



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 1

5 Post Office Square, Suite 100

BOSTON, MA 02109-3912

CERTIFIED MAIL RETURN RECEIPT REQUESTED

NOV 06 2014

Nick Biello
J.D'Amico, Inc.
10 York Avenue
Randolph, MA 02368

Re: Authorization to discharge under the Remediation General Permit (RGP) –
MAG910000. Construction Site located at the intersection of Loring Drive and Irving
Street, Middlesex County; Authorization # MAG910646

Dear Mr. Biello:

Based on the review of a Notice of Intent (NOI) submitted by Ralph J. Tella from Lord Associates, Inc., on behalf of the Town of Framingham, for the site referenced above, the U.S. Environmental Protection Agency (EPA) hereby authorizes you, as the named Operator, to discharge in accordance with the provisions of the RGP at that site. Your authorization number is listed above.

The checklist enclosed with this RGP authorization indicates the pollutants which you are required to monitor. Also indicated on the checklist are the effluent limits, test methods and minimum levels (MLs) for each pollutant. Please note that the checklist does not represent the complete requirements of the RGP. Operators must comply with all of the applicable requirements of this permit, including influent and effluent monitoring, narrative water quality standards, record keeping, and reporting requirements, found in Parts I and II, and Appendices I – VIII of the RGP. See EPA's website for the complete RGP and other information at: <http://www.epa.gov/region1/npdes/mass.html#dgp>.

Please note the enclosed checklist includes parameters that exceeded Appendix III limits. The checklist also includes other parameters for which your laboratory reports indicated there was insufficient sensitivity to detect these parameters at the minimum levels established in Appendix VI of the RGP.

Also, please note that the metals included on the checklist are dilution dependent pollutants and subject to limitations based on a dilution factor range (DFR). With the absence of dilution to the Beaver Dam Brook, EPA determined that the DFR for each parameter is in the one and five (1-5) range. (See the RGP Appendix IV for Massachusetts facilities) Therefore, the limits for antimony of 5.6 ug/L, arsenic of 10 ug/L, cadmium of 0.2 ug/L, copper of 5.2 ug/L, lead of 1.3 ug/L, selenium of 5 ug/L,

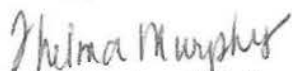
zinc of 66.6 ug/L and iron of 1,000 ug/L, are required to achieve permit compliance at your site

Finally, please note the checklist of pollutants attached to this authorization is subject to a recertification if the operations at the site result in a discharge lasting longer than six months. A recertification can be submitted to EPA within six (6) to twelve (12) months of operations in accordance with the 2010 RGP regulations.

This general permit and authorization to discharge will expire on September 9, 2015. You have reported that this project will terminate on March 30, 2015. You are required to submit a Notice of Termination (NOT) to the attention of the contact person indicated below within 30 days of project completion.

Thank you in advance for your cooperation in this matter. Please contact Victor Alvarez at 617-918-1572 or Alvarez.Victor@epa.gov, if you have any questions.

Sincerely,



Thelma Murphy, Chief
Storm Water and Construction
Permits Section

Enclosure

cc: Robert Kubit, MassDEP
Ralph J. Tella, Lord Associates, Inc.

**2010 Remediation General Permit
Summary of Monitoring Parameters^[1]**

NPDES Authorization Number:	MAG910646
Authorization Issued:	October, 2014
Facility/Site Name:	Town of Framingham Construction Site
Facility/Site Address:	Corner of Loring Drive and Irving St.
	Email address of owner: KR@framinghamma.org
Legal Name of Operator:	J.D'Amico, Inc
Operator contact name, title, and Address:	Nick Biello- 10 York Avenue, Randolph, MA 02368
	Email: nick@idamico.com
Estimated date of the site's Completion:	3/30/2015
Category and Sub-Category:	Category III- Contaminated Construction Dewatering. Subcategory A. General Urban Fill Sites and B. Known Contaminated Sites
RGP Termination Date:	September 10, 2015
Receiving Water:	Beaver Dam Brook

Monitoring & Limits are applicable if checked. All samples are to be collected as grab samples

	<u>Parameter</u>	<u>Effluent Limit/Method#/ML</u> (All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit)
✓	1. Total Suspended Solids (TSS)	30 milligrams/liter (mg/L) **, 50 mg/L for hydrostatic testing ** Me#160.2/ML5ug/L
	2. Total Residual Chlorine (TRC) ¹	Freshwater = 11 ug/L ** Saltwater = 7.5 ug/L **/ Me#330.5/ML 20ug/L
	3. Total Petroleum Hydrocarbons (TPH)	5.0 mg/L/ Me# 1664A/ML 5.0mg/L
	4. Cyanide (CN) ^{2, 3}	Freshwater = 5.2 ug/l ** Saltwater = 1.0 ug/L **/ Me#335.4/ML 10ug/L
	5. Benzene (B)	5ug/L /50.0 ug/L for hydrostatic testing only/ Me#8260C/ML 2 ug/L
	6. Toluene (T)	(limited as ug/L total BTEX)/ Me#8260C/ML 2ug/L
	7. Ethylbenzene (E)	(limited as ug/L total BTEX) Me#8260C/ML 2ug/L

	<u>Parameter</u>	<u>Effluent Limit/Method#/ML</u> (All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit)
	8. (m,p,o) Xylenes (X)	(limited as ug/L total BTEX) Me#8260C/ ML 2ug/L
	9. Total Benzene, Toluene, Ethyl Benzene, and Xylenes (BTEX) ⁴	100 ug/L/ Me#8260C/ ML 2ug/L
	10. Ethylene Dibromide (EDB) (1,2- Dibromoethane)	0.05 ug/l/ Me#8260C/ ML 10ug/L
	11. Methyl-tert-Butyl Ether (MtBE)	70.0 ug/l/Me#8260C/ML 10ug/L
	12.tert-Butyl Alcohol (TBA) (TertiaryButanol)	Monitor Only(ug/L)/Me#8260C/ML 10ug/L
	13. tert-Amyl Methyl Ether (TAME)	Monitor Only(ug/L)/Me#8260C/ML 10ug/L
	14. Naphthalene ⁵	20 ug/L /Me#8260C/ML 2ug/L
	15. Carbon Tetrachloride	4.4 ug/L /Me#8260C/ ML 5ug/L
	16. 1,2 Dichlorobenzene (o-DCB)	600 ug/L /Me#8260C/ ML 5ug/L
	17. 1,3 Dichlorobenzene (m-DCB)	320 ug/L /Me#8260C/ ML 5ug/L
	18. 1,4 Dichlorobenzene (p-DCB)	5.0 ug/L /Me#8260C/ ML 5ug/L
	18a. Total dichlorobenzene	763 ug/L - NH only /Me#8260C/ ML 5ug/L
	19. 1,1 Dichloroethane (DCA)	70 ug/L /Me#8260C/ ML 5ug/L
	20. 1,2 Dichloroethane (DCA)	5.0 ug/L /Me#8260C/ ML 5ug/L
	21. 1,1 Dichloroethene (DCE)	3.2 ug/L/Me#8260C/ ML 5ug/L
	22. cis-1,2 Dichloroethene (DCE)	70 ug/L/Me#8260C/ ML 5ug/L
	23. Methylene Chloride	4.6 ug/L/Me#8260C/ ML 5ug/L
	24. Tetrachloroethene (PCE)	5.0 ug/L/Me#8260C/ ML 5ug/L
	25. 1,1,1 Trichloro-ethane (TCA)	200 ug/L/Me#8260C/ ML 5ug/L
	26. 1,1,2 Trichloro-ethane (TCA)	5.0 ug/L /Me#8260C/ ML 5ug/L
	27. Trichloroethene (TCE)	5.0 ug/L /Me#8260C/ ML 5ug/L
	28. Vinyl Chloride (Chloroethene)	2.0 ug/L /Me#8260C/ ML 5ug/L
	29. Acetone	Monitor Only(ug/L)/Me#8260C/ML 50ug/L
	30. 1,4 Dioxane	Monitor Only /Me#1624C/ML 50ug/L
	31. Total Phenols	300 ug/L Me#420.1&420.2/ML 2 ug/L/ Me# 420.4 /ML 50ug/L
	32. Pentachlorophenol (PCP)	1.0 ug/L /Me#8270D/ML 5ug/L, Me#604 &625/ML 10ug/L
	33. Total Phthalates (Phthalate esters) ⁶	3.0 ug/L ** /Me#8270D/ML 5ug/L, Me#606/ML 10ug/L& Me#625/ML 5ug/L
	34. Bis (2-Ethylhexyl) Phthalate [Di- (ethylhexyl)]	6.0 ug/L /Me#8270D/ML 5ug/L, Me#606/ML 10ug/L & Me#625/ML

