/l	
95-57-8	2-Chlorophenol	ND	5.3	0.87	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	5.3	0.95	ug/l	
120-83-2	2,4-Dichlorophenol	ND	2.1	1.4	ug/l	
105-67-9	2,4-Dimethylphenol	ND	5.3	2.6	ug/l	
51-28-5	2,4-Dinitrophenol [a]	ND	11	1.6	ug/l	
534-52-1	4,6-Dinitro-o-cresol [a]	ND	5.3	1.4	ug/l	
95-48-7	2-Methylphenol	ND	2.1	0.94	ug/l	
	3&4-Methylphenol	ND	2.1	0.94	ug/l	
88-75-5	2-Nitrophenol	ND	5.3	1.0	ug/l	
100-02-7	4-Nitrophenol	ND	11	1.2	ug/l	
87-86-5	Pentachlorophenol [a]	ND	4.3	1.5	ug/l	
108-95-2	Phenol	ND	2.1	0.42	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	5.3	1.4	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	5.3	0.98	ug/l	
83-32-9	Acenaphthene	ND	1.1	0.20	ug/l	
208-96-8	Acenaphthylene	ND	1.1	0.14	ug/l	
98-86-2	Acetophenone	ND	2.1	0.22	ug/l	
62-53-3	Aniline	ND	2.1	0.34	ug/l	
120-12-7	Anthracene	ND	1.1	0.22	ug/l	
56-55-3	Benzo(a)anthracene	ND	1.1	0.22	ug/l	
50-32-8	Benzo(a)pyrene	ND	1.1	0.23	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	1.1	0.22	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	1.1	0.36	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	1.1	0.22	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	2.1	0.43	ug/l	
85-68-7	Butyl benzyl phthalate	ND	2.1	0.49	ug/l	
91-58-7	2-Chloronaphthalene	ND	2.1	0.25	ug/l	
106-47-8	4-Chloroaniline	ND	5.3	0.36	ug/l	
218-01-9	Chrysene	ND	1.1	0.19	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	2.1	0.30	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	2.1	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

Client Sample ID:	MW-3		
Lab Sample ID:	JC48965-1	**Date Sampled:**	08/14/17
Matrix:	AQ - Ground Water	**Date Received:**	08/14/17
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
Project:	Colonial Oil, 8 Emerson Avenue, Chelmsford, MA		

ABN Semivolatiles MCP list

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	bis(2-Chloroisopropyl)ether	ND	2.1	0.43	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	2.1	0.39	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.1	0.18	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	1.1	0.20	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.1	0.20	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.1	0.18	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	1.1	0.59	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	1.1	0.51	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	2.1	0.54	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	1.1	0.35	ug/l	
132-64-9	Dibenzofuran	ND	5.3	0.23	ug/l	
84-74-2	Di-n-butyl phthalate	ND	2.1	0.53	ug/l	
117-84-0	Di-n-octyl phthalate	ND	2.1	0.25	ug/l	
84-66-2	Diethyl phthalate	ND	2.1	0.28	ug/l	
131-11-3	Dimethyl phthalate	ND	2.1	0.23	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.1	1.8	ug/l	
206-44-0	Fluoranthene	ND	1.1	0.18	ug/l	
86-73-7	Fluorene	ND	1.1	0.18	ug/l	
118-74-1	Hexachlorobenzene	ND	1.1	0.35	ug/l	
87-68-3	Hexachlorobutadiene	ND	1.1	0.52	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	3.0	ug/l	
67-72-1	Hexachloroethane	ND	2.1	0.41	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	1.1	0.35	ug/l	
78-59-1	Isophorone	ND	2.1	0.29	ug/l	
91-57-6	2-Methylnaphthalene	ND	1.1	0.22	ug/l	
91-20-3	Naphthalene	ND	1.1	0.25	ug/l	
98-95-3	Nitrobenzene	ND	2.1	0.68	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	2.1	0.87	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	2.1	0.51	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.3	0.24	ug/l	
85-01-8	Phenanthrene	ND	1.1	0.19	ug/l	
129-00-0	Pyrene	ND	1.1	0.23	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.1	0.27	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	27%		10-110%
4165-62-2	Phenol-d5	19%		10-110%
118-79-6	2,4,6-Tribromophenol	67% [b]		36-151%
4165-60-0	Nitrobenzene-d5	71%		34-128%

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:	MW-3		
Lab Sample ID:	JC48965-1	**Date Sampled:**	08/14/17
Matrix:	AQ - Ground Water	**Date Received:**	08/14/17
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
Project:	Colonial Oil, 8 Emerson Avenue, Chelmsford, MA		

ABN Semivolatiles MCP list

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	68%		38-119%
1718-51-0	Terphenyl-d14	42%		26-129%

(a) Quadratic regression was employed for this compound in associated ICAL.
(b) This compound in CCV is outside method requirements (bias high)

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

SGS Accutest

Report of Analysis

Client Sample ID:	MW-3		
Lab Sample ID:	JC48965-1	**Date Sampled:**	08/14/17
Matrix:	AQ - Ground Water	**Date Received:**	08/14/17
Method:	SW846 8270D BY SIM SW846 3510C	**Percent Solids:**	n/a
Project:	Colonial Oil, 8 Emerson Avenue, Chelmsford, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3P61548.D	1	08/16/17 13:32	KM	08/15/17 16:30	OP5356A	E3P2895
Run #2							

	Initial Volume	Final Volume
Run #1	940 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene [a]	ND	0.11	0.026	ug/l	
208-96-8	Acenaphthylene	ND	0.11	0.022	ug/l	
120-12-7	Anthracene	ND	0.11	0.021	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.053	0.024	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.053	0.035	ug/l	
205-99-2	Benzo(b)fluoranthene [b]	ND	0.11	0.046	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	0.035	ug/l	
218-01-9	Chrysene	ND	0.11	0.028	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.11	0.039	ug/l	
206-44-0	Fluoranthene	ND	0.11	0.023	ug/l	
86-73-7	Fluorene	ND	0.11	0.026	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.11	0.040	ug/l	
91-20-3	Naphthalene	ND	0.11	0.031	ug/l	
85-01-8	Phenanthrene	ND	0.11	0.024	ug/l	
129-00-0	Pyrene	ND	0.11	0.021	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	76%		29-124%
321-60-8	2-Fluorobiphenyl	62%		23-122%
1718-51-0	Terphenyl-d14	44%		22-130%

(a) This compound is outside the MCP limits in the associated BSD biased low.
(b) This compound in CCV is outside method requirements (bias high)

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

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- MCP Form
- Sample Tracking Chronicle
- Internal Chain of Custody
- QC Evaluation: MA MCP Limits

GW

SGS ACCUTEST

CHAIN OF CUSTODY

SGS Accutest of New England
50 D'Angelo Drive/495 Technology Center West, Building One Marlborough, MA 01752
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

PAGE ___ OF ___

FED-EX Tracking # 727375165572
Bottle Order Control #
SGS Accutest Quote #
SGS Accutest Job # JC48965

Client / Reporting Information	Project Information	Billing Information (If different from Report to)
Company Name: Web Engineering	Project Name: Colonial Oil	Company Name:
Street Address: 111 Summer Street	Street: 8 Emerson Ave	Street Address:
City/State/Zip: Scituate MA 02060	City: Chelmsford MA	City / State / Zip:
Project Contact: Bob Coluccio; E-mail: RPCOLUCCIO @AOL.com	Project#: Colonial Oil	
Phone #: 781-844-8323; Fax #:	Client PO#: Colonial Oil	
Sampler(s) Name(s): Bob Coluccio; Phone #:	Project Manager: Bob Coluccio	Attention: PO#:

Requested Analysis (see TEST CODE sheet): VOCS (8260), SVOCS (8270) *, TBA (8260)

SGS Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Date	Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE (ICE)	DI Water	MEOH	ENCORE	Bisulfate	VOCS (8260)	SVOCS (8270)	TBA (8260)	LAB USE ONLY
1	MW-3		8/14/17	11:30	RPC	W	12	X				X					X	X	X	E2 V552

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL - Sludge; SED - Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB - Field Blank; EB - Equipment Blank; RB - Rinse Blank; TB - Trip Blank

SGS ACCUTEST MARLBOR 08/14/17

Turnaround Time (Business days)
- [ ] Std. 10 Business Days
- [x] Std. 5 Business Days (By Contract only)
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY

Emergency & Rush T/A data available VIA Lablink

Approved By (SGS Accutest PM): / Date:

INITIAL ASESSMENT JA
LABEL VERIFICATION JS

Data Deliverable Information
- [ ] Commercial "A" (Level 1)
- [x] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] CT RCP
- [x] MA MCP — as per Andrew.
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [x] Other EPA

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

Contact: Brad M asap.

Comments / Special Instructions
* Refer to attached Chain of Custody Addendum

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Date Time			Date Time	
Relinquished by Sampler: 1 [signature]	8/14/17 12:55	Received By: 1 Andrew B.	Relinquished By: 2 [signature]	8/14/17 1400	Received By: 2 [signature] 08/14/17 1450
Relinquished by Sampler: 3 [signature]	08/14/17	Received By: 3 FedEx	Relinquished By: 4 FEDEX	8-15-17 940	Received By: 4 [signature]
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal # 722	[x] Intact [ ] Not intact; Preserved where applicable [ ]	On Ice [x]; Cooler Temp. 5.0°C 3.2°C IR

JC48965: Chain of Custody
Page 1 of 2

5.1
5

SGS Accutest Sample Receipt Summary

Job Number: JC48965 **Client:** _____ **Project:** _____

Date / Time Received: 8/15/2017 9:40:00 AM **Delivery Method:** _____ **Airbill #'s:** _____

Cooler Temps (Raw Measured) °C: Cooler 1: (3.2);

Cooler Temps (Corrected) °C: Cooler 1: (2.4);

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	IR Gun		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	1		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☑	☐
2. Trip Blank listed on COC:	☐		☑	☐
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☑		☐	☐

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Comments

SM089-02
Rev. Date 12/1/16

JC48965: Chain of Custody
Page 2 of 2

Massachusetts Department of Environmental Protection Bureau of Waste Site Cleanup	WSC-CAM	Exhibit VII A
	July 1, 2010	Revision No. 1
	Final	

Exhibit VII A-2: MassDEP Analytical Protocol Certification Form

MassDEP Analytical Protocol Certification Form

Laboratory Name:	Accutest Mid-Atlantic	Project #:	JC48965
Project Location:	Colonial Oil, 8 Emerson Avenue, Chelmsford, MA	MADEP RTN	None

This form provides certifications for the following data set: list Laboratory Sample ID Numbers(s)
JC48965-1

Matrices: Groundwater/Surface Water (X) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other ( )

CAM Protocol (check all that apply below):

8260 VOC (X) CAM IIA	7470/7471 Hg ( ) CAM III B	MassDEP VPH ( ) CAM IV A	8081 Pesticides ( ) CAM V B	7196 Hex Cr ( ) CAM VI B	Mass DEP APH ( ) CAM IX A
8270 SVOC (X) CAM II B	7010 Metals ( ) CAM III C	MassDEP EPH ( ) CAM IV B	8151 Herbicides ( ) CAM V C	8330 Explosives ( ) CAM VIII A	TO-15 VOC ( ) CAM IX B
6010 Metals ( ) CAM III A	6020 Metals ( ) CAM III D	8082 PCB ( ) CAM V A	9014 Total Cyanide/PAC ( ) CAM VI A	6860 Perchlorate ( ) CAM VIII B	

Affirmative Responses to Questions A Through F are required for "Presumptive Certainty status

A	Were all samples received in a condition consistent with those described on the Chain-of Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	☑ Yes	☐ No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	☑ Yes	☐ No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☑ Yes	☐ No
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	☑ Yes	☐ No
E	VPH, EPH, APH, and TO-15 only: a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐ Yes ☐ Yes	☐ No ☐ No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	☑ Yes	☐ No

Responses to questions G, H, and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols	☐ Yes	☑ No [1]
	Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data useability and representativeness requirements described in 310 CMR 40.1056(2)(k) and WSC-07-350.		
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	☐ Yes	☑ No [1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☐ Yes	☑ No [1]

[1] ***All Negative responses must be addressed in an attached Environmental Laboratory case narrative.***

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

Signature: Nancy F. Cole **Position:** Laboratory Director

Printed Name: Nancy F. Cole **Date:** 18-Aug-17

Internal Sample Tracking Chronicle

Web Engineering Associates, Inc.