	<u>Parameter</u>	<u>Effluent Limit/Method#/ML</u> (All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit)
	Phthalate]	5ug/L
	35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)	10.0 ug/L
	a. Benzo(a) Anthracene ⁷	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	b. Benzo(a) Pyrene ⁷	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	c. Benzo(b)Fluoranthene ⁷	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	d. Benzo(k)Fluoranthene ⁷	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	e. Chrysene ⁷	0.0038 ug/L /Me#8270D/ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	f. Dibenzo(a,h)anthracene ⁷	0.0038 ug/L /Me#8270D/ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	g. Indeno(1,2,3-cd) Pyrene ⁷	0.0038 ug/L /Me#8270D/ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)	100 ug/L
	h. Acenaphthene	X/Me#8270D/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
	i. Acenaphthylene	X/Me#8270D/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
	j. Anthracene	X/Me#8270D/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
	k. Benzo(ghi) Perylene	X/Me#8270D/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
	l. Fluoranthene	X/Me#8270D/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
	m. Fluorene	X/Me#8270D/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
	n. Naphthalene ⁵	20 ug/l / Me#8270/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
	o. Phenanthrene	X/Me#8270D/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
	p. Pyrene	X/Me#8270D/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
	37. Total Polychlorinated Biphenyls (PCBs) ^{8, 9}	0.000064 ug/L/Me# 608/ ML 0.5 ug/L
✓	38. Chloride	Monitor only/Me# 300.0/ ML 100 ug/L

	Metal parameter	Total Recoverable MA/Metal Limit H¹⁰ = 50 mg/l CaCO₃, Units = ug/l (11/12)		Minimum level=ML	
		Freshwater Limits			
✓	39. Antimony	5.6		ML	10
✓	40. Arsenic **	10		ML	20
✓	41. Cadmium **	0.2		ML	10
	42. Chromium III (trivalent) **	48.8		ML	15
	43. Chromium VI (hexavalent) **	11.4		ML	10
✓	44. Copper **	5.2		ML	15
✓	45. Lead **	1.3		ML	20
	46. Mercury **	0.9		ML	02
	47. Nickel **	29		ML	20
✓	48. Selenium **	5		ML	20
	49. Silver	1.2		ML	10
✓	50. Zinc **	66.6		ML	15
✓	51. Iron	1,000		ML	20

	Other Parameters	Limit
✓	52. Instantaneous Flow	Site specific in CFS
✓	53. Total Flow	Site specific in CFS
✓	54. pH Range for Class A & Class B Waters in MA	6.5-8.3; 1/Month/Grab ¹³
	55. pH Range for Class SA & Class SB Waters in MA	6.5-8.3; 1/Month/Grab ¹³
	56. pH Range for Class B Waters in NH	6.5-8; 1/Month/Grab ¹³
	57. Daily maximum temperature - Warm water fisheries	83°F; 1/Month/Grab ¹⁴
	58. Daily maximum temperature - Cold water fisheries	68°F; 1/Month/Grab ¹⁴
	59. Maximum Change in Temperature in MA - Any Class A water body	1.5°F; 1/Month/Grab ¹⁴
	60. Maximum Change in Temperature in MA - Any Class B water body- Warm Water	5°F; 1/Month/Grab ¹⁴
	61. Maximum Change in Temperature in MA - Any Class B water body - Cold water and Lakes/Ponds	3°F; 1/Month/Grab ¹⁴
	62. Maximum Change in Temperature in MA - Any Class SA water body - Coastal	1.5°F; 1/Month/Grab ¹⁴
	63. Maximum Change in Temperature in MA - Any Class SB water body - July to September	1.5°F; 1/Month/Grab ¹⁴
	64. Maximum Change in Temperature in MA -Any Class SB water body - October to June	4°F; 1/Month/Grab ¹⁴

Footnotes:

¹ Although the maximum values for TRC are 11ug/l and 7.5 ug/l for freshwater, and saltwater respectively, the compliance limits are equal to the minimum level (ML) of the test method used as listed in Appendix VI (i.e., Method 330.5, 20 ug/l).

² Limits for cyanide are based on EPA's water quality criteria expressed as micrograms per liter. There is currently no EPA approved test method for free cyanide. Therefore, total cyanide must be reported.

³ Although the maximum values for cyanide are 5.2 ug/l and 1.0 ug/l for freshwater and saltwater, respectively, the compliance limits are equal to the minimum level (ML) of the Method 335.4 as listed in Appendix VI (i.e., 10 ug/l).

⁴ BTEX = sum of Benzene, Toluene, Ethylbenzene, and total Xylenes.

⁵ Naphthalene can be reported as both a purgeable (VOC) and extractable (SVOC) organic compound. If both VOC and SVOC are analyzed, the highest value must be used unless the QC criteria for one of the analyses is not met. In such cases, the value from the analysis meeting the QC criteria must be used.

⁶ The sum of individual phthalate compounds (not including the #34, Bis (2-Ethylhexyl) Phthalate). The compliance limits are equal to the minimum level (ML) of the test method used as listed in Appendix VI.

Total values calculated for reporting on NOIs and discharge monitoring reports shall be calculated by adding the measured concentration of each constituent. If the measurement of a constituent is less than the ML, the permittee shall use a value of zero for that constituent. For each test, the permittee shall also attach the raw data for each constituent to the discharge monitoring report, including the minimum level and minimum detection level for the analysis.

⁷ Although the maximum value for the individual PAH compounds is 0.0038 ug/l, the compliance limits are equal to the minimum level (ML) of the test method used as listed in Appendix VI.

⁸ In the November 2002 WQC, EPA has revised the definition of Total PCBs for aquatic life as total PCBs is the sum of all homologue, all isomer, all congener, or all "Aroclor analyses." Total values calculated for reporting on NOIs and discharge monitoring reports shall be calculated by adding the measured concentration of each constituent. If the measure of a constituent is less than the ML, the permittee shall use a value of zero for that constituent. For each test, the permittee shall also attach the raw data for each constituent to the discharge monitoring report, including the minimum level and minimum detection level for the analysis.

⁹ Although the maximum value for total PCBs is 0.000064 ug/l, the compliance limit is equal to the minimum level (ML) of the test method used as listed in Appendix VI (i.e., 0.5 ug/l for Method 608 or 0.00005 ug/l when Method 1668a is approved).

¹⁰ Hardness. Cadmium, Chromium III, Copper, Lead, Nickel, Silver, and Zinc are Hardness Dependent.

¹¹ For a Dilution Factor (DF) from 1 to 5, metals limits are calculated using DF times the base limit for the metal. See Appendix IV. For example, iron limits are calculated using $DF \times 1,000 \text{ ug/L}$ (the iron base limit). Therefore DF is 1.5, the iron limit will be 1,500 ug/L; DF 2, then iron limit = $1,000 \times 2 = 2,000 \text{ ug/L}$, etc. not to exceed the DF=5.

¹² Minimum Level (ML) is the lowest level at which the analytical system gives a recognizable signal and acceptable calibration point for the analyte. The ML represents the lowest concentration at which an analyte can be measured with a known level of confidence. The ML is calculated by multiplying the laboratory-determined method detection limit by 3.18 (see 40 CFR Part 136, Appendix B).

¹³ pH sampling for compliance with permit limits may be performed using field methods as provided for in EPA test Method 150.1.

¹⁴ Temperature sampling per Method 170.1

Lord Associates, Inc.

Environmental Consulting & Licensed Site Professional Services

1506 Providence Highway - Suite 30
Norwood, MA 02062-4647

Voice: 781.255.5554
Fax: 781.255.5535
www.lordenv.com

October 22, 2014

US Environmental Protection Agency
Attn: Victor Alvarez
5 Post Office Square, Suite 100
Mail Code OEP06-4
Boston, Massachusetts 02109-3912

**Re: Notice of Intent Filing For
Temporary Construction Dewatering
Irving Street & Loring Avenue
Framingham, MA.**

Dear EPA:

On behalf of our client, the Town of Framingham, please find attached a Notice of Intent (NOI) form with attached supporting documents for the proposed discharge from a temporary construction site dewatering treatment system at the above-referenced site. This work is being undertaken in order to facilitate the installation of replacement sewer and water mains, as shown on **Figures 1 & 2; Areas "2 & 3"**.

Dewatering will be performed through the use of temporary sumps or wells located within the excavation limits. Dewatering is necessary in order to control groundwater seepage, precipitation, and surface water runoff to enable unimpeded construction. Treated groundwater will be discharged to a catch basin located in Irving Street that is part of the municipal storm water system that discharges to Beaver Dam Brook.

There are no known groundwater contaminants in the areas likely to be dewatered. The area (#3) that crosses Beaver Dam Brook at 280 Irving Street is a former MADEP disposal site (RTN 3-24035) that is subject to an Activity and Use Limitation (AUL). The AUL was recorded on the deed to prevent future exposure to elevated lead contaminated soil found at depth across the site. A sample of groundwater collected from a monitoring well (MW-7) located within the proposed construction area in 2005 did not have detectable concentrations of dissolved lead (or other contaminants). The terms of the AUL require the preparation of a soils management plan by a Licensed Site Professional prior to undertaking any work within the AUL area. Lord Associates LSP, Ralph Tella has prepared that plan which was submitted to the Town of Framingham.

More recently, Lord Associates collected a groundwater sample from well MW-7 and had it analyzed for VOCs, SVOCs, TPH, TSS, chloride, and total metals. With the exception of total arsenic and lead, all parameters met the Appendix III limits (see attached lab report). A dilution factor was calculated based on a 0.46 7Q10 flow factor provided by Roger Kubit of the MADEP. Using this factor, a dilution factor of 1.0 was calculated. The

resultant arsenic concentration was found to exceed the effluent limitation in Appendix IV, necessitating treatment.

Treatment will be performed by passing the groundwater through a fractionation tank with an oil/water separator component and bag filters, at a minimum, to remove the suspended solids and undissolved metal contaminants. Copies of the treatment equipment schematic, including specifications for the fractionation tank and bag filter are attached.

Please do not hesitate to contact us if you have any questions or concerns.

Sincerely,
LORD ASSOCIATES, INC.



Ralph J. Tella, CHMM, LSP
President

Attached: Figure 1: Site Locus
Figure 2: Site Plan with Outfall Location
Figure 3: Site Plan, detail
Figure 4: Site Profile
Figure 5: MassGIS
Appendix A: NOI Form w/stream stats & treatment equipment
schematic and specifications
Appendix B: Copies of Original Laboratory Reports
Appendix C: Copy of Register of Historic Places

C: MADEP Robert Kubit
Town of Framingham, Kerry Reed, PE
Michael Lenihan, J. D'Amico, Inc.