Job No: JC48965

Colonial Oil, 8 Emerson Avenue, Chelmsford, MA

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JC48965-1 MW-3	Collected: 14-AUG-17 11:30 By: RPC		Received: 14-AUG-17 By: DDH			
JC48965-1	SW846 8260C	15-AUG-17 20:23	JC			V8260MCP
JC48965-1	SW846 8270D	16-AUG-17 05:03	CS	15-AUG-17	AF	AB8270MCP
JC48965-1	SW846 8270D BY SIM	16-AUG-17 13:32	KM	15-AUG-17	AF	B8270SIMPAH

SGS Accutest Internal Chain of Custody

Job Number: JC48965
Account: WEBMAN Web Engineering Associates, Inc.
Project: Colonial Oil, 8 Emerson Avenue, Chelmsford, MA
Received: 08/14/17

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC48965-1.1	Secured Storage	Eric Barksdale	08/15/17 17:47	Retrieve from Storage
JC48965-1.1	Eric Barksdale	Secured Staging Area	08/15/17 17:47	Return to Storage
JC48965-1.1	Secured Staging Area	Ryan Fantasia	08/15/17 17:54	Retrieve from Storage
JC48965-1.1	Ryan Fantasia		08/16/17 00:11	Depleted
JC48965-1.1.1	Ryan Fantasia	Organics Prep	08/15/17 17:54	Extract from JC48965-1.1
JC48965-1.1.1	Organics Prep	Amanda Furka	08/15/17 23:49	Extract from JC48965-1.1
JC48965-1.1.1	Amanda Furka	Extract Storage	08/15/17 23:49	Return to Storage
JC48965-1.1.1	Extract Storage	Christopher Sowa	08/16/17 02:53	Retrieve from Storage
JC48965-1.1.1	Christopher Sowa	GCMS2M	08/16/17 02:53	Load on Instrument
JC48965-1.1.1	GCMS2M	Kristi Schollenberger	08/16/17 10:57	Unload from Instrument
JC48965-1.1.1	Kristi Schollenberger	Extract Freezer	08/16/17 10:57	Return to Storage
JC48965-1.1.1	Extract Freezer	Kevin Moyle	08/16/17 12:19	Retrieve from Storage
JC48965-1.1.1	Kevin Moyle	GCMS3P	08/16/17 12:19	Load on Instrument
JC48965-1.1.1	GCMS3P	Kevin Moyle	08/16/17 15:15	Unload from Instrument
JC48965-1.1.1	Kevin Moyle	Extract Freezer	08/16/17 15:15	Return to Storage
JC48965-1.3	Secured Storage	Maricela Delgaolillo	08/15/17 19:09	Retrieve from Storage
JC48965-1.3	Maricela Delgaolillo	GCMSL	08/15/17 19:09	Load on Instrument
JC48965-1.3	GCMSL	Jia-Min Chu	08/17/17 10:40	Unload from Instrument
JC48965-1.3	Jia-Min Chu	Secured Storage	08/17/17 10:40	Return to Storage

QC Evaluation: MA MCP Limits

Job Number: JC48965
Account: Web Engineering Associates, Inc.
Project: Colonial Oil, 8 Emerson Avenue, Chelmsford, MA
Collected: 08/14/17

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
VL8248	SW846 8260C						
VL8248-BS	67-64-1	Acetone	BSP	REC	83	%	70-130
VL8248-BS	71-43-2	Benzene	BSP	REC	84	%	70-130
VL8248-BS	108-86-1	Bromobenzene	BSP	REC	92	%	70-130
VL8248-BS	74-97-5	Bromochloromethane	BSP	REC	93	%	70-130
VL8248-BS	75-27-4	Bromodichloromethane	BSP	REC	97	%	70-130
VL8248-BS	75-25-2	Bromoform	BSP	REC	96	%	70-130
VL8248-BS	74-83-9	Bromomethane	BSP	REC	111	%	70-130
VL8248-BS	78-93-3	2-Butanone (MEK)	BSP	REC	86	%	70-130
VL8248-BS	104-51-8	n-Butylbenzene	BSP	REC	98	%	70-130
VL8248-BS	135-98-8	sec-Butylbenzene	BSP	REC	97	%	70-130
VL8248-BS	98-06-6	tert-Butylbenzene	BSP	REC	100	%	70-130
VL8248-BS	75-15-0	Carbon disulfide	BSP	REC	91	%	70-130
VL8248-BS	56-23-5	Carbon tetrachloride	BSP	REC	101	%	70-130
VL8248-BS	108-90-7	Chlorobenzene	BSP	REC	92	%	70-130
VL8248-BS	75-00-3	Chloroethane	BSP	REC	99	%	70-130
VL8248-BS	67-66-3	Chloroform	BSP	REC	92	%	70-130
VL8248-BS	74-87-3	Chloromethane	BSP	REC	89	%	70-130
VL8248-BS	95-49-8	o-Chlorotoluene	BSP	REC	95	%	70-130
VL8248-BS	106-43-4	p-Chlorotoluene	BSP	REC	91	%	70-130
VL8248-BS	108-20-3	Di-Isopropyl ether	BSP	REC	80	%	70-130
VL8248-BS	96-12-8	1,2-Dibromo-3-chloropropane	BSP	REC	111	%	70-130
VL8248-BS	124-48-1	Dibromochloromethane	BSP	REC	95	%	70-130
VL8248-BS	106-93-4	1,2-Dibromoethane	BSP	REC	92	%	70-130
VL8248-BS	95-50-1	1,2-Dichlorobenzene	BSP	REC	93	%	70-130
VL8248-BS	541-73-1	1,3-Dichlorobenzene	BSP	REC	87	%	70-130
VL8248-BS	106-46-7	1,4-Dichlorobenzene	BSP	REC	92	%	70-130
VL8248-BS	75-71-8	Dichlorodifluoromethane	BSP	REC	119	%	70-130
VL8248-BS	75-34-3	1,1-Dichloroethane	BSP	REC	89	%	70-130
VL8248-BS	107-06-2	1,2-Dichloroethane	BSP	REC	98	%	70-130
VL8248-BS	75-35-4	1,1-Dichloroethene	BSP	REC	94	%	70-130
VL8248-BS	156-59-2	cis-1,2-Dichloroethene	BSP	REC	89	%	70-130
VL8248-BS	156-60-5	trans-1,2-Dichloroethene	BSP	REC	89	%	70-130
VL8248-BS	78-87-5	1,2-Dichloropropane	BSP	REC	83	%	70-130
VL8248-BS	142-28-9	1,3-Dichloropropane	BSP	REC	86	%	70-130
VL8248-BS	594-20-7	2,2-Dichloropropane	BSP	REC	98	%	70-130
VL8248-BS	563-58-6	1,1-Dichloropropene	BSP	REC	92	%	70-130
VL8248-BS	10061-01-5	cis-1,3-Dichloropropene	BSP	REC	90	%	70-130
VL8248-BS	10061-02-6	trans-1,3-Dichloropropene	BSP	REC	93	%	70-130
VL8248-BS	123-91-1	1,4-Dioxane	BSP	REC	106	%	70-130
VL8248-BS	60-29-7	Ethyl Ether	BSP	REC	86	%	70-130
VL8248-BS	100-41-4	Ethylbenzene	BSP	REC	91	%	70-130
VL8248-BS	87-68-3	Hexachlorobutadiene	BSP	REC	102	%	70-130

* Sample used for QC is not from job JC48965

QC Evaluation: MA MCP Limits

Job Number: JC48965
Account: Web Engineering Associates, Inc.
Project: Colonial Oil, 8 Emerson Avenue, Chelmsford, MA
Collected: 08/14/17

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
VL8248-BS	591-78-6	2-Hexanone	BSP	REC	85	%	70-130
VL8248-BS	98-82-8	Isopropylbenzene	BSP	REC	96	%	70-130
VL8248-BS	99-87-6	p-Isopropyltoluene	BSP	REC	98	%	70-130
VL8248-BS	1634-04-4	Methyl Tert Butyl Ether	BSP	REC	92	%	70-130
VL8248-BS	108-10-1	4-Methyl-2-pentanone(MIBK)	BSP	REC	88	%	70-130
VL8248-BS	74-95-3	Methylene bromide	BSP	REC	91	%	70-130
VL8248-BS	75-09-2	Methylene chloride	BSP	REC	87	%	70-130
VL8248-BS	91-20-3	Naphthalene	BSP	REC	108	%	70-130
VL8248-BS	103-65-1	n-Propylbenzene	BSP	REC	90	%	70-130
VL8248-BS	100-42-5	Styrene	BSP	REC	92	%	70-130
VL8248-BS	75-65-0	Tert Butyl Alcohol	BSP	REC	116	%	70-130
VL8248-BS	994-05-8	tert-Amyl Methyl Ether	BSP	REC	92	%	70-130
VL8248-BS	637-92-3	tert-Butyl Ethyl Ether	BSP	REC	92	%	70-130
VL8248-BS	630-20-6	1,1,1,2-Tetrachloroethane	BSP	REC	99	%	70-130
VL8248-BS	79-34-5	1,1,2,2-Tetrachloroethane	BSP	REC	96	%	70-130
VL8248-BS	127-18-4	Tetrachloroethene	BSP	REC	92	%	70-130
VL8248-BS	109-99-9	Tetrahydrofuran	BSP	REC	84	%	70-130
VL8248-BS	108-88-3	Toluene	BSP	REC	89	%	70-130
VL8248-BS	87-61-6	1,2,3-Trichlorobenzene	BSP	REC	111	%	70-130
VL8248-BS	120-82-1	1,2,4-Trichlorobenzene	BSP	REC	111	%	70-130
VL8248-BS	71-55-6	1,1,1-Trichloroethane	BSP	REC	103	%	70-130
VL8248-BS	79-00-5	1,1,2-Trichloroethane	BSP	REC	87	%	70-130
VL8248-BS	79-01-6	Trichloroethene	BSP	REC	91	%	70-130
VL8248-BS	75-69-4	Trichlorofluoromethane	BSP	REC	122	%	70-130
VL8248-BS	96-18-4	1,2,3-Trichloropropane	BSP	REC	103	%	70-130
VL8248-BS	95-63-6	1,2,4-Trimethylbenzene	BSP	REC	93	%	70-130
VL8248-BS	108-67-8	1,3,5-Trimethylbenzene	BSP	REC	96	%	70-130
VL8248-BS	75-01-4	Vinyl chloride	BSP	REC	87	%	70-130
VL8248-BS		m,p-Xylene	BSP	REC	91	%	70-130
VL8248-BS	95-47-6	o-Xylene	BSP	REC	91	%	70-130
VL8248-BS	1330-20-7	Xylene (total)	BSP	REC	91	%	70-130
VL8248-BS	1868-53-7	Dibromofluoromethane	BSP	SURR	105	%	70-130
VL8248-BS	2037-26-5	Toluene-D8	BSP	SURR	98	%	70-130
VL8248-BS	460-00-4	4-Bromofluorobenzene	BSP	SURR	100	%	70-130
VL8248-BSD	67-64-1	Acetone	BSD	REC	77	%	70-130
VL8248-BSD	67-64-1	Acetone	BSD	RPD	8	%	20
VL8248-BSD	71-43-2	Benzene	BSD	REC	82	%	70-130
VL8248-BSD	71-43-2	Benzene	BSD	RPD	2	%	20
VL8248-BSD	108-86-1	Bromobenzene	BSD	REC	94	%	70-130
VL8248-BSD	108-86-1	Bromobenzene	BSD	RPD	2	%	20
VL8248-BSD	74-97-5	Bromochloromethane	BSD	REC	89	%	70-130
VL8248-BSD	74-97-5	Bromochloromethane	BSD	RPD	4	%	20
VL8248-BSD	75-27-4	Bromodichloromethane	BSD	REC	92	%	70-130
VL8248-BSD	75-27-4	Bromodichloromethane	BSD	RPD	5	%	20
VL8248-BSD	75-25-2	Bromoform	BSD	REC	92	%	70-130

* Sample used for QC is not from job JC48965

QC Evaluation: MA MCP Limits

Job Number: JC48965
Account: Web Engineering Associates, Inc.
Project: Colonial Oil, 8 Emerson Avenue, Chelmsford, MA
Collected: 08/14/17