FIGURES

OVERALL SITE PLAN

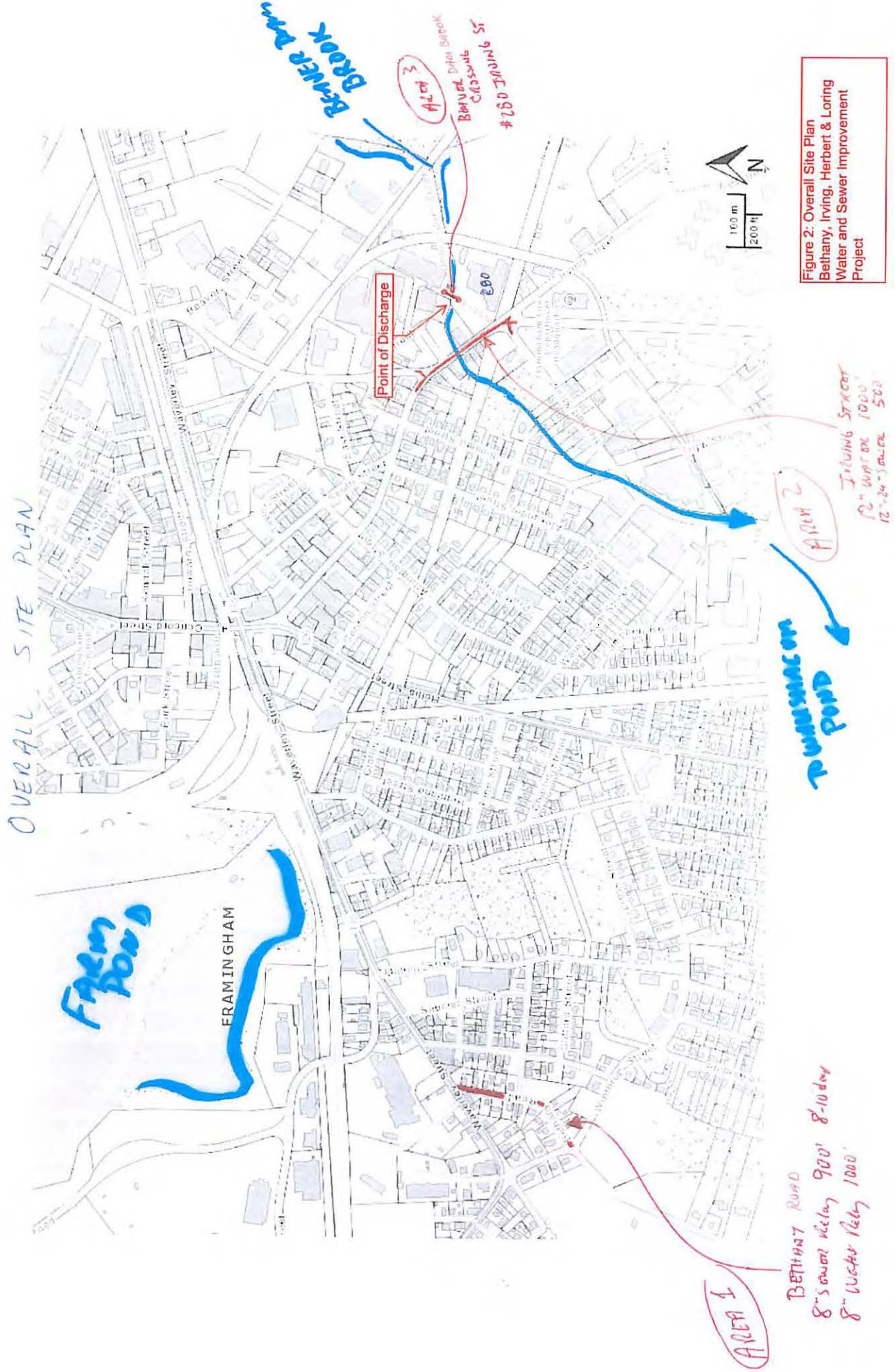
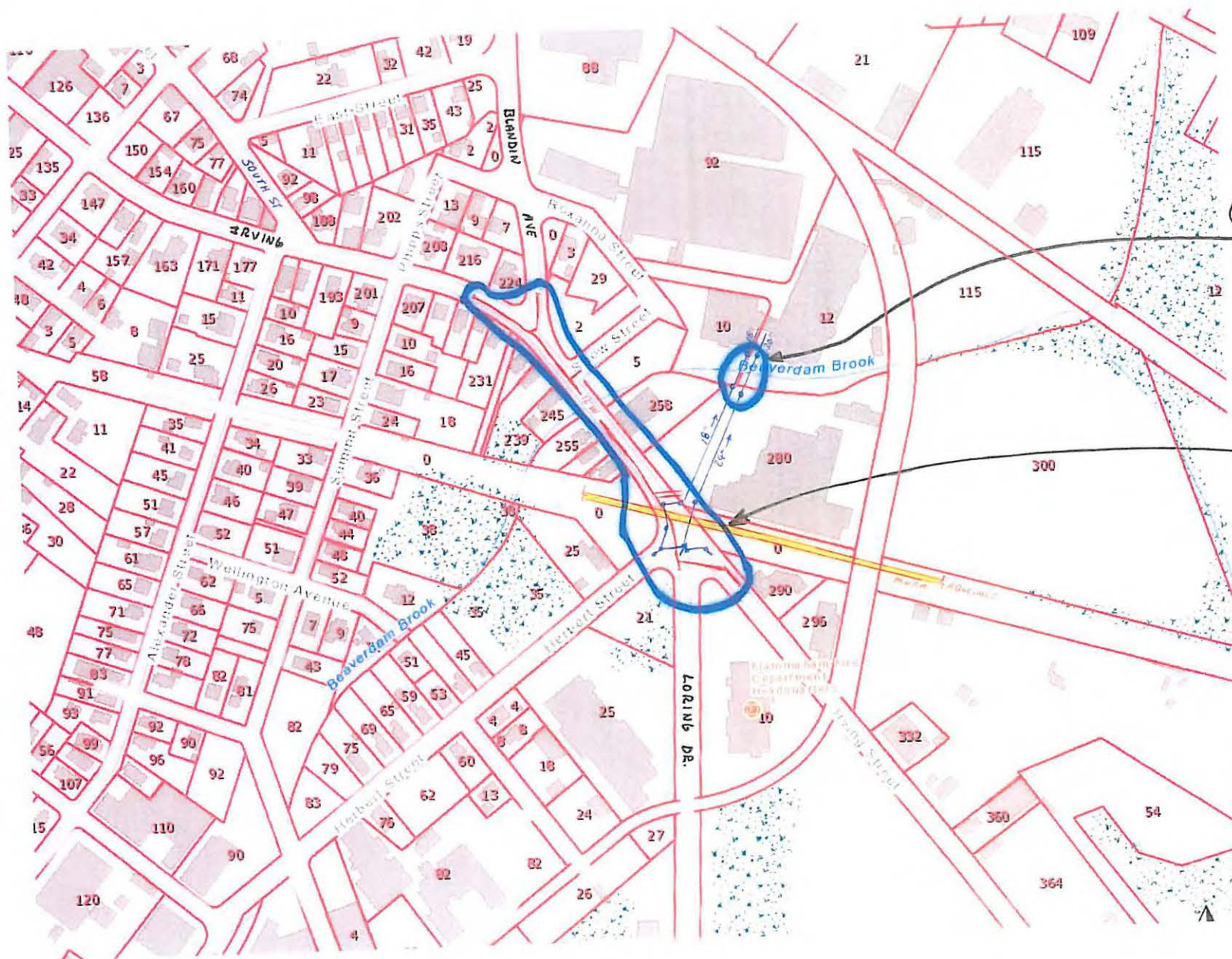


Figure 2: Overall Site Plan
Bethany, Irving, Herbert & Loring
Water and Sewer Improvement
Project