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
VL8248-BSD	75-25-2	Bromoform	BSD	RPD	4	%	20
VL8248-BSD	74-83-9	Bromomethane	BSD	REC	102	%	70-130
VL8248-BSD	74-83-9	Bromomethane	BSD	RPD	8	%	20
VL8248-BSD	78-93-3	2-Butanone (MEK)	BSD	REC	84	%	70-130
VL8248-BSD	78-93-3	2-Butanone (MEK)	BSD	RPD	2	%	20
VL8248-BSD	104-51-8	n-Butylbenzene	BSD	REC	94	%	70-130
VL8248-BSD	104-51-8	n-Butylbenzene	BSD	RPD	4	%	20
VL8248-BSD	135-98-8	sec-Butylbenzene	BSD	REC	95	%	70-130
VL8248-BSD	135-98-8	sec-Butylbenzene	BSD	RPD	2	%	20
VL8248-BSD	98-06-6	tert-Butylbenzene	BSD	REC	98	%	70-130
VL8248-BSD	98-06-6	tert-Butylbenzene	BSD	RPD	2	%	20
VL8248-BSD	75-15-0	Carbon disulfide	BSD	REC	85	%	70-130
VL8248-BSD	75-15-0	Carbon disulfide	BSD	RPD	7	%	20
VL8248-BSD	56-23-5	Carbon tetrachloride	BSD	REC	93	%	70-130
VL8248-BSD	56-23-5	Carbon tetrachloride	BSD	RPD	8	%	20
VL8248-BSD	108-90-7	Chlorobenzene	BSD	REC	90	%	70-130
VL8248-BSD	108-90-7	Chlorobenzene	BSD	RPD	2	%	20
VL8248-BSD	75-00-3	Chloroethane	BSD	REC	91	%	70-130
VL8248-BSD	75-00-3	Chloroethane	BSD	RPD	8	%	20
VL8248-BSD	67-66-3	Chloroform	BSD	REC	88	%	70-130
VL8248-BSD	67-66-3	Chloroform	BSD	RPD	4	%	20
VL8248-BSD	74-87-3	Chloromethane	BSD	REC	81	%	70-130
VL8248-BSD	74-87-3	Chloromethane	BSD	RPD	9	%	20
VL8248-BSD	95-49-8	o-Chlorotoluene	BSD	REC	91	%	70-130
VL8248-BSD	95-49-8	o-Chlorotoluene	BSD	RPD	4	%	20
VL8248-BSD	106-43-4	p-Chlorotoluene	BSD	REC	90	%	70-130
VL8248-BSD	106-43-4	p-Chlorotoluene	BSD	RPD	1	%	20
VL8248-BSD	108-20-3	Di-Isopropyl ether	BSD	REC	77	%	70-130
VL8248-BSD	108-20-3	Di-Isopropyl ether	BSD	RPD	5	%	20
VL8248-BSD	96-12-8	1,2-Dibromo-3-chloropropane	BSD	REC	105	%	70-130
VL8248-BSD	96-12-8	1,2-Dibromo-3-chloropropane	BSD	RPD	5	%	20
VL8248-BSD	124-48-1	Dibromochloromethane	BSD	REC	94	%	70-130
VL8248-BSD	124-48-1	Dibromochloromethane	BSD	RPD	2	%	20
VL8248-BSD	106-93-4	1,2-Dibromoethane	BSD	REC	93	%	70-130
VL8248-BSD	106-93-4	1,2-Dibromoethane	BSD	RPD	1	%	20
VL8248-BSD	95-50-1	1,2-Dichlorobenzene	BSD	REC	91	%	70-130
VL8248-BSD	95-50-1	1,2-Dichlorobenzene	BSD	RPD	2	%	20
VL8248-BSD	541-73-1	1,3-Dichlorobenzene	BSD	REC	88	%	70-130
VL8248-BSD	541-73-1	1,3-Dichlorobenzene	BSD	RPD	1	%	20
VL8248-BSD	106-46-7	1,4-Dichlorobenzene	BSD	REC	89	%	70-130
VL8248-BSD	106-46-7	1,4-Dichlorobenzene	BSD	RPD	4	%	20
VL8248-BSD	75-71-8	Dichlorodifluoromethane	BSD	REC	102	%	70-130
VL8248-BSD	75-71-8	Dichlorodifluoromethane	BSD	RPD	15	%	20
VL8248-BSD	75-34-3	1,1-Dichloroethane	BSD	REC	83	%	70-130
VL8248-BSD	75-34-3	1,1-Dichloroethane	BSD	RPD	7	%	20

* Sample used for QC is not from job JC48965

QC Evaluation: MA MCP Limits

Job Number: JC48965
Account: Web Engineering Associates, Inc.
Project: Colonial Oil, 8 Emerson Avenue, Chelmsford, MA
Collected: 08/14/17

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
VL8248-BSD	107-06-2	1,2-Dichloroethane	BSD	REC	94	%	70-130
VL8248-BSD	107-06-2	1,2-Dichloroethane	BSD	RPD	4	%	20
VL8248-BSD	75-35-4	1,1-Dichloroethene	BSD	REC	89	%	70-130
VL8248-BSD	75-35-4	1,1-Dichloroethene	BSD	RPD	6	%	20
VL8248-BSD	156-59-2	cis-1,2-Dichloroethene	BSD	REC	86	%	70-130
VL8248-BSD	156-59-2	cis-1,2-Dichloroethene	BSD	RPD	3	%	20
VL8248-BSD	156-60-5	trans-1,2-Dichloroethene	BSD	REC	83	%	70-130
VL8248-BSD	156-60-5	trans-1,2-Dichloroethene	BSD	RPD	7	%	20
VL8248-BSD	78-87-5	1,2-Dichloropropane	BSD	REC	82	%	70-130
VL8248-BSD	78-87-5	1,2-Dichloropropane	BSD	RPD	1	%	20
VL8248-BSD	142-28-9	1,3-Dichloropropane	BSD	REC	85	%	70-130
VL8248-BSD	142-28-9	1,3-Dichloropropane	BSD	RPD	0	%	20
VL8248-BSD	594-20-7	2,2-Dichloropropane	BSD	REC	88	%	70-130
VL8248-BSD	594-20-7	2,2-Dichloropropane	BSD	RPD	11	%	20
VL8248-BSD	563-58-6	1,1-Dichloropropene	BSD	REC	90	%	70-130
VL8248-BSD	563-58-6	1,1-Dichloropropene	BSD	RPD	3	%	20
VL8248-BSD	10061-01-5	cis-1,3-Dichloropropene	BSD	REC	89	%	70-130
VL8248-BSD	10061-01-5	cis-1,3-Dichloropropene	BSD	RPD	1	%	20
VL8248-BSD	10061-02-6	trans-1,3-Dichloropropene	BSD	REC	92	%	70-130
VL8248-BSD	10061-02-6	trans-1,3-Dichloropropene	BSD	RPD	0	%	20
VL8248-BSD	123-91-1	1,4-Dioxane	BSD	REC	98	%	70-130
VL8248-BSD	123-91-1	1,4-Dioxane	BSD	RPD	8	%	20
VL8248-BSD	60-29-7	Ethyl Ether	BSD	REC	84	%	70-130
VL8248-BSD	60-29-7	Ethyl Ether	BSD	RPD	2	%	20
VL8248-BSD	100-41-4	Ethylbenzene	BSD	REC	90	%	70-130
VL8248-BSD	100-41-4	Ethylbenzene	BSD	RPD	2	%	20
VL8248-BSD	87-68-3	Hexachlorobutadiene	BSD	REC	97	%	70-130
VL8248-BSD	87-68-3	Hexachlorobutadiene	BSD	RPD	4	%	20
VL8248-BSD	591-78-6	2-Hexanone	BSD	REC	87	%	70-130
VL8248-BSD	591-78-6	2-Hexanone	BSD	RPD	2	%	20
VL8248-BSD	98-82-8	Isopropylbenzene	BSD	REC	92	%	70-130
VL8248-BSD	98-82-8	Isopropylbenzene	BSD	RPD	4	%	20
VL8248-BSD	99-87-6	p-Isopropyltoluene	BSD	REC	95	%	70-130
VL8248-BSD	99-87-6	p-Isopropyltoluene	BSD	RPD	3	%	20
VL8248-BSD	1634-04-4	Methyl Tert Butyl Ether	BSD	REC	88	%	70-130
VL8248-BSD	1634-04-4	Methyl Tert Butyl Ether	BSD	RPD	4	%	20
VL8248-BSD	108-10-1	4-Methyl-2-pentanone(MIBK)	BSD	REC	86	%	70-130
VL8248-BSD	108-10-1	4-Methyl-2-pentanone(MIBK)	BSD	RPD	3	%	20
VL8248-BSD	74-95-3	Methylene bromide	BSD	REC	88	%	70-130
VL8248-BSD	74-95-3	Methylene bromide	BSD	RPD	3	%	20
VL8248-BSD	75-09-2	Methylene chloride	BSD	REC	84	%	70-130
VL8248-BSD	75-09-2	Methylene chloride	BSD	RPD	3	%	20
VL8248-BSD	91-20-3	Naphthalene	BSD	REC	102	%	70-130
VL8248-BSD	91-20-3	Naphthalene	BSD	RPD	6	%	20
VL8248-BSD	103-65-1	n-Propylbenzene	BSD	REC	88	%	70-130

* Sample used for QC is not from job JC48965

QC Evaluation: MA MCP Limits

Job Number: JC48965
Account: Web Engineering Associates, Inc.
Project: Colonial Oil, 8 Emerson Avenue, Chelmsford, MA
Collected: 08/14/17

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
VL8248-BSD	103-65-1	n-Propylbenzene	BSD	RPD	2	%	20
VL8248-BSD	100-42-5	Styrene	BSD	REC	91	%	70-130
VL8248-BSD	100-42-5	Styrene	BSD	RPD	1	%	20
VL8248-BSD	75-65-0	Tert Butyl Alcohol	BSD	REC	96	%	70-130
VL8248-BSD	75-65-0	Tert Butyl Alcohol	BSD	RPD	18	%	20
VL8248-BSD	994-05-8	tert-Amyl Methyl Ether	BSD	REC	88	%	70-130
VL8248-BSD	994-05-8	tert-Amyl Methyl Ether	BSD	RPD	5	%	20
VL8248-BSD	637-92-3	tert-Butyl Ethyl Ether	BSD	REC	88	%	70-130
VL8248-BSD	637-92-3	tert-Butyl Ethyl Ether	BSD	RPD	4	%	20
VL8248-BSD	630-20-6	1,1,1,2-Tetrachloroethane	BSD	REC	96	%	70-130
VL8248-BSD	630-20-6	1,1,1,2-Tetrachloroethane	BSD	RPD	3	%	20
VL8248-BSD	79-34-5	1,1,2,2-Tetrachloroethane	BSD	REC	94	%	70-130
VL8248-BSD	79-34-5	1,1,2,2-Tetrachloroethane	BSD	RPD	2	%	20
VL8248-BSD	127-18-4	Tetrachloroethene	BSD	REC	94	%	70-130
VL8248-BSD	127-18-4	Tetrachloroethene	BSD	RPD	3	%	20
VL8248-BSD	109-99-9	Tetrahydrofuran	BSD	REC	80	%	70-130
VL8248-BSD	109-99-9	Tetrahydrofuran	BSD	RPD	6	%	20
VL8248-BSD	108-88-3	Toluene	BSD	REC	87	%	70-130
VL8248-BSD	108-88-3	Toluene	BSD	RPD	2	%	20
VL8248-BSD	87-61-6	1,2,3-Trichlorobenzene	BSD	REC	104	%	70-130
VL8248-BSD	87-61-6	1,2,3-Trichlorobenzene	BSD	RPD	7	%	25
VL8248-BSD	120-82-1	1,2,4-Trichlorobenzene	BSD	REC	103	%	70-130
VL8248-BSD	120-82-1	1,2,4-Trichlorobenzene	BSD	RPD	7	%	20
VL8248-BSD	71-55-6	1,1,1-Trichloroethane	BSD	REC	96	%	70-130
VL8248-BSD	71-55-6	1,1,1-Trichloroethane	BSD	RPD	7	%	20
VL8248-BSD	79-00-5	1,1,2-Trichloroethane	BSD	REC	87	%	70-130
VL8248-BSD	79-00-5	1,1,2-Trichloroethane	BSD	RPD	0	%	20
VL8248-BSD	79-01-6	Trichloroethene	BSD	REC	89	%	70-130
VL8248-BSD	79-01-6	Trichloroethene	BSD	RPD	3	%	20
VL8248-BSD	75-69-4	Trichlorofluoromethane	BSD	REC	110	%	70-130
VL8248-BSD	75-69-4	Trichlorofluoromethane	BSD	RPD	10	%	20
VL8248-BSD	96-18-4	1,2,3-Trichloropropane	BSD	REC	99	%	70-130
VL8248-BSD	96-18-4	1,2,3-Trichloropropane	BSD	RPD	5	%	20
VL8248-BSD	95-63-6	1,2,4-Trimethylbenzene	BSD	REC	90	%	70-130
VL8248-BSD	95-63-6	1,2,4-Trimethylbenzene	BSD	RPD	3	%	20
VL8248-BSD	108-67-8	1,3,5-Trimethylbenzene	BSD	REC	92	%	70-130
VL8248-BSD	108-67-8	1,3,5-Trimethylbenzene	BSD	RPD	4	%	20
VL8248-BSD	75-01-4	Vinyl chloride	BSD	REC	77	%	70-130
VL8248-BSD	75-01-4	Vinyl chloride	BSD	RPD	12	%	20
VL8248-BSD		m,p-Xylene	BSD	REC	88	%	70-130
VL8248-BSD		m,p-Xylene	BSD	RPD	4	%	20
VL8248-BSD	95-47-6	o-Xylene	BSD	REC	88	%	70-130
VL8248-BSD	95-47-6	o-Xylene	BSD	RPD	3	%	20
VL8248-BSD	1330-20-7	Xylene (total)	BSD	REC	88	%	70-130
VL8248-BSD	1330-20-7	Xylene (total)	BSD	RPD	4	%	20

* Sample used for QC is not from job JC48965

QC Evaluation: MA MCP Limits

Job Number: JC48965
Account: Web Engineering Associates, Inc.
Project: Colonial Oil, 8 Emerson Avenue, Chelmsford, MA
Collected: 08/14/17