Area 3

Crossing at
Beaverdam
Brook

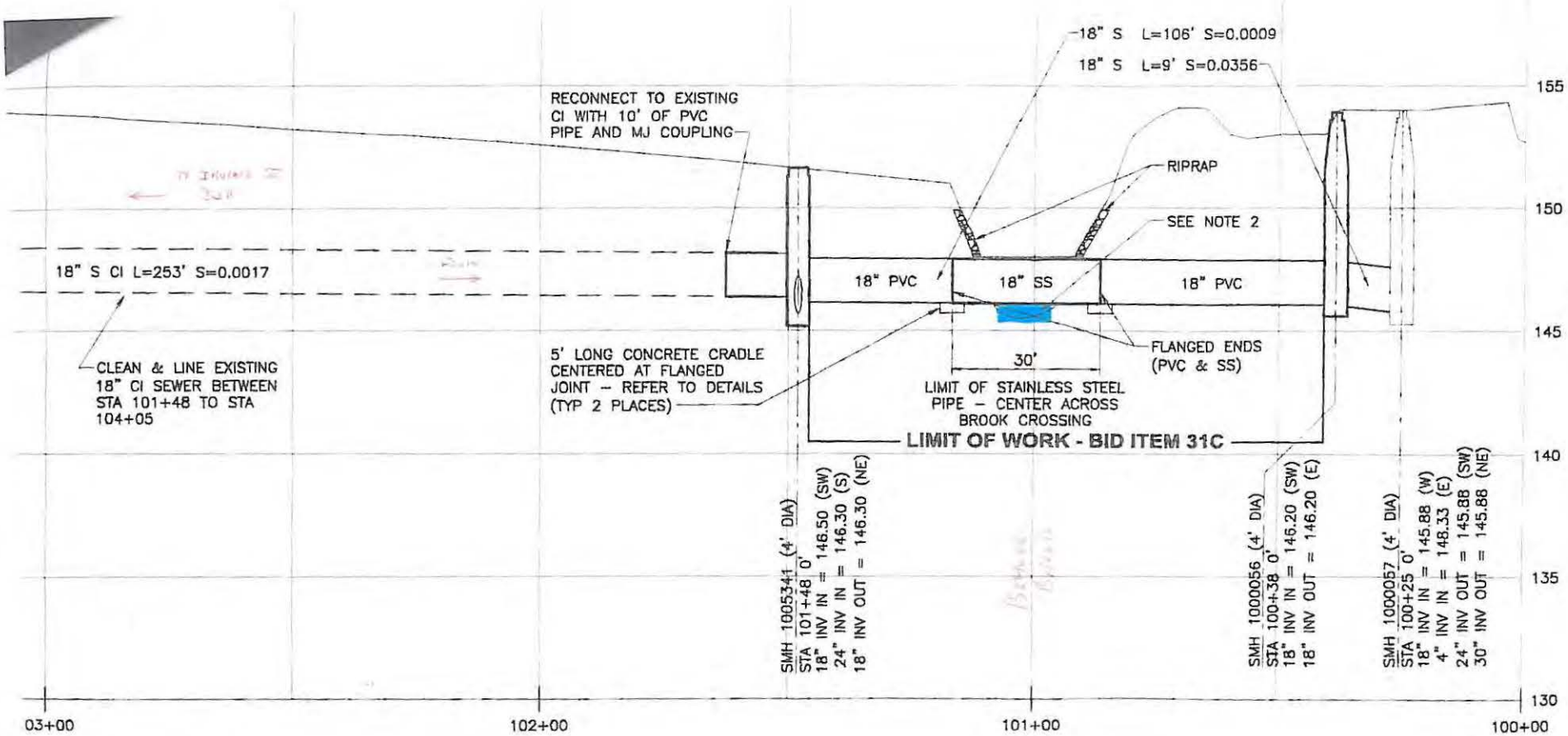
Area 2

Irving St.
Water/Sewer

FRAMINGHAM

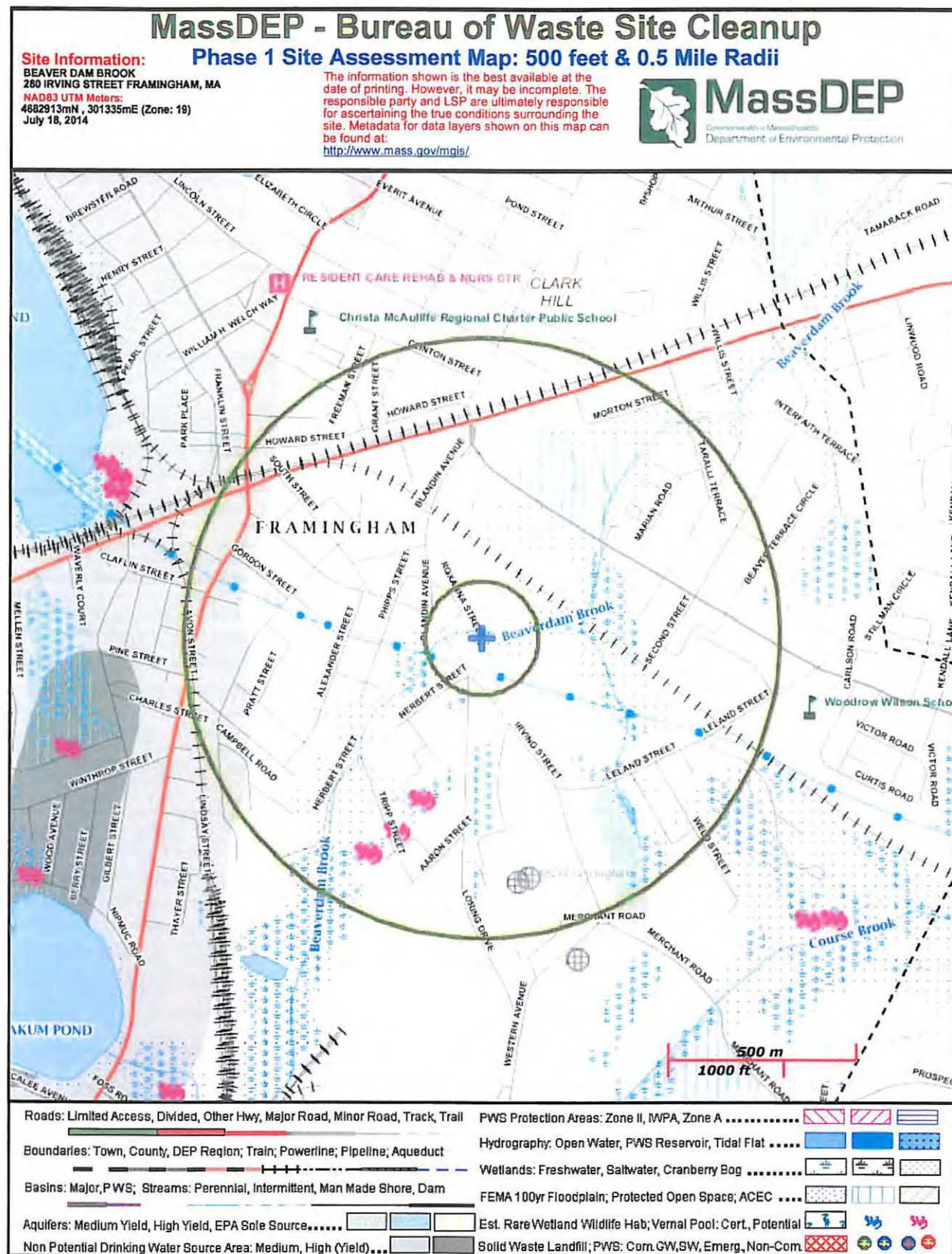
D'Amico

7/15/14



PROFILE

SCALE
VERT=1'-4'
HORIZ=1'-20'



APPENDIX A

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

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

a) Name of facility/site: Construction Site		Facility/site mailing address:	
Location of facility/site:	Facility SIC code(s):	Street:	
longitude: 71.24'31.01"E	N/A	Intersection of Loring Drive and Irving Street (location of site)	
latitude: 42.16'23.4" N			
b) Name of facility/site owner:		Town: Kerry A. Reed, P.E.; Framingham	
Email address of facility/site owner:		State:	Zip:
KR@Framinghamma.gov		MA	01702
Telephone no. of facility/site owner: 508-532-6015		County: Middlesex	
Fax no. of facility/site owner:		Owner is (check one): 1. Federal ☐ 2. State/Tribal ☐	
Address of owner (if different from site):		3. Private ☐ 4. Other ☒ if so, describe:	
		Town	
Street: 100 Western Ave			
Town: Framingham	State: MA	Zip: 01702	County: Middlesex
c) Legal name of operator:		Operator telephone no: 781-961-3700	
J.D'Amico, Inc.		Operator fax no.: 781-986-4667	Operator email: nick@jdamico
Operator contact name and title: Nick Biello			
Address of operator (if different from owner):		Street: 10 York Avenue	
Town: Randolph	State: MA	Zip: 02368	County:

d) Check Y for "yes" or N for "no" for the following:

1. Has a prior NPDES permit exclusion been granted for the discharge? Y ☐ N ☒, if Y, number:

2. Has a prior NPDES application (Form 1 & 2C) ever been filed for the discharge?
Y ☐ N ☒, if Y, date and tracking #:

3. Is the discharge a "new discharge" as defined by 40 CFR 122.2? Y ☒ N ☐

4. For sites in Massachusetts, is the discharge covered under the Massachusetts Contingency Plan (MCP) and exempt from state permitting? Y ☐ N ☒

e) Is site/facility subject to any State permitting, license, or other action which is causing the generation of discharge? Y ☐ N ☒
If Y, please list:
1. site identification # assigned by the state of NH or MA:
2. permit or license # assigned:
3. state agency contact information: name, location, and telephone number:

f) Is the site/facility covered by any other EPA permit, including:
1. Multi-Sector General Permit? Y ☐ N ☒,
if Y, number:
2. Final Dewatering General Permit? Y ☐ N ☒,
if Y, number:
3. EPA Construction General Permit? Y ☐ N ☒,
if Y, number:
4. Individual NPDES permit? Y ☐ N ☒,
if Y, number:
5. any other water quality related individual or general permit? Y ☐ N ☒, if Y, number:

g) Is the site/facility located within or does it discharge to an Area of Critical Environmental Concern (ACEC)? Y ☐ N ☒

h) Based on the facility/site information and any historical sampling data, identify the sub-category into which the potential discharge falls.

Activity Category	Activity Sub-Category
I - Petroleum Related Site Remediation	A. Gasoline Only Sites ☐ B. Fuel Oils and Other Oil Sites (including Residential Non-Business Remediation Discharges) ☐ C. Petroleum Sites with Additional Contamination ☐
II - Non Petroleum Site Remediation	A. Volatile Organic Compound (VOC) Only Sites ☐ B. VOC Sites with Additional Contamination ☐ C. Primarily Heavy Metal Sites ☐
III - Contaminated Construction Dewatering	A. General Urban Fill Sites ☒ B. Known Contaminated Sites ☒

IV - Miscellaneous Related Discharges	A. Aquifer Pump Testing to Evaluate Formerly Contaminated Sites ☐ B. Well Development/Rehabilitation at Contaminated/Formerly Contaminated Sites ☐ C. Hydrostatic Testing of Pipelines and Tanks ☐ D. Long-Term Remediation of Contaminated Sumps and Dikes ☐ E. Short-term Contaminated Dredging Drain Back Waters (if not covered by 401/404 permit) ☐
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2. Discharge information. Please provide information about the discharge, (attaching additional sheets as necessary) including:

a) Describe the discharge activities for which the owner/applicant is seeking coverage:	
Temporary construction dewatering to facilitate installation of sewer and water utilities	
b) Provide the following information about each discharge:	
1) Number of discharge points: 1	2) What is the maximum and average flow rate of discharge (in cubic feet per second, ft ³ /s)? Max. flow 1.1 Is maximum flow a design value ? Y ☐ N ☒ Average flow (include units) 0.37 Is average flow a design value or estimate? estimate
3) Latitude and longitude of each discharge within 100 feet:	
pt.1: lat. 42.16'23.4"N long. 71.24'31.01"E	pt.2: lat. long. ;
pt.3: lat. long.	pt.4: lat. long. ;
pt.5: lat. long.	pt.6: lat. long. ;
pt.7: lat. long.	pt.8: lat. long. ; etc.
4) If hydrostatic testing, total volume of the discharge (gals):	5) Is the discharge intermittent ☒ or seasonal ☐ ? Is discharge ongoing? Y ☐ N ☒
c) Expected dates of discharge (mm/dd/yy): start 12/1/2014 end 3/30/2015	
d) Please attach a line drawing or flow schematic showing water flow through the facility including:	
1. sources of intake water, 2. contributing flow from the operation, 3. treatment units, and 4. discharge points and receiving waters(s) see attached figures	

3. Contaminant information.

a) Based on the sub-category selected (see Appendix III), indicate whether each listed chemical is **believed present** or **believed absent** in the potential discharge. Attach additional sheets as needed.

<u>Parameter *</u>	<u>CAS Number</u>	<u>Believed Absent</u>	<u>Believed Present</u>	<u># of Samples</u>	<u>Sample Type (e.g., grab)</u>	<u>Analytical Method Used (method #)</u>	<u>Minimum Level (ML) of Test Method</u>	<u>Maximum daily value</u>		<u>Average daily value</u>	
								<u>concentration (ug/l)</u>	<u>mass (kg)</u>	<u>concentration (ug/l)</u>	<u>mass (kg)</u>
1. Total Suspended Solids (TSS)		☐	☒	1	grab	SM2540D	4,000 UG/L	14,000	39	14,000	13
2. Total Residual Chlorine (TRC)		☒	☐								
3. Total Petroleum Hydrocarbons (TPH)		☒	☐	1	GRAB	8100M	156 UG/L	101,000	280	101,000	94
4. Cyanide (CN)	57125	☒	☐								
5. Benzene (B)	71432	☒	☐	1	GRAB	SW8260B	2	ND			
6. Toluene (T)	108883	☒	☐	1	GRAB	SW8260B	2	ND			
7. Ethylbenzene (E)	100414	☒	☐	1	GRAB	SW8260B	2	ND			
8. (m,p,o) Xylenes (X)	108883; 106423; 95476; 1330207	☒	☐	1	GRAB	SW8260B	2	ND			
9. Total BTEX ²	n/a	☒	☐	1	GRAB	SW8260B	2	ND			
10. Ethylene Dibromide (EDB) (1,2-Dibromoethane) ³	106934	☒	☐	1	GRAB	SW8260B	2	ND			
11. Methyl-tert-Butyl Ether (MtBE)	1634044	☒	☐	1	GRAB	SW8260B	2	ND			
12. tert-Butyl Alcohol (TBA) (Tertiary-Butanol)	75650	☒	☐	1	GRAB	SW8260B	2	ND			

* Numbering system is provided to allow cross-referencing to Effluent Limits and Monitoring Requirements by Sub-Category included in Appendix III, as well as the Test Methods and Minimum Levels associated with each parameter provided in Appendix VI.

² BTEX = Sum of Benzene, Toluene, Ethylbenzene, total Xylenes.

³ EDB is a groundwater contaminant at fuel spill and pesticide application sites in New England.