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
VL8248-BSD	1868-53-7	Dibromofluoromethane	BSD	SURR	103	%	70-130
VL8248-BSD	2037-26-5	Toluene-D8	BSD	SURR	97	%	70-130
VL8248-BSD	460-00-4	4-Bromofluorobenzene	BSD	SURR	102	%	70-130
VL8248-MB	1868-53-7	Dibromofluoromethane	MB	SURR	104	%	70-130
VL8248-MB	2037-26-5	Toluene-D8	MB	SURR	100	%	70-130
VL8248-MB	460-00-4	4-Bromofluorobenzene	MB	SURR	94	%	70-130
JC48965-1	1868-53-7	Dibromofluoromethane	SAMP	SURR	102	%	70-130
JC48965-1	2037-26-5	Toluene-D8	SAMP	SURR	100	%	70-130
JC48965-1	460-00-4	4-Bromofluorobenzene	SAMP	SURR	99	%	70-130
OP5356	SW846 8270D						
OP5356-BS1	65-85-0	Benzoic Acid	BSP	REC	40	%	30-130
OP5356-BS1	95-57-8	2-Chlorophenol	BSP	REC	66	%	30-130
OP5356-BS1	59-50-7	4-Chloro-3-methyl phenol	BSP	REC	75	%	30-130
OP5356-BS1	120-83-2	2,4-Dichlorophenol	BSP	REC	76	%	30-130
OP5356-BS1	105-67-9	2,4-Dimethylphenol	BSP	REC	88	%	30-130
OP5356-BS1	51-28-5	2,4-Dinitrophenol	BSP	REC	65	%	30-130
OP5356-BS1	534-52-1	4,6-Dinitro-o-cresol	BSP	REC	76	%	30-130
OP5356-BS1	95-48-7	2-Methylphenol	BSP	REC	68	%	30-130
OP5356-BS1		3&4-Methylphenol	BSP	REC	72	%	30-130
OP5356-BS1	88-75-5	2-Nitrophenol	BSP	REC	70	%	30-130
OP5356-BS1	100-02-7	4-Nitrophenol	BSP	REC	59	%	30-130
OP5356-BS1	87-86-5	Pentachlorophenol	BSP	REC	95	%	30-130
OP5356-BS1	108-95-2	Phenol	BSP	REC	39	%	30-130
OP5356-BS1	95-95-4	2,4,5-Trichlorophenol	BSP	REC	80	%	30-130
OP5356-BS1	88-06-2	2,4,6-Trichlorophenol	BSP	REC	84	%	30-130
OP5356-BS1	83-32-9	Acenaphthene	BSP	REC	79	%	40-140
OP5356-BS1	208-96-8	Acenaphthylene	BSP	REC	76	%	40-140
OP5356-BS1	98-86-2	Acetophenone	BSP	REC	74	%	40-140
OP5356-BS1	62-53-3	Aniline	BSP	REC	72	%	40-140
OP5356-BS1	120-12-7	Anthracene	BSP	REC	78	%	40-140
OP5356-BS1	56-55-3	Benzo(a)anthracene	BSP	REC	69	%	40-140
OP5356-BS1	50-32-8	Benzo(a)pyrene	BSP	REC	68	%	40-140
OP5356-BS1	205-99-2	Benzo(b)fluoranthene	BSP	REC	66	%	40-140
OP5356-BS1	191-24-2	Benzo(g,h,i)perylene	BSP	REC	73	%	40-140
OP5356-BS1	207-08-9	Benzo(k)fluoranthene	BSP	REC	68	%	40-140
OP5356-BS1	101-55-3	4-Bromophenyl phenyl ether	BSP	REC	73	%	40-140
OP5356-BS1	85-68-7	Butyl benzyl phthalate	BSP	REC	66	%	40-140
OP5356-BS1	91-58-7	2-Chloronaphthalene	BSP	REC	70	%	40-140
OP5356-BS1	106-47-8	4-Chloroaniline	BSP	REC	67	%	40-140
OP5356-BS1	218-01-9	Chrysene	BSP	REC	70	%	40-140
OP5356-BS1	111-91-1	bis(2-Chloroethoxy)methane	BSP	REC	73	%	40-140
OP5356-BS1	111-44-4	bis(2-Chloroethyl)ether	BSP	REC	76	%	40-140
OP5356-BS1	108-60-1	bis(2-Chloroisopropyl)ether	BSP	REC	74	%	40-140

* Sample used for QC is not from job JC48965

QC Evaluation: MA MCP Limits

Job Number: JC48965
Account: Web Engineering Associates, Inc.
Project: Colonial Oil, 8 Emerson Avenue, Chelmsford, MA
Collected: 08/14/17

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
OP5356-BS1	7005-72-3	4-Chlorophenyl phenyl ether	BSP	REC	72	%	40-140
OP5356-BS1	95-50-1	1,2-Dichlorobenzene	BSP	REC	60	%	40-140
OP5356-BS1	122-66-7	1,2-Diphenylhydrazine	BSP	REC	82	%	40-140
OP5356-BS1	541-73-1	1,3-Dichlorobenzene	BSP	REC	56	%	40-140
OP5356-BS1	106-46-7	1,4-Dichlorobenzene	BSP	REC	57	%	40-140
OP5356-BS1	121-14-2	2,4-Dinitrotoluene	BSP	REC	84	%	40-140
OP5356-BS1	606-20-2	2,6-Dinitrotoluene	BSP	REC	81	%	40-140
OP5356-BS1	91-94-1	3,3'-Dichlorobenzidine	BSP	REC	52	%	40-140
OP5356-BS1	53-70-3	Dibenzo(a,h)anthracene	BSP	REC	73	%	40-140
OP5356-BS1	132-64-9	Dibenzofuran	BSP	REC	73	%	40-140
OP5356-BS1	84-74-2	Di-n-butyl phthalate	BSP	REC	77	%	40-140
OP5356-BS1	117-84-0	Di-n-octyl phthalate	BSP	REC	58	%	40-140
OP5356-BS1	84-66-2	Diethyl phthalate	BSP	REC	81	%	40-140
OP5356-BS1	131-11-3	Dimethyl phthalate	BSP	REC	80	%	40-140
OP5356-BS1	117-81-7	bis(2-Ethylhexyl)phthalate	BSP	REC	65	%	40-140
OP5356-BS1	206-44-0	Fluoranthene	BSP	REC	83	%	40-140
OP5356-BS1	86-73-7	Fluorene	BSP	REC	78	%	40-140
OP5356-BS1	118-74-1	Hexachlorobenzene	BSP	REC	74	%	40-140
OP5356-BS1	87-68-3	Hexachlorobutadiene	BSP	REC	47	%	40-140
OP5356-BS1	77-47-4	Hexachlorocyclopentadiene	BSP	REC	52	%	40-140
OP5356-BS1	67-72-1	Hexachloroethane	BSP	REC	51	%	40-140
OP5356-BS1	193-39-5	Indeno(1,2,3-cd)pyrene	BSP	REC	70	%	40-140
OP5356-BS1	78-59-1	Isophorone	BSP	REC	72	%	40-140
OP5356-BS1	91-57-6	2-Methylnaphthalene	BSP	REC	65	%	40-140
OP5356-BS1	91-20-3	Naphthalene	BSP	REC	61	%	40-140
OP5356-BS1	98-95-3	Nitrobenzene	BSP	REC	68	%	40-140
OP5356-BS1	62-75-9	n-Nitrosodimethylamine	BSP	REC	41	%	40-140
OP5356-BS1	621-64-7	N-Nitroso-di-n-propylamine	BSP	REC	76	%	40-140
OP5356-BS1	86-30-6	N-Nitrosodiphenylamine	BSP	REC	76	%	40-140
OP5356-BS1	85-01-8	Phenanthrene	BSP	REC	77	%	40-140
OP5356-BS1	129-00-0	Pyrene	BSP	REC	71	%	40-140
OP5356-BS1	120-82-1	1,2,4-Trichlorobenzene	BSP	REC	53	%	40-140
OP5356-BS1	367-12-4	2-Fluorophenol	BSP	SURR	50	%	15-110
OP5356-BS1	4165-62-2	Phenol-d5	BSP	SURR	36	%	15-110
OP5356-BS1	118-79-6	2,4,6-Tribromophenol	BSP	SURR	91	%	15-110
OP5356-BS1	4165-60-0	Nitrobenzene-d5	BSP	SURR	72	%	30-130
OP5356-BS1	321-60-8	2-Fluorobiphenyl	BSP	SURR	76	%	30-130
OP5356-BS1	1718-51-0	Terphenyl-d14	BSP	SURR	86	%	30-130
OP5356-BSD	65-85-0	Benzoic Acid	BSD	REC	37	%	30-130
OP5356-BSD	65-85-0	Benzoic Acid	BSD	RPD	8	%	20
OP5356-BSD	95-57-8	2-Chlorophenol	BSD	REC	66	%	30-130
OP5356-BSD	95-57-8	2-Chlorophenol	BSD	RPD	1	%	20
OP5356-BSD	59-50-7	4-Chloro-3-methyl phenol	BSD	REC	74	%	30-130
OP5356-BSD	59-50-7	4-Chloro-3-methyl phenol	BSD	RPD	2	%	20
OP5356-BSD	120-83-2	2,4-Dichlorophenol	BSD	REC	76	%	30-130

* Sample used for QC is not from job JC48965

QC Evaluation: MA MCP Limits

Job Number: JC48965
Account: Web Engineering Associates, Inc.
Project: Colonial Oil, 8 Emerson Avenue, Chelmsford, MA
Collected: 08/14/17

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
OP5356-BSD	120-83-2	2,4-Dichlorophenol	BSD	RPD	1	%	20
OP5356-BSD	105-67-9	2,4-Dimethylphenol	BSD	REC	88	%	30-130
OP5356-BSD	105-67-9	2,4-Dimethylphenol	BSD	RPD	0	%	20
OP5356-BSD	51-28-5	2,4-Dinitrophenol	BSD	REC	67	%	30-130
OP5356-BSD	51-28-5	2,4-Dinitrophenol	BSD	RPD	3	%	20
OP5356-BSD	534-52-1	4,6-Dinitro-o-cresol	BSD	REC	76	%	30-130
OP5356-BSD	534-52-1	4,6-Dinitro-o-cresol	BSD	RPD	0	%	20
OP5356-BSD	95-48-7	2-Methylphenol	BSD	REC	68	%	30-130
OP5356-BSD	95-48-7	2-Methylphenol	BSD	RPD	1	%	20
OP5356-BSD		3&4-Methylphenol	BSD	REC	69	%	30-130
OP5356-BSD		3&4-Methylphenol	BSD	RPD	4	%	20
OP5356-BSD	88-75-5	2-Nitrophenol	BSD	REC	71	%	30-130
OP5356-BSD	88-75-5	2-Nitrophenol	BSD	RPD	1	%	20
OP5356-BSD	100-02-7	4-Nitrophenol	BSD	REC	50	%	30-130
OP5356-BSD	100-02-7	4-Nitrophenol	BSD	RPD	17	%	20
OP5356-BSD	87-86-5	Pentachlorophenol	BSD	REC	95	%	30-130
OP5356-BSD	87-86-5	Pentachlorophenol	BSD	RPD	0	%	20
OP5356-BSD	108-95-2	Phenol	BSD	REC	37	%	30-130
OP5356-BSD	108-95-2	Phenol	BSD	RPD	6	%	20
OP5356-BSD	95-95-4	2,4,5-Trichlorophenol	BSD	REC	79	%	30-130
OP5356-BSD	95-95-4	2,4,5-Trichlorophenol	BSD	RPD	1	%	20
OP5356-BSD	88-06-2	2,4,6-Trichlorophenol	BSD	REC	84	%	30-130
OP5356-BSD	88-06-2	2,4,6-Trichlorophenol	BSD	RPD	0	%	20
OP5356-BSD	83-32-9	Acenaphthene	BSD	REC	79	%	40-140
OP5356-BSD	83-32-9	Acenaphthene	BSD	RPD	0	%	20
OP5356-BSD	208-96-8	Acenaphthylene	BSD	REC	77	%	40-140
OP5356-BSD	208-96-8	Acenaphthylene	BSD	RPD	2	%	20
OP5356-BSD	98-86-2	Acetophenone	BSD	REC	73	%	40-140
OP5356-BSD	98-86-2	Acetophenone	BSD	RPD	2	%	20
OP5356-BSD	62-53-3	Aniline	BSD	REC	66	%	40-140
OP5356-BSD	62-53-3	Aniline	BSD	RPD	8	%	20
OP5356-BSD	120-12-7	Anthracene	BSD	REC	78	%	40-140
OP5356-BSD	120-12-7	Anthracene	BSD	RPD	1	%	20
OP5356-BSD	56-55-3	Benzo(a)anthracene	BSD	REC	72	%	40-140
OP5356-BSD	56-55-3	Benzo(a)anthracene	BSD	RPD	4	%	20
OP5356-BSD	50-32-8	Benzo(a)pyrene	BSD	REC	70	%	40-140
OP5356-BSD	50-32-8	Benzo(a)pyrene	BSD	RPD	3	%	20
OP5356-BSD	205-99-2	Benzo(b)fluoranthene	BSD	REC	70	%	40-140
OP5356-BSD	205-99-2	Benzo(b)fluoranthene	BSD	RPD	6	%	20
OP5356-BSD	191-24-2	Benzo(g,h,i)perylene	BSD	REC	86	%	40-140
OP5356-BSD	191-24-2	Benzo(g,h,i)perylene	BSD	RPD	16	%	20
OP5356-BSD	207-08-9	Benzo(k)fluoranthene	BSD	REC	70	%	40-140
OP5356-BSD	207-08-9	Benzo(k)fluoranthene	BSD	RPD	3	%	20
OP5356-BSD	101-55-3	4-Bromophenyl phenyl ether	BSD	REC	76	%	40-140
OP5356-BSD	101-55-3	4-Bromophenyl phenyl ether	BSD	RPD	3	%	20

* Sample used for QC is not from job JC48965

QC Evaluation: MA MCP Limits

Job Number: JC48965
Account: Web Engineering Associates, Inc.
Project: Colonial Oil, 8 Emerson Avenue, Chelmsford, MA
Collected: 08/14/17

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
OP5356-BSD	85-68-7	Butyl benzyl phthalate	BSD	REC	73	%	40-140
OP5356-BSD	85-68-7	Butyl benzyl phthalate	BSD	RPD	10	%	20
OP5356-BSD	91-58-7	2-Chloronaphthalene	BSD	REC	71	%	40-140
OP5356-BSD	91-58-7	2-Chloronaphthalene	BSD	RPD	2	%	20
OP5356-BSD	106-47-8	4-Chloroaniline	BSD	REC	60	%	40-140
OP5356-BSD	106-47-8	4-Chloroaniline	BSD	RPD	11	%	20
OP5356-BSD	218-01-9	Chrysene	BSD	REC	70	%	40-140
OP5356-BSD	218-01-9	Chrysene	BSD	RPD	0	%	20
OP5356-BSD	111-91-1	bis(2-Chloroethoxy)methane	BSD	REC	75	%	40-140
OP5356-BSD	111-91-1	bis(2-Chloroethoxy)methane	BSD	RPD	2	%	20
OP5356-BSD	111-44-4	bis(2-Chloroethyl)ether	BSD	REC	77	%	40-140
OP5356-BSD	111-44-4	bis(2-Chloroethyl)ether	BSD	RPD	2	%	20
OP5356-BSD	108-60-1	bis(2-Chloroisopropyl)ether	BSD	REC	76	%	40-140
OP5356-BSD	108-60-1	bis(2-Chloroisopropyl)ether	BSD	RPD	3	%	20
OP5356-BSD	7005-72-3	4-Chlorophenyl phenyl ether	BSD	REC	73	%	40-140
OP5356-BSD	7005-72-3	4-Chlorophenyl phenyl ether	BSD	RPD	1	%	20
OP5356-BSD	95-50-1	1,2-Dichlorobenzene	BSD	REC	63	%	40-140
OP5356-BSD	95-50-1	1,2-Dichlorobenzene	BSD	RPD	5	%	20
OP5356-BSD	122-66-7	1,2-Diphenylhydrazine	BSD	REC	84	%	40-140
OP5356-BSD	122-66-7	1,2-Diphenylhydrazine	BSD	RPD	3	%	20
OP5356-BSD	541-73-1	1,3-Dichlorobenzene	BSD	REC	59	%	40-140
OP5356-BSD	541-73-1	1,3-Dichlorobenzene	BSD	RPD	6	%	20
OP5356-BSD	106-46-7	1,4-Dichlorobenzene	BSD	REC	59	%	40-140
OP5356-BSD	106-46-7	1,4-Dichlorobenzene	BSD	RPD	5	%	20
OP5356-BSD	121-14-2	2,4-Dinitrotoluene	BSD	REC	84	%	40-140
OP5356-BSD	121-14-2	2,4-Dinitrotoluene	BSD	RPD	0	%	20
OP5356-BSD	606-20-2	2,6-Dinitrotoluene	BSD	REC	81	%	40-140
OP5356-BSD	606-20-2	2,6-Dinitrotoluene	BSD	RPD	1	%	20
OP5356-BSD	91-94-1	3,3'-Dichlorobenzidine	BSD	REC	49	%	40-140
OP5356-BSD	91-94-1	3,3'-Dichlorobenzidine	BSD	RPD	6	%	20
OP5356-BSD	53-70-3	Dibenzo(a,h)anthracene	BSD	REC	87	%	40-140
OP5356-BSD	53-70-3	Dibenzo(a,h)anthracene	BSD	RPD	18	%	20
OP5356-BSD	132-64-9	Dibenzofuran	BSD	REC	74	%	40-140
OP5356-BSD	132-64-9	Dibenzofuran	BSD	RPD	1	%	20
OP5356-BSD	84-74-2	Di-n-butyl phthalate	BSD	REC	79	%	40-140
OP5356-BSD	84-74-2	Di-n-butyl phthalate	BSD	RPD	2	%	20
OP5356-BSD	117-84-0	Di-n-octyl phthalate	BSD	REC	68	%	40-140
OP5356-BSD	117-84-0	Di-n-octyl phthalate	BSD	RPD	16	%	20
OP5356-BSD	84-66-2	Diethyl phthalate	BSD	REC	81	%	40-140
OP5356-BSD	84-66-2	Diethyl phthalate	BSD	RPD	0	%	20
OP5356-BSD	131-11-3	Dimethyl phthalate	BSD	REC	80	%	40-140
OP5356-BSD	131-11-3	Dimethyl phthalate	BSD	RPD	0	%	20
OP5356-BSD	117-81-7	bis(2-Ethylhexyl)phthalate	BSD	REC	71	%	40-140
OP5356-BSD	117-81-7	bis(2-Ethylhexyl)phthalate	BSD	RPD	8	%	20
OP5356-BSD	206-44-0	Fluoranthene	BSD	REC	78	%	40-140

* Sample used for QC is not from job JC48965

QC Evaluation: MA MCP Limits

Job Number: JC48965
Account: Web Engineering Associates, Inc.
Project: Colonial Oil, 8 Emerson Avenue, Chelmsford, MA
Collected: 08/14/17

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
OP5356-BSD	206-44-0	Fluoranthene	BSD	RPD	6	%	20
OP5356-BSD	86-73-7	Fluorene	BSD	REC	79	%	40-140
OP5356-BSD	86-73-7	Fluorene	BSD	RPD	1	%	20
OP5356-BSD	118-74-1	Hexachlorobenzene	BSD	REC	76	%	40-140
OP5356-BSD	118-74-1	Hexachlorobenzene	BSD	RPD	3	%	20
OP5356-BSD	87-68-3	Hexachlorobutadiene	BSD	REC	51	%	40-140
OP5356-BSD	87-68-3	Hexachlorobutadiene	BSD	RPD	8	%	20
OP5356-BSD	77-47-4	Hexachlorocyclopentadiene	BSD	REC	56	%	40-140
OP5356-BSD	77-47-4	Hexachlorocyclopentadiene	BSD	RPD	7	%	20
OP5356-BSD	67-72-1	Hexachloroethane	BSD	REC	54	%	40-140
OP5356-BSD	67-72-1	Hexachloroethane	BSD	RPD	5	%	20
OP5356-BSD	193-39-5	Indeno(1,2,3-cd)pyrene	BSD	REC	82	%	40-140
OP5356-BSD	193-39-5	Indeno(1,2,3-cd)pyrene	BSD	RPD	15	%	20
OP5356-BSD	78-59-1	Isophorone	BSD	REC	74	%	40-140
OP5356-BSD	78-59-1	Isophorone	BSD	RPD	2	%	20
OP5356-BSD	91-57-6	2-Methylnaphthalene	BSD	REC	67	%	40-140
OP5356-BSD	91-57-6	2-Methylnaphthalene	BSD	RPD	2	%	20
OP5356-BSD	91-20-3	Naphthalene	BSD	REC	63	%	40-140
OP5356-BSD	91-20-3	Naphthalene	BSD	RPD	2	%	20
OP5356-BSD	98-95-3	Nitrobenzene	BSD	REC	69	%	40-140
OP5356-BSD	98-95-3	Nitrobenzene	BSD	RPD	2	%	20
OP5356-BSD	62-75-9	n-Nitrosodimethylamine	BSD	REC	41	%	40-140
OP5356-BSD	62-75-9	n-Nitrosodimethylamine	BSD	RPD	1	%	20
OP5356-BSD	621-64-7	N-Nitroso-di-n-propylamine	BSD	REC	77	%	40-140
OP5356-BSD	621-64-7	N-Nitroso-di-n-propylamine	BSD	RPD	1	%	20
OP5356-BSD	86-30-6	N-Nitrosodiphenylamine	BSD	REC	77	%	40-140
OP5356-BSD	86-30-6	N-Nitrosodiphenylamine	BSD	RPD	2	%	20
OP5356-BSD	85-01-8	Phenanthrene	BSD	REC	78	%	40-140
OP5356-BSD	85-01-8	Phenanthrene	BSD	RPD	1	%	20
OP5356-BSD	129-00-0	Pyrene	BSD	REC	73	%	40-140
OP5356-BSD	129-00-0	Pyrene	BSD	RPD	2	%	20
OP5356-BSD	120-82-1	1,2,4-Trichlorobenzene	BSD	REC	57	%	40-140
OP5356-BSD	120-82-1	1,2,4-Trichlorobenzene	BSD	RPD	6	%	20
OP5356-BSD	367-12-4	2-Fluorophenol	BSD	SURR	49	%	15-110
OP5356-BSD	4165-62-2	Phenol-d5	BSD	SURR	34	%	15-110
OP5356-BSD	118-79-6	2,4,6-Tribromophenol	BSD	SURR	89	%	15-110
OP5356-BSD	4165-60-0	Nitrobenzene-d5	BSD	SURR	71	%	30-130
OP5356-BSD	321-60-8	2-Fluorobiphenyl	BSD	SURR	75	%	30-130
OP5356-BSD	1718-51-0	Terphenyl-d14	BSD	SURR	82	%	30-130
OP5356-MB1	367-12-4	2-Fluorophenol	MB	SURR	44	%	15-110
OP5356-MB1	4165-62-2	Phenol-d5	MB	SURR	30	%	15-110
OP5356-MB1	118-79-6	2,4,6-Tribromophenol	MB	SURR	100	%	15-110
OP5356-MB1	4165-60-0	Nitrobenzene-d5	MB	SURR	73	%	30-130
OP5356-MB1	321-60-8	2-Fluorobiphenyl	MB	SURR	74	%	30-130
OP5356-MB1	1718-51-0	Terphenyl-d14	MB	SURR	82	%	30-130

* Sample used for QC is not from job JC48965

QC Evaluation: MA MCP Limits

Job Number: JC48965
Account: Web Engineering Associates, Inc.
Project: Colonial Oil, 8 Emerson Avenue, Chelmsford, MA
Collected: 08/14/17

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
JC48965-1	367-12-4	2-Fluorophenol	SAMP	SURR	27	%	15-110
JC48965-1	4165-62-2	Phenol-d5	SAMP	SURR	19	%	15-110
JC48965-1	118-79-6	2,4,6-Tribromophenol	SAMP	SURR	67 [a]	%	15-110
JC48965-1	4165-60-0	Nitrobenzene-d5	SAMP	SURR	71	%	30-130
JC48965-1	321-60-8	2-Fluorobiphenyl	SAMP	SURR	68	%	30-130
JC48965-1	1718-51-0	Terphenyl-d14	SAMP	SURR	42	%	30-130
OP5356A	SW846 8270D BY SIM						
OP5356A-BS12	83-32-9	Acenaphthene	BSP	REC	84	%	40-140
OP5356A-BS12	208-96-8	Acenaphthylene	BSP	REC	79	%	40-140
OP5356A-BS12	120-12-7	Anthracene	BSP	REC	82	%	40-140
OP5356A-BS12	56-55-3	Benzo(a)anthracene	BSP	REC	94	%	40-140
OP5356A-BS12	50-32-8	Benzo(a)pyrene	BSP	REC	78	%	40-140
OP5356A-BS12	205-99-2	Benzo(b)fluoranthene	BSP	REC	94	%	40-140
OP5356A-BS12	191-24-2	Benzo(g,h,i)perylene	BSP	REC	79	%	40-140
OP5356A-BS12	207-08-9	Benzo(k)fluoranthene	BSP	REC	77	%	40-140
OP5356A-BS12	218-01-9	Chrysene	BSP	REC	81	%	40-140
OP5356A-BS12	53-70-3	Dibenzo(a,h)anthracene	BSP	REC	94	%	40-140
OP5356A-BS12	206-44-0	Fluoranthene	BSP	REC	89	%	40-140
OP5356A-BS12	86-73-7	Fluorene	BSP	REC	90	%	40-140
OP5356A-BS12	193-39-5	Indeno(1,2,3-cd)pyrene	BSP	REC	90	%	40-140
OP5356A-BS12	91-20-3	Naphthalene	BSP	REC	79	%	40-140
OP5356A-BS12	85-01-8	Phenanthrene	BSP	REC	82	%	40-140
OP5356A-BS12	129-00-0	Pyrene	BSP	REC	92	%	40-140
OP5356A-BS12	4165-60-0	Nitrobenzene-d5	BSP	SURR	83	%	30-130
OP5356A-BS12	321-60-8	2-Fluorobiphenyl	BSP	SURR	68	%	30-130
OP5356A-BS12	1718-51-0	Terphenyl-d14	BSP	SURR	84	%	30-130
OP5356A-BSD12	83-32-9	Acenaphthene	BSD	REC	61	%	40-140
OP5356A-BSD12	83-32-9	Acenaphthene	BSD	RPD	31	%	30
OP5356A-BSD12	208-96-8	Acenaphthylene	BSD	REC	60	%	40-140
OP5356A-BSD12	208-96-8	Acenaphthylene	BSD	RPD	28	%	30
OP5356A-BSD12	120-12-7	Anthracene	BSD	REC	66	%	40-140
OP5356A-BSD12	120-12-7	Anthracene	BSD	RPD	21	%	30
OP5356A-BSD12	56-55-3	Benzo(a)anthracene	BSD	REC	76	%	40-140
OP5356A-BSD12	56-55-3	Benzo(a)anthracene	BSD	RPD	20	%	30
OP5356A-BSD12	50-32-8	Benzo(a)pyrene	BSD	REC	66	%	40-140
OP5356A-BSD12	50-32-8	Benzo(a)pyrene	BSD	RPD	16	%	30
OP5356A-BSD12	205-99-2	Benzo(b)fluoranthene	BSD	REC	83	%	40-140
OP5356A-BSD12	205-99-2	Benzo(b)fluoranthene	BSD	RPD	13	%	30
OP5356A-BSD12	191-24-2	Benzo(g,h,i)perylene	BSD	REC	67	%	40-140
OP5356A-BSD12	191-24-2	Benzo(g,h,i)perylene	BSD	RPD	16	%	30
OP5356A-BSD12	207-08-9	Benzo(k)fluoranthene	BSD	REC	60	%	40-140
OP5356A-BSD12	207-08-9	Benzo(k)fluoranthene	BSD	RPD	25	%	30
OP5356A-BSD12	218-01-9	Chrysene	BSD	REC	65	%	40-140