<u>Parameter *</u>	<u>CAS Number</u>	<u>Believed Absent</u>	<u>Believed Present</u>	<u># of Samples</u>	<u>Sample Type (e.g., grab)</u>	<u>Analytical Method Used (method #)</u>	<u>Minimum Level (ML) of Test Method</u>	<u>Maximum daily value</u>		<u>Average daily value</u>	
								<u>concentration (ug/l)</u>	<u>mass (kg)</u>	<u>concentration (ug/l)</u>	<u>mass (kg)</u>
13. tert-Amyl Methyl Ether (TAME)	9940508	☒	☐	1	GRAB	SW8260B	2	ND			
14. Naphthalene	91203	☒	☐	1	GRAB	SW8260B	2	ND			
15. Carbon Tetrachloride	56235	☒	☐	1	GRAB	SW8260B	2	ND			
16. 1,2 Dichlorobenzene (o-DCB)	95501	☒	☐	1	GRAB	SW8260B	2	ND			
17. 1,3 Dichlorobenzene (m-DCB)	541731	☒	☐	1	GRAB	SW8260B	2	ND			
18. 1,4 Dichlorobenzene (p-DCB)	106467	☒	☐	1	GRAB	SW8260B	2	ND			
18a. Total dichlorobenzene		☒	☐	1	GRAB	SW8260B	2	ND			
19. 1,1 Dichloroethane (DCA)	75343	☒	☐	1	GRAB	SW8260B	2	ND			
20. 1,2 Dichloroethane (DCA)	107062	☒	☐	1	GRAB	SW8260B	2	ND			
21. 1,1 Dichloroethene (DCE)	75354	☒	☐	1	GRAB	SW8260B	2	ND			
22. cis-1,2 Dichloroethene (DCE)	156592	☒	☐	1	GRAB	SW8260B	2	ND			
23. Methylene Chloride	75092	☒	☐	1	GRAB	SW8260B	2	ND			
24. Tetrachloroethene (PCE)	127184	☒	☐	1	GRAB	SW8260B	2	ND			
25. 1,1,1 Trichloro-ethane (TCA)	71556	☒	☐	1	GRAB	SW8260B	2	ND			
26. 1,1,2 Trichloro-ethane (TCA)	79005	☒	☐	1	GRAB	SW8260B	2	ND			
27. Trichloroethene (TCE)	79016	☒	☐	1	GRAB	SW8260B	2	ND			

<u>Parameter *</u>	<u>CAS Number</u>	<u>Believed Absent</u>	<u>Believed Present</u>	<u># of Samples</u>	<u>Sample Type (e.g., grab)</u>	<u>Analytical Method Used (method #)</u>	<u>Minimum Level (ML) of Test Method</u>	<u>Maximum daily value</u>		<u>Average daily value</u>	
								<u>concentration (ug/l)</u>	<u>mass (kg)</u>	<u>concentration (ug/l)</u>	<u>mass (kg)</u>
28. Vinyl Chloride (Chloroethene)	75014	☒	☐	1	GRAB	SW8260B	2	ND			
29. Acetone	67641	☒	☐	1	GRAB	SW8260B	2	ND			
30. 1,4 Dioxane	123911	☒	☐	1	GRAB	SW8260B	500	ND			
31. Total Phenols	108952	☒	☐								
32. Pentachlorophenol (PCP)	87865	☒	☐								
33. Total Phthalates (Phthalate esters) ⁴		☒	☐								
34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate]	117817	☒	☐								
35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)		☒	☐	1	GRAB	SW3510	1	ND			
a. Benzo(a) Anthracene	56553	☒	☐	1	GRAB	SW3510	0.11	ND			
b. Benzo(a) Pyrene	50328	☒	☐	1	GRAB	SW3510	0.11	ND			
c. Benzo(b)Fluoranthene	205992	☒	☐	1	GRAB	SW3510	0.55	ND			
d. Benzo(k)Fluoranthene	207089	☒	☐	1	GRAB	SW3510	0.55	ND			
e. Chrysene	21801	☒	☐	1	GRAB	SW3510	1	ND			
f. Dibenzo(a,h)anthracene	53703	☒	☐	1	GRAB	SW3510	0.1	ND			
g. Indeno(1,2,3-cd) Pyrene	193395	☒	☐	1	GRAB	SW3510	1	ND			
36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)		☒	☐	1	GRAB	SW3510	1	ND			

⁴ The sum of individual phthalate compounds.

<u>Parameter *</u>	<u>CAS Number</u>	<u>Believed Absent</u>	<u>Believed Present</u>	<u># of Samples</u>	<u>Sample Type (e.g., grab)</u>	<u>Analytical Method Used (method #)</u>	<u>Minimum Level (ML) of Test Method</u>	<u>Maximum daily value</u>		<u>Average daily value</u>	
								<u>concentration (ug/l)</u>	<u>mass (kg)</u>	<u>concentration (ug/l)</u>	<u>mass (kg)</u>
h. Acenaphthene	83329	☒	☐	1	GRAB	SW3510	1	ND			
i. Acenaphthylene	208968	☒	☐	1	GRAB	SW3510	1	ND			
j. Anthracene	120127	☒	☐	1	GRAB	SW3510	1	ND			
k. Benzo(ghi) Perylene	191242	☒	☐	1	GRAB	SW3510	1	ND			
l. Fluoranthene	206440	☒	☐	1	GRAB	SW3510	1	ND			
m. Fluorene	86737	☒	☐	1	GRAB	SW3510	1	ND			
n. Naphthalene	91203	☒	☐	1	GRAB	SW3510	1	ND			
o. Phenanthrene	85018	☒	☐	1	GRAB	SW3510	1	ND			
p. Pyrene	129000	☒	☐	1	GRAB	SW3510	1	ND			
37. Total Polychlorinated Biphenyls (PCBs)	85687; 84742; 117840; 84662; 131113; 117817.	☒	☐					ND			
38. Chloride	16887006	☒	☐	1	GRAB	L-10-117-07-1-B	10,000	702	1.95	702	0.65
39. Antimony	7440360	☒	☐	1	GRAB	SW6010C	10	ND			
40. Arsenic	7440382	☒	☐	1	GRAB	SW6010C	10	57	0.16	57	0.05
41. Cadmium	7440439	☒	☐	1	GRAB	SW6010C	10	ND			
42. Chromium III (trivalent)	16065831	☒	☐	1	GRAB	SW6010C	10	ND			
43. Chromium VI (hexavalent)	18540299	☒	☐	1	GRAB	SW6010C	10	ND			
44. Copper	7440508	☒	☐	1	GRAB	SW6010C	10	ND			
45. Lead	7439921	☐	☒	2	GRAB	SW3010A/SW6010C	50	102	0.28	102	0.09
46. Mercury	7439976	☒	☐	1	GRAB	7470A	10	ND			
47. Nickel	7440020	☒	☐	1	GRAB	SW6010C	10	ND			
48. Selenium	7782492	☒	☐	1	GRAB	SW6010C	10	ND			
49. Silver	7440224	☒	☐	1	GRAB	SW6010C	10	ND			
50. Zinc	7440666	☒	☐								
51. Iron	7439896	☒	☐								
Other (describe):		☐	☐								

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
		☐	☐								
		☐	☐								

b) For discharges where **metals** are believed present, please fill out the following (attach results of any calculations):

Step 1: Do any of the metals in the influent exceed the effluent limits in Appendix III (i.e., the limits set at zero dilution)? Y ☒ N ☐	If yes, which metals? ARSENIC
Step 2: For any metals which exceed the Appendix III limits, calculate the dilution factor (DF) using the formula in Part I.A.3.c (step 2) of the NOI instructions or as determined by the State prior to the submission of this NOI. What is the dilution factor for applicable metals? Metal: ARSENIC DF: 1.0 Metal: _____ DF: _____ Metal: _____ DF: _____ Metal: _____ DF: _____ Etc.	Look up the limit calculated at the corresponding dilution factor in Appendix IV . Do any of the metals in the influent have the potential to exceed the corresponding effluent limits in Appendix IV (i.e., is the influent concentration above the limit set at the calculated dilution factor)? Y ☒ N ☐ If Y, list which metals: ARSENIC

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

a) A description of the treatment system, including a schematic of the proposed or existing treatment system: Dewatering effluent will be passed through a fractionation tank to settle and bag filters to remove suspended solids.						
b) Identify each applicable treatment unit (check all that apply):	Frac. tank ☒	Air stripper ☐	Oil/water separator ☐	Equalization tanks ☐	Bag filter ☒	GAC filter ☐
	Chlorination ☐	De-chlorination ☐	Other (please describe):			

c) Proposed **average** and **maximum flow rates** (gallons per minute) for the discharge and the **design flow rate(s)** (gallons per minute) of the treatment system:

Average flow rate of discharge 10 gpm Maximum flow rate of treatment system 50 gpm

Design flow rate of treatment system N/A gpm

d) A description of chemical additives being used or planned to be used (attach MSDS sheets):

None, at this time.