* Sample used for QC is not from job JC48965

QC Evaluation: MA MCP Limits

Job Number: JC48965
Account: Web Engineering Associates, Inc.
Project: Colonial Oil, 8 Emerson Avenue, Chelmsford, MA
Collected: 08/14/17

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
OP5356A-BSD12	218-01-9	Chrysene	BSD	RPD	22	%	30
OP5356A-BSD12	53-70-3	Dibenzo(a,h)anthracene	BSD	REC	75	%	40-140
OP5356A-BSD12	53-70-3	Dibenzo(a,h)anthracene	BSD	RPD	22	%	30
OP5356A-BSD12	206-44-0	Fluoranthene	BSD	REC	71	%	40-140
OP5356A-BSD12	206-44-0	Fluoranthene	BSD	RPD	22	%	30
OP5356A-BSD12	86-73-7	Fluorene	BSD	REC	68	%	40-140
OP5356A-BSD12	86-73-7	Fluorene	BSD	RPD	27	%	30
OP5356A-BSD12	193-39-5	Indeno(1,2,3-cd)pyrene	BSD	REC	74	%	40-140
OP5356A-BSD12	193-39-5	Indeno(1,2,3-cd)pyrene	BSD	RPD	20	%	30
OP5356A-BSD12	91-20-3	Naphthalene	BSD	REC	59	%	40-140
OP5356A-BSD12	91-20-3	Naphthalene	BSD	RPD	29	%	30
OP5356A-BSD12	85-01-8	Phenanthrene	BSD	REC	65	%	40-140
OP5356A-BSD12	85-01-8	Phenanthrene	BSD	RPD	22	%	30
OP5356A-BSD12	129-00-0	Pyrene	BSD	REC	73	%	40-140
OP5356A-BSD12	129-00-0	Pyrene	BSD	RPD	23	%	30
OP5356A-BSD12	4165-60-0	Nitrobenzene-d5	BSD	SURR	63	%	30-130
OP5356A-BSD12	321-60-8	2-Fluorobiphenyl	BSD	SURR	52	%	30-130
OP5356A-BSD12	1718-51-0	Terphenyl-d14	BSD	SURR	70	%	30-130
OP5356A-MB1	4165-60-0	Nitrobenzene-d5	MB	SURR	76	%	30-130
OP5356A-MB1	4165-60-0	Nitrobenzene-d5	MB	SURR	78	%	30-130
OP5356A-MB1	321-60-8	2-Fluorobiphenyl	MB	SURR	76	%	30-130
OP5356A-MB1	321-60-8	2-Fluorobiphenyl	MB	SURR	64	%	30-130
OP5356A-MB1	1718-51-0	Terphenyl-d14	MB	SURR	81	%	30-130
OP5356A-MB1	1718-51-0	Terphenyl-d14	MB	SURR	93	%	30-130
JC48965-1	4165-60-0	Nitrobenzene-d5	SAMP	SURR	76	%	30-130
JC48965-1	321-60-8	2-Fluorobiphenyl	SAMP	SURR	62	%	30-130
JC48965-1	1718-51-0	Terphenyl-d14	SAMP	SURR	44	%	30-130

(a) This compound in CCV is outside method requirements (bias high)

* Sample used for QC is not from job JC48965

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (BFB)
- Internal Standard Area Summaries
- Surrogate Recovery Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Job Number: JC48965
Account: WEBMAN Web Engineering Associates, Inc.
Project: Colonial Oil, 8 Emerson Avenue, Chelmsford, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VL8248-MB	L293597.D	1	08/15/17	JC	n/a	n/a	VL8248

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC48965-1

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.25	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.38	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
104-51-8	n-Butylbenzene	ND	2.0	0.27	ug/l	
135-98-8	sec-Butylbenzene	ND	2.0	0.27	ug/l	
98-06-6	tert-Butylbenzene	ND	2.0	0.34	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.23	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	ND	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
95-49-8	o-Chlorotoluene	ND	2.0	0.30	ug/l	
106-43-4	p-Chlorotoluene	ND	2.0	0.24	ug/l	
108-20-3	Di-Isopropyl ether	ND	2.0	0.20	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.9	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.28	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.30	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.29	ug/l	

Method Blank Summary

Job Number: JC48965
Account: WEBMAN Web Engineering Associates, Inc.
Project: Colonial Oil, 8 Emerson Avenue, Chelmsford, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VL8248-MB	L293597.D	1	08/15/17	JC	n/a	n/a	VL8248

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC48965-1

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
123-91-1	1,4-Dioxane	ND	130	52	ug/l	
60-29-7	Ethyl Ether	ND	2.0	0.41	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.34	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.25	ug/l	
99-87-6	p-Isopropyltoluene	ND	2.0	0.24	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.25	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.45	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
91-20-3	Naphthalene	ND	5.0	1.1	ug/l	
103-65-1	n-Propylbenzene	ND	2.0	0.24	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
75-65-0	Tert Butyl Alcohol	ND	10	7.0	ug/l	
994-05-8	tert-Amyl Methyl Ether	ND	2.0	0.37	ug/l	
637-92-3	tert-Butyl Ethyl Ether	ND	2.0	0.20	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.19	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
109-99-9	Tetrahydrofuran	ND	10	4.7	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.27	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.60	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.47	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.24	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	ug/l	
	m,p-Xylene	ND	1.0	0.43	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	

Method Blank Summary

Job Number: JC48965
Account: WEBMAN Web Engineering Associates, Inc.
Project: Colonial Oil, 8 Emerson Avenue, Chelmsford, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VL8248-MB	L293597.D	1	08/15/17	JC	n/a	n/a	VL8248

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC48965-1

CAS No.	Compound	Result	RL	MDL	Units	Q
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	104%	80-120%
17060-07-0	1,2-Dichloroethane-D4	113%	81-124%
2037-26-5	Toluene-D8	100%	80-120%
460-00-4	4-Bromofluorobenzene	94%	80-120%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

Blank Spike/Blank Spike Duplicate Summary

Job Number: JC48965
Account: WEBMAN Web Engineering Associates, Inc.
Project: Colonial Oil, 8 Emerson Avenue, Chelmsford, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VL8248-BS	L293598.D	1	08/15/17	JC	n/a	n/a	VL8248
VL8248-BSD	L293599.D	1	08/15/17	JC	n/a	n/a	VL8248

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC48965-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	200	166	83	153	77	8	42-150/22
71-43-2	Benzene	50	42.0	84	41.1	82	2	80-120/20
108-86-1	Bromobenzene	50	46.1	92	46.9	94	2	82-118/20
74-97-5	Bromochloromethane	50	46.6	93	44.7	89	4	84-121/20
75-27-4	Bromodichloromethane	50	48.4	97	46.1	92	5	83-120/20
75-25-2	Bromoform	50	48.2	96	46.2	92	4	76-129/20
74-83-9	Bromomethane	50	55.3	111	50.8	102	8	57-138/20
78-93-3	2-Butanone (MEK)	200	171	86	167	84	2	64-137/20
104-51-8	n-Butylbenzene	50	48.8	98	47.1	94	4	81-123/20
135-98-8	sec-Butylbenzene	50	48.3	97	47.3	95	2	84-121/20
98-06-6	tert-Butylbenzene	50	50.1	100	49.1	98	2	83-122/20
75-15-0	Carbon disulfide	50	45.5	91	42.4	85	7	64-137/20
56-23-5	Carbon tetrachloride	50	50.4	101	46.5	93	8	75-135/20
108-90-7	Chlorobenzene	50	46.1	92	45.2	90	2	84-117/20
75-00-3	Chloroethane	50	49.3	99	45.3	91	8	63-132/20
67-66-3	Chloroform	50	45.8	92	43.9	88	4	80-119/20
74-87-3	Chloromethane	50	44.3	89	40.5	81	9	46-136/20
95-49-8	o-Chlorotoluene	50	47.4	95	45.6	91	4	84-118/20
106-43-4	p-Chlorotoluene	50	45.4	91	45.1	90	1	83-116/20
108-20-3	Di-Isopropyl ether	50	40.2	80	38.4	77	5	73-128/20
96-12-8	1,2-Dibromo-3-chloropropane	50	55.6	111	52.7	105	5	72-127/20
124-48-1	Dibromochloromethane	50	47.7	95	46.9	94	2	80-123/20
106-93-4	1,2-Dibromoethane	50	46.2	92	46.7	93	1	84-117/20
95-50-1	1,2-Dichlorobenzene	50	46.4	93	45.5	91	2	84-119/20
541-73-1	1,3-Dichlorobenzene	50	43.7	87	44.1	88	1	81-117/20
106-46-7	1,4-Dichlorobenzene	50	46.0	92	44.3	89	4	82-117/20
75-71-8	Dichlorodifluoromethane	50	59.5	119	51.0	102	15	36-149/20
75-34-3	1,1-Dichloroethane	50	44.3	89	41.5	83	7	79-120/20
107-06-2	1,2-Dichloroethane	50	49.0	98	47.2	94	4	78-126/20
75-35-4	1,1-Dichloroethene	50	47.0	94	44.4	89	6	69-126/20
156-59-2	cis-1,2-Dichloroethene	50	44.4	89	43.1	86	3	80-120/20
156-60-5	trans-1,2-Dichloroethene	50	44.3	89	41.4	83	7	76-120/20
78-87-5	1,2-Dichloropropane	50	41.3	83	40.8	82	1	82-121/20
142-28-9	1,3-Dichloropropane	50	42.8	86	42.6	85	0	83-115/20
594-20-7	2,2-Dichloropropane	50	48.8	98	43.8	88	11	65-133/20
563-58-6	1,1-Dichloropropene	50	46.1	92	44.9	90	3	80-121/20

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: JC48965
Account: WEBMAN Web Engineering Associates, Inc.
Project: Colonial Oil, 8 Emerson Avenue, Chelmsford, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VL8248-BS	L293598.D	1	08/15/17	JC	n/a	n/a	VL8248
VL8248-BSD	L293599.D	1	08/15/17	JC	n/a	n/a	VL8248

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC48965-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	50	45.2	90	44.6	89	1	83-120/20
10061-02-6	trans-1,3-Dichloropropene	50	46.4	93	46.2	92	0	82-121/20
123-91-1	1,4-Dioxane	1250	1320	106	1220	98	8	52-147/20
60-29-7	Ethyl Ether	50	42.8	86	42.1	84	2	78-124/20
100-41-4	Ethylbenzene	50	45.7	91	44.9	90	2	80-120/20
87-68-3	Hexachlorobutadiene	50	50.9	102	48.7	97	4	75-129/20
591-78-6	2-Hexanone	200	169	85	173	87	2	65-132/20
98-82-8	Isopropylbenzene	50	47.8	96	45.9	92	4	83-120/20
99-87-6	p-Isopropyltoluene	50	49.2	98	47.6	95	3	83-122/20
1634-04-4	Methyl Tert Butyl Ether	50	45.9	92	44.1	88	4	80-119/20
108-10-1	4-Methyl-2-pentanone(MIBK)	200	176	88	171	86	3	71-131/20
74-95-3	Methylene bromide	50	45.5	91	44.1	88	3	85-120/20
75-09-2	Methylene chloride	50	43.3	87	42.0	84	3	77-120/20
91-20-3	Naphthalene	50	53.9	108	51.0	102	6	73-131/20
103-65-1	n-Propylbenzene	50	44.8	90	44.0	88	2	82-119/20
100-42-5	Styrene	50	45.8	92	45.3	91	1	82-122/20
75-65-0	Tert Butyl Alcohol	250	290	116	241	96	18	78-126/20
994-05-8	tert-Amyl Methyl Ether	50	46.0	92	43.8	88	5	81-124/20
637-92-3	tert-Butyl Ethyl Ether	50	45.9	92	44.1	88	4	79-128/20
630-20-6	1,1,1,2-Tetrachloroethane	50	49.6	99	48.2	96	3	82-121/20
79-34-5	1,1,2,2-Tetrachloroethane	50	47.8	96	46.8	94	2	76-119/20
127-18-4	Tetrachloroethene	50	46.0	92	47.2	94	3	70-131/20
109-99-9	Tetrahydrofuran	50	42.2	84	39.8	80	6	64-129/20
108-88-3	Toluene	50	44.4	89	43.5	87	2	80-120/20
87-61-6	1,2,3-Trichlorobenzene	50	55.5	111	51.9	104	7	76-134/20
120-82-1	1,2,4-Trichlorobenzene	50	55.5	111	51.6	103	7	79-132/20
71-55-6	1,1,1-Trichloroethane	50	51.4	103	47.8	96	7	81-128/20
79-00-5	1,1,2-Trichloroethane	50	43.6	87	43.7	87	0	83-118/20
79-01-6	Trichloroethene	50	45.5	91	44.3	89	3	80-120/20
75-69-4	Trichlorofluoromethane	50	60.8	122	55.0	110	10	64-136/20
96-18-4	1,2,3-Trichloropropane	50	51.7	103	49.4	99	5	79-120/20
95-63-6	1,2,4-Trimethylbenzene	50	46.5	93	45.0	90	3	84-120/20
108-67-8	1,3,5-Trimethylbenzene	50	47.9	96	45.8	92	4	83-119/20
75-01-4	Vinyl chloride	50	43.7	87	38.7	77	12	51-135/20
	m,p-Xylene	100	91.2	91	88.0	88	4	80-120/20
95-47-6	o-Xylene	50	45.4	91	43.9	88	3	80-120/20

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: JC48965
Account: WEBMAN Web Engineering Associates, Inc.
Project: Colonial Oil, 8 Emerson Avenue, Chelmsford, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VL8248-BS	L293598.D	1	08/15/17	JC	n/a	n/a	VL8248
VL8248-BSD	L293599.D	1	08/15/17	JC	n/a	n/a	VL8248

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC48965-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
1330-20-7	Xylene (total)	150	137	91	132	88	4	80-120/20

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	105%	103%	80-120%
17060-07-0	1,2-Dichloroethane-D4	107%	107%	81-124%
2037-26-5	Toluene-D8	98%	97%	80-120%
460-00-4	4-Bromofluorobenzene	100%	102%	80-120%

* = Outside of Control Limits.

Instrument Performance Check (BFB)

Job Number: JC48965
Account: WEBMAN Web Engineering Associates, Inc.
Project: Colonial Oil, 8 Emerson Avenue, Chelmsford, MA

Sample: VL8203-BFB
Lab File ID: L292475.D
Instrument ID: GCMSL
Injection Date: 07/12/17
Injection Time: 09:38

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	20093	18.2		Pass
75	30.0 - 60.0% of mass 95	53275	48.3		Pass
95	Base peak, 100% relative abundance	110365	100.0		Pass
96	5.0 - 9.0% of mass 95	7435	6.74		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	98413	89.2		Pass
175	5.0 - 9.0% of mass 174	7972	7.22	(8.10) [a]	Pass
176	95.0 - 101.0% of mass 174	96496	87.4	(98.1) [a]	Pass
177	5.0 - 9.0% of mass 176	6434	5.83	(6.67) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VL8203-IC8203	L292476.D	07/12/17	10:27	00:49	Initial cal 0.2
VL8203-IC8203	L292477.D	07/12/17	10:54	01:16	Initial cal 0.5
VL8203-IC8203	L292478.D	07/12/17	11:21	01:43	Initial cal 1
VL8203-IC8203	L292479.D	07/12/17	11:48	02:10	Initial cal 2
VL8203-IC8203	L292480.D	07/12/17	12:15	02:37	Initial cal 5
VL8203-IC8203	L292481.D	07/12/17	12:42	03:04	Initial cal 10
VL8203-IC8203	L292482.D	07/12/17	13:09	03:31	Initial cal 20
VL8203-ICC8203	L292483.D	07/12/17	13:36	03:58	Initial cal 50
VL8203-IC8203	L292484.D	07/12/17	14:04	04:26	Initial cal 100
VL8203-IC8203	L292485.D	07/12/17	14:31	04:53	Initial cal 200
VL8203-ICV8203	L292488.D	07/12/17	15:52	06:14	Initial cal verification 50
VL8203-ICV8203	L292489.D	07/12/17	16:19	06:41	Initial cal verification 50

Instrument Performance Check (BFB)

Job Number: JC48965
Account: WEBMAN Web Engineering Associates, Inc.
Project: Colonial Oil, 8 Emerson Avenue, Chelmsford, MA

Sample:	VL8248-BFB	**Injection Date:**	08/15/17
Lab File ID:	L293596A.D	**Injection Time:**	09:11
Instrument ID:	GCMSL		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	14453	17.3		Pass
75	30.0 - 60.0% of mass 95	40795	48.9		Pass
95	Base peak, 100% relative abundance	83413	100.0		Pass
96	5.0 - 9.0% of mass 95	4951	5.94		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	77539	93.0		Pass
175	5.0 - 9.0% of mass 174	6377	7.65	(8.22) [a]	Pass
176	95.0 - 101.0% of mass 174	76688	91.9	(98.9) [a]	Pass
177	5.0 - 9.0% of mass 176	5056	6.06	(6.59) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VL8248-CC8203	L293596.D	08/15/17	09:11	00:00	Continuing cal 20
VL8248-MB	L293597.D	08/15/17	10:03	00:52	Method Blank
VL8248-BS	L293598.D	08/15/17	10:40	01:29	Blank Spike
VL8248-BSD	L293599.D	08/15/17	11:07	01:56	Blank Spike Duplicate
ZZZZZZ	L293601.D	08/15/17	12:00	02:49	(unrelated sample)
ZZZZZZ	L293602.D	08/15/17	12:27	03:16	(unrelated sample)
ZZZZZZ	L293603.D	08/15/17	12:53	03:42	(unrelated sample)
ZZZZZZ	L293604.D	08/15/17	13:20	04:09	(unrelated sample)
ZZZZZZ	L293606.D	08/15/17	14:42	05:31	(unrelated sample)
JC48894-6	L293609.D	08/15/17	17:44	08:33	(used for QC only; not part of job JC48965)
JC48894-6	L293610.D	08/15/17	18:10	08:59	(used for QC only; not part of job JC48965)
JC48894-6MS	L293611.D	08/15/17	18:37	09:26	Matrix Spike
JC48894-6MSD	L293612.D	08/15/17	19:04	09:53	Matrix Spike Duplicate
ZZZZZZ	L293614.D	08/15/17	19:57	10:46	(unrelated sample)
JC48965-1	L293615.D	08/15/17	20:23	11:12	MW-3

Volatile Internal Standard Area Summary

Job Number: JC48965
Account: WEBMAN Web Engineering Associates, Inc.
Project: Colonial Oil, 8 Emerson Avenue, Chelmsford, MA

Check Std:	VL8248-CC8203	**Injection Date:**	08/15/17
Lab File ID:	L293596.D	**Injection Time:**	09:11
Instrument ID:	GCMSL	**Method:**	SW846 8260C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	192506	7.50	199290	9.77	284393	10.70	256424	13.81	162733	16.12
Upper Limit [a]	385012	8.00	398580	10.27	568786	11.20	512848	14.31	325466	16.62
Lower Limit [b]	96253	7.00	99645	9.27	142197	10.20	128212	13.31	81367	15.62

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
VL8248-MB	201875	7.47	212946	9.77	302098	10.70	271603	13.81	179384	16.12
VL8248-BS	159379	7.48	186006	9.77	270240	10.70	246854	13.81	152254	16.12
VL8248-BSD	182687	7.49	208515	9.77	302411	10.71	274653	13.81	165623	16.11
ZZZZZZ	197297	7.48	205546	9.77	288620	10.70	285563	13.81	171678	16.11
ZZZZZZ	228770	7.48	225898	9.76	306363	10.70	295712	13.81	180996	16.11
ZZZZZZ	290040	7.49	245002	9.77	338722	10.70	304984	13.81	180200	16.11
ZZZZZZ	249975	7.49	245828	9.77	346267	10.70	275522	13.81	94013	16.12
ZZZZZZ	261887	7.51	222767	9.77	315579	10.70	251106	13.81	92503	16.11
JC48894-6	223248	7.50	233516	9.77	334653	10.70	298372	13.81	182881	16.12
JC48894-6	216350	7.50	256251	9.77	360252	10.70	322991	13.81	184867	16.11
JC48894-6MS	191759	7.53	221680	9.77	323038	10.70	298608	13.81	170737	16.11
JC48894-6MSD	184087	7.50	223695	9.76	328467	10.70	296943	13.81	176526	16.11
ZZZZZZ	201776	7.52	260352	9.77	366144	10.71	340738	13.81	211465	16.12
JC48965-1	209288	7.52	254988	9.77	364585	10.71	327103	13.81	208509	16.12

IS 1 = Tert Butyl Alcohol-D9
IS 2 = Pentafluorobenzene
IS 3 = 1,4-Difluorobenzene
IS 4 = Chlorobenzene-D5
IS 5 = 1,4-Dichlorobenzene-d4

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Volatile Surrogate Recovery Summary

Job Number: JC48965
Account: WEBMAN Web Engineering Associates, Inc.
Project: Colonial Oil, 8 Emerson Avenue, Chelmsford, MA

Method: SW846 8260C **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4
JC48965-1	L293615.D	102	107	100	99
VL8248-BS	L293598.D	105	107	98	100
VL8248-BSD	L293599.D	103	107	97	102
VL8248-MB	L293597.D	104	113	100	94

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	80-120%
S2 = 1,2-Dichloroethane-D4	81-124%
S3 = Toluene-D8	80-120%
S4 = 4-Bromofluorobenzene	80-120%

Date: 1/22/2008
Revision: 02

Material Safety Data Sheet

StormKlear: Liqui-Floc 1%

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Manufacturer's Name:	HaloSource, Inc.
Corporate Address:	1631 220th St. SE, Suite 100, Bothell, WA 98021
Manufacturer's Telephone:	(425) 881-6464 (Monday-Friday, 8AM-5PM PDT)
Emergency Telephone:	**800-424-9300 Chemtrec** (24 Hours)
Material/Trade/Product Name:	**StormKlear: Liqui-Floc 1%**
Synonyms:	None
Chemical Name:	Chitosan Acetate
Chemical Formula:	Not available
CAS No.:	Not applicable.
EPA Registration #:	Not applicable
Product Use:	Flocculates soil contamination in storm water.

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

CAS NO.	COMPONENT	%	OSHA HAZARDOUS ?
64-19-7	Acetic Acid	1	YES
	All other components are non-hazardous.	99	NO

NOTE: See Section 8 for permissible exposure limits.

SECTION 3: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Clear to pale yellow viscous liquid with a pungent vinegar odor.

May be mildly irritating to eyes. Not likely to be hazardous to skin, respiratory tract, or by ingestion.

POTENTIAL HEALTH EFFECTS

EYE: May be mildly irritating to eyes.

SKIN: Not hazardous to skin.

INHALATION: Not likely to be hazardous by inhalation.

INGESTION: Not likely to be hazardous by ingestion.

CHRONIC EXPOSURE/CARCINOGENICITY: None of the components present in this material at concentrations of equal to or greater than 0.1% are listed by IARC, NTP, OSHA or ACGIH as a carcinogen.

SIGNS AND SYMPTOMS OF OVEREXPOSURE: Eye irritation.

AGGRAVATION OF PRE-EXISTING CONDITIONS: None known.

POTENTIAL ENVIRONMENTAL EFFECTS: Material is 100% biodegradable and nontoxic.

SECTION 4: FIRST AID MEASURES

FIRST AID PROCEDURES

EYE CONTACT: Remove contact lenses (if applicable), flush with water for 15 minutes. Call a physician.

SKIN CONTACT: Cleansing the skin after exposure is advisable.

INHALATION: If large amounts of fumes are inhaled, remove to fresh air and consult a physician.

INGESTION: Consult a physician if necessary.

NOTE TO PHYSICIANS: None.

SECTION 5: FIRE FIGHTING MEASURES

FLASH POINT: Not available
AUTOIGNITION TEMPERATURE: Not available
UPPER FLAMMABLE LIMIT: Not available
LOWER FLAMMABLE LIMIT: Not available
FLAMMABLITY CLASS (OSHA): Not applicable
FLAME PROPAGATION/BURNING RATE: Not available

UNIQUE FIRE PROPERTIES: None known.

HAZARDOUS COMBUSTION PRODUCTS: None.

EXTINGUISHING MEDIA: Does not burn. Use water, dry chemicals, carbon dioxide, sand or foam. Use extinguishing media appropriate for surrounding fire.

PROTECTION OF FIREFIGHTERS: Do not enter confined fire space without full bunker gear (helmet with face shield, bunker coat, gloves and rubber boots), including a positive pressure NIOSH approved self-contained breathing apparatus. Water may be used to keep fire-exposed containers cool until fire is out.

SECTION 6: ACCIDENTAL RELEASE MEASURES

PERSONAL PROTECTIVE EQUIPMENT: See Section 8 (Personal Protective Equipment).

ENVIRONMENTAL PRECAUTIONS: Material is 100% biodegradable and nontoxic.

METHODS FOR CLEANING UP: Dilute with water and hose down.

SECTION 7: HANDLING AND STORAGE

SAFE *HANDLING* RECOMMENDATIONS

VENTILATION: General ventilation should be sufficient under normal conditions.

FIRE PREVENTION: Non-flammable, no special fire protection required.

SPECIAL HANDLING REQUIREMENTS: Avoid eye contact.

SAFE *STORAGE* RECOMMENDATIONS

CONTAINMENT: The container should be kept covered to prevent contamination.

STORAGE ROOM RECOMMENDATIONS: Store in a cool, dry, well-ventilated area away from direct heat.

INCOMPATIBLE MATERIALS: Strong oxidizing material and strong bases.

STORAGE CONDITIONS: 10-50°C recommended (will freeze @ ~3°C). Shelf life is indefinite but viscosity will decrease over time.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: General ventilation should be sufficient under normal conditions.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

EYE/FACE PROTECTION: Safety glasses recommended.

SKIN PROTECTION: For operations where skin contact can occur, wear impervious clothing such as apron, boots, or whole bodysuit.

HAND PROTECTION: For operations where hand contact can occur, rubber gloves recommended.

RESPIRATORY PROTECTION: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use. Respirator use is not required for this product.

GOOD HYGEIENE/WORK PRACTICES: Always follow good hygiene/work practices by avoiding vapors or mists and contact with eyes and skin. Thoroughly wash hands after handling and before eating or drinking. Always wear the appropriate PPE when repairing or performing maintenance on contaminated equipment.

EXPOSURE GUIDELINES

PERMISSIBLE EXPOSURE LIMITS						
INGREDIENT CAS NO.	OSHA		WISHA		ACGIH (TLV)	
	TWA	STEL	TWA	STEL	TWA	STEL
64-19-7	10 ppm	25 ppm	10 ppm	20 ppm	10 ppm	15 ppm

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

COLOR: Clear to pale yellow
PHYSICAL FORM: Viscous liquid
pH: 3.0-4.5
SHAPE: Viscous liquid
ODOR: Pungent vinegar odor
VAPOR PRESSURE: Not available

VAPOR DENSITY: Not available
MELTING POINT: Not available
SOLUBILITY IN WATER: Soluble
BOILING POINT: 211°F
FREEZING POINT: Not available
SPECIFIC GRAVITY OR DENSITY: 1.0-1.1 g/mL

NOTE: These physical data are typical values based on material tested but may vary from sample to sample. Values should not be construed as a guaranteed analysis of any specific lot or as specifications.

SECTION 10: STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable.

CONDITIONS TO AVOID: Freezing temperatures or excess heat (for quality purposes).

MATERIALS TO AVOID (INCOMPATIBILITY): Strong oxidizing material and strong bases.

HAZARDOUS DECOMPOSITION PRODUCTS: Decomposition will not occur.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

ORAL LD_{50} (rat): Not available.

DERMAL LD_{50} (rabbit): Not available.

SKIN IRRITATION: Not available.

EYE IRRITATION: Not available.

SKIN SENSITIZATION: Not available.

ADDITIONAL INFORMATION:

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICITY (in water):

Acute Toxicity

- Daphnia: LC50 – 13.7 mg/L
- Daphnia: LC25 – Not Calculable
- Fathead Minnows: LC50 – 6.42 mg/L
- Fathead Minnows: LC25 – Not Calculable
- Rainbow Trout: LC50 – 1.73 mg/L
- Rainbow Trout: LC25 – 1.29 mg/L

Chronic Toxicity

- Rainbow Trout: LC50 – 1.54 mg/L, 7 days
- Rainbow Trout: LC25 – 1.21 mg/L, 7 days
- Rainbow Trout: IC25 – >2.50 mg/L, 7 days
- Fathead Minnows: LC50 – >10 mg/L, 7 days
- Fathead Minnows: LC25 – Not Calculable
- Fathead Minnows: IC25 – 6.88 mg/L, 7 days

MOBILITY: Not available.

PERSISTENCE AND DEGRADABILITY: Not available.

BIOACCUMULATIVE POTENTIAL: Not available.

ADDITIONAL INFORMATION: Not available.

SECTION 13: DISPOSAL CONSIDERATIONS

If this product as supplied becomes a waste, it does not meet the criteria of a hazardous waste as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Please be advised that state and local requirements for waste disposal may be more restrictive or otherwise different from federal regulations. Consult state and local regulations regarding the proper disposal of this material.

NOTE: Chemical additions, processing or otherwise altering this material may make the waste management information presented in this MSDS incomplete, inaccurate or otherwise inappropriate.

SECTION 14: TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION (DOT):

Proper Shipping Name: Not Regulated
Hazard Class: Not Regulated
Identification Number (UN Number): Not Regulated
Packing Group (PG): Not Regulated

SECTION 15: REGULATORY INFORMATION

TSCA STATUS: Listed

CERCLA REPORTABLE QUANTITY (RQ):

CHEMICAL NAME	RQ
Acetic Acid	5000 lbs

SARA TITLE III SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (EHS):

CHEMICAL NAME	TPQ	RQ
Not applicable	Not applicable	Not applicable

SARA TITLE III SECTION 311/312 HAZARD CATEGORIES: Does this product/material meet the definition of the following hazard classes according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of SARA Title III?

ACUTE HEALTH HAZARD	CHRONIC HEALTH HAZARD	FIRE HAZARD	REACTIVE HAZARD	SUDDEN RELEASE OF PRESSURE
NO	NO	NO	NO	NO

SARA TITLE III SECTION 313 TOXIC CHEMICALS INFORMATION:

CHEMICAL NAME	CAS NO.	CONCENTRATION (%)
Not applicable	Not applicable	Not applicable

CALIFORNIA PROPOSITION 65: The following chemical(s) is/are known to the state of California to cause cancer or reproductive toxicity:

CHEMICAL NAME	CAS NO.	CONCENTRATION (%)
Not applicable	Not applicable	Not applicable

SECTION 16: OTHER INFORMATION

REVISION INFORMATION:
MSDS sections(s) changed since last revision of document:

- Section 12, new Ecotoxicity data was updated.

DISCLAIMER:
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**
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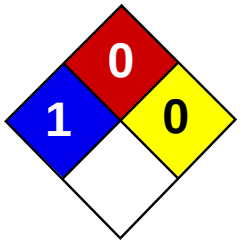
MSDS PREPARED BY: Jeremy Heath, EH&S Specialist



Health	1
Fire	0
Reactivity	0
Personal Protection	E

Material Safety Data Sheet
Sodium bicarbonate MSDS

Section 1: Chemical Product and Company Identification

Product Name: Sodium bicarbonate

Catalog Codes: SLS3241, SLS2446, SLS3868

CAS#: 144-55-8

RTECS: VZ0950000

TSCA: TSCA 8(b) inventory: Sodium bicarbonate

CI#: Not available.

Synonym: Baking Soda; Bicarbonate of soda; Sodium acid carbonate; Monosodium carbonate; Sodium hydrogen carbonate; Carbonic acid monosodium salt

Chemical Name: Sodium Bicarbonate

Chemical Formula: NaHCO3

Contact Information:

Sciencelab.com, Inc.
14025 Smith Rd.
Houston, Texas 77396

US Sales: **1-800-901-7247**
International Sales: **1-281-441-4400**

Order Online: ScienceLab.com

CHEMTREC (24HR Emergency Telephone), call: 1-800-424-9300

International CHEMTREC, call: 1-703-527-3887

For non-emergency assistance, call: 1-281-441-4400

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Sodium bicarbonate	144-55-8	100

Toxicological Data on Ingredients: Not applicable.

Section 3: Hazards Identification

Potential Acute Health Effects: Slightly hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation.

Potential Chronic Health Effects:
CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. Repeated or prolonged exposure is not known to aggravate medical condition.

Section 4: First Aid Measures

Eye Contact:
Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention if irritation occurs.

Skin Contact:
Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops. Cold water may be used.

Serious Skin Contact: Not available.

Inhalation:
If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Serious Inhalation: Not available.

Ingestion:
Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: Non-flammable.

Auto-Ignition Temperature: Not applicable.

Flash Points: Not applicable.

Flammable Limits: Not applicable.

Products of Combustion: Not available.

Fire Hazards in Presence of Various Substances: Not applicable.

Explosion Hazards in Presence of Various Substances:
Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions: Not applicable.

Special Remarks on Fire Hazards: When heated to decomposition it emits acrid smoke and irritating fumes.

Special Remarks on Explosion Hazards: Not available.

Section 6: Accidental Release Measures

Small Spill:
Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

Large Spill:
Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

Section 7: Handling and Storage

Precautions:
Do not ingest. Do not breathe dust. If ingested, seek medical advice immediately and show the container or the label. Keep away from incompatibles such as acids.

Storage: Keep container tightly closed. Keep container in a cool, well-ventilated area.

Section 8: Exposure Controls/Personal Protection

Engineering Controls:
Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection: Safety glasses. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:
Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits: Not available.

Section 9: Physical and Chemical Properties

Physical state and appearance: Solid.

Odor: Odorless.

Taste: Saline. Alkaline.

Molecular Weight: 84.01g/mole

Color: White.

pH (1% soln/water): Not available.

Boiling Point: Not available.

Melting Point: Not available.

Critical Temperature: Not available.

Specific Gravity: Density: 2.159 (Water = 1)

Vapor Pressure: Not applicable.

Vapor Density: Not available.

Volatility: Not available.

Odor Threshold: Not available.

Water/Oil Dist. Coeff.: Not available.

Ionicity (in Water): Not available.

Dispersion Properties: See solubility in water.

Solubility:
Soluble in cold water. Slightly soluble in alcohol. Solubility in Water: 6.4, 7.6, 8.7, 10.0, 11.3, 12.7, 14.2, 16.5, 19.1 g/100 solution at 0, 10, 20, 30, 40, 50, 60, 80, adn 100 deg. C, respectively. Solubility in Water: 6.9, 8,2, 9.6, 11.1, 12.7, 14.5, 16.5, 19.7, and 23.6 g/100g water at 0, 10, 20, 30, 40, 50, 60, 80, 100 deg. C, respectively.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Incompatible materials, Moisture. Stable in dry air, but slowly decomposes in moist air.

Incompatibility with various substances: Reactive with acids.

Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity:
Reacts with acids to form carbon dioxide. Dangerous reaction with monoammonium phosphate or a sodium-potassium alloy.

Special Remarks on Corrosivity: Not available.

Polymerization: Will not occur.

Section 11: Toxicological Information

Routes of Entry: Inhalation. Ingestion.

Toxicity to Animals: Acute oral toxicity (LD50): 3360 mg/kg [Mouse].

Chronic Effects on Humans: Not available.

Other Toxic Effects on Humans: Slightly hazardous in case of skin contact (irritant), of ingestion, of inhalation.

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans:
Sodium Bicarbonate as produced genetic effects in rats (unscheduled DNA synthesis). However, no affects have been found in humans.

Special Remarks on other Toxic Effects on Humans:
Acute Potential Health Effects: Skin: May cause mild skin irritation. Eyes: May cause mild eye irritation. Inhalation: May cause respiratory tract irritation. Symptoms may include coughing and sneezing. Ingestion: Symptoms of overexposure to Sodium Bicarbonate include thirst, abdominal pain, gastroenteritis, and inflammation of the digestive tract. Chronic Potential Health Effects: Skin: Repeated or prolonged skin contact may cause irritation, drying or cracking of the skin. Ingestion and Inhalation: Chronic toxicity usually occurs within 4 to 10 days following ingestion of very large amounts. Repeated or prolonged ingestion or inhalation of large amounts may cause metabolic abnormalities, and sodium retention. Metabolic abnormalities such as acidosis, hypernatremia, hypochloremia, alkalosis, hypocalcemia, or sodium retention may affect the blood, kidneys, respiration (cyanosis, apnea secondary to metabolic acidosis or pulmonary edema), and cardiovascular system (tachycardia, hypotension). Severe toxicity may also affect behavior/central nervous system/nervous system. Neurological changes may result from metabolic abnormalities. These may include fatigue, irritability, dizziness, mental confusion, paresthesia, seizures, tetany, cerebral edema Medical Conditions Aggravated by Exposure: Persons with pre-existing skin conditions might have increased sensitivity. Predisposing conditions that contribute to a mild alkali syndrome include, renal disease, dehydration, adn electrolyte imbalance, hypertension, sarcoidosis, congestive heart failure, edema, or other sodium retaining conditions.

Section 12: Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:
Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The product itself and its products of degradation are not toxic.

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:
Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14: Transport Information

DOT Classification: Not a DOT controlled material (United States).

Identification: Not applicable.

Special Provisions for Transport: Not applicable.

Section 15: Other Regulatory Information

Federal and State Regulations: TSCA 8(b) inventory: Sodium bicarbonate

Other Regulations: Not available.

Other Classifications:

WHMIS (Canada): Not controlled under WHMIS (Canada).

DSCL (EEC):
This product is not classified according to the EU regulations. Not applicable.

HMIS (U.S.A.):

Health Hazard: 1

Fire Hazard: 0

Reactivity: 0

Personal Protection: E

National Fire Protection Association (U.S.A.):

Health: 1

Flammability: 0

Reactivity: 0

Specific hazard:

Protective Equipment:
Gloves. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Safety glasses.

Section 16: Other Information

References: Not available.

Other Special Considerations: Not available.

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Last Updated: 05/21/2013 12:00 PM

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