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

a) Identify the discharge pathway:	Direct to receiving water ☐	Within facility (sewer) ☐	Storm drain ☒	Wetlands ☐	Other (describe): <u></u>
------------------------------------	--	--	---	-----------------------------------	------------------------------

b) Provide a narrative description of the discharge pathway, including the name(s) of the receiving waters:

Discharge to catchbasin in Irving Street that leads to Beaver Dam Brook

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

1. For multiple discharges, number the discharges sequentially.

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

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

d) Provide the state water quality classification of the receiving water B

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

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

f) Is the receiving water a listed 303(d) water quality impaired or limited water? Y ☐ N ☒ If yes, for which pollutant(s)?

Is there a final TMDL? Y ☐ N ☒ If yes, for which pollutant(s)?

6. ESA and NHPA Eligibility.

Please provide the following information according to requirements of Permit Parts I.A.4 and I.A.5 Appendices II and VII.

a) Using the instructions in Appendix VII and information on Appendix II, under which criterion listed in Part I.C are you eligible for coverage under this general permit?

A ☒ B ☐ C ☐ D ☐ E ☐ F ☐

b) If you selected Criterion D or F, has consultation with the federal services been completed? Y ☐ N ☐ Underway ☐

c) If consultation with U.S. Fish and Wildlife Service and/or NOAA Fisheries Service was completed, was a written concurrence finding that the discharge is "not likely to adversely affect" listed species or critical habitat received? Y ☐ N ☐

d) Attach documentation of ESA eligibility as described in the NOI instructions and required by Appendix VII, Part I.C, Step 4.

e) Using the instructions in Appendix VII, under which criterion listed in Part II.C are you eligible for coverage under this general permit?

1 ☒ 2 ☐ 3 ☐

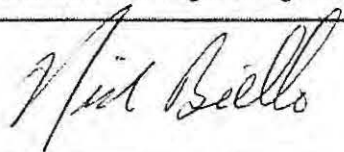
f) If Criterion 3 was selected, attach all written correspondence with the State or Tribal historic preservation officers, including any terms and conditions that outline measures the applicant must follow to mitigate or prevent adverse effects due to activities regulated by the RGP.

7. Supplemental information.

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

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

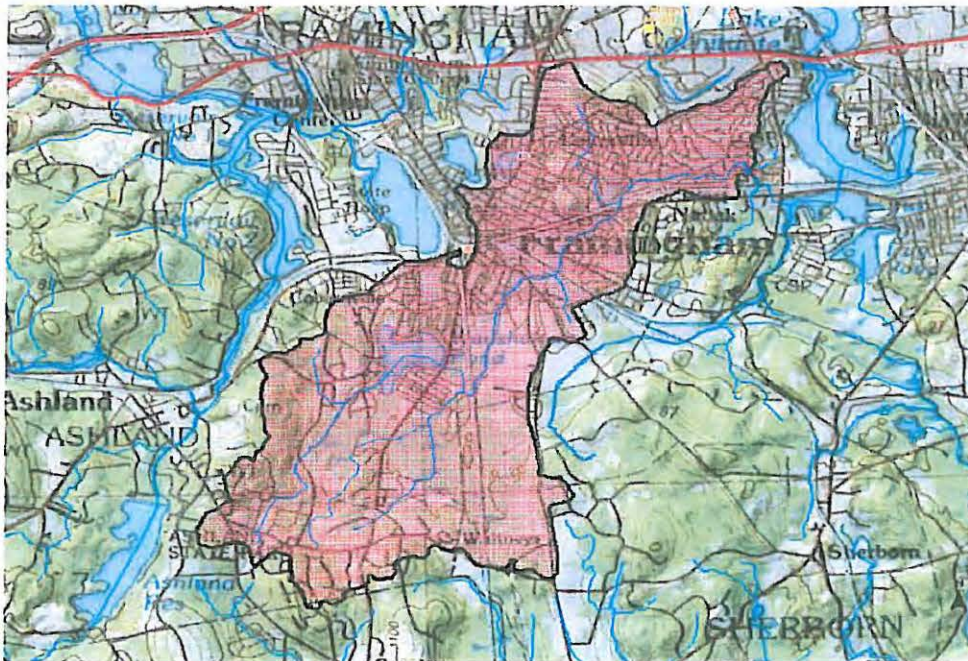
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage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

Facility/Site Name:	Construction Site, Irving & Loring Ave, Framingham, MA
Operator signature:	
Printed Name & Title:	Nick Biello
Date:	8/22/14



Massachusetts StreamStats

StreamStats Print Page



- Explanation**
- ◆ NHDHOGage
 - ◆ NHDHDam
 - ▲ Gaging Station, Continuous Record
 - Low Flow, Partial Record
 - ▲ Peak Flow, Partial Record
 - Peak and Low Flow, Partial Record
 - ▲ Stage Only
 - ▲ Low Flow, Partial Record, Stage
 - Miscellaneous Record
 - ▲ Unknown
 - ☆ GlobalWatershedPoint
 - Dendritic Stream Network
 - GlobalWatershed
 - ⊗ Excludepoly

1 0.5 0 1 Miles

10/16/2014 12:06:53 PM



Massachusetts StreamStats

Streamstats Ungaged Site Report

Date: Thu Oct 16 2014 12:07:40 Mountain Daylight Time

Site Location: Massachusetts

NAD27 Latitude: 42.2857 (42 17 08)

NAD27 Longitude: -71.3800 (-71 22 48)

NAD83 Latitude: 42.2857 (42 17 09)

NAD83 Longitude: -71.3795 (-71 22 46)

ReachCode: 01070005000219

Measure: 8.98

Drainage Area: 7.02 mi²

Percent Urban: 65.1 %

Percent Impervious: 32.8 %

Low Flows Basin Characteristics			
100% Statewide Low Flow (7.02 mi ²)			
Parameter	Value	Regression Equation Valid Range	
		Min	Max
Drainage Area (square miles)	7.02	1.61	149
Mean Basin Slope from 250K DEM (percent)	1.68	0.32	24.6
Stratified Drift per Stream Length (square mile per mile)	0.41	0	1.29
Massachusetts Region (dimensionless)	0	0	1

Probability of Perennial Flow Basin Characteristics			
100% Perennial Flow Probability (7.02 mi ²)			
Parameter	Value	Regression Equation Valid Range	
		Min	Max
Drainage Area (square miles)	7.02 (above max value 1.99)	0.01	1.99
Percent Underlain By Sand And Gravel (percent)	66.10	0	100
Percent Forest (percent)	30.14	0	100
Massachusetts Region (dimensionless)	0	0	1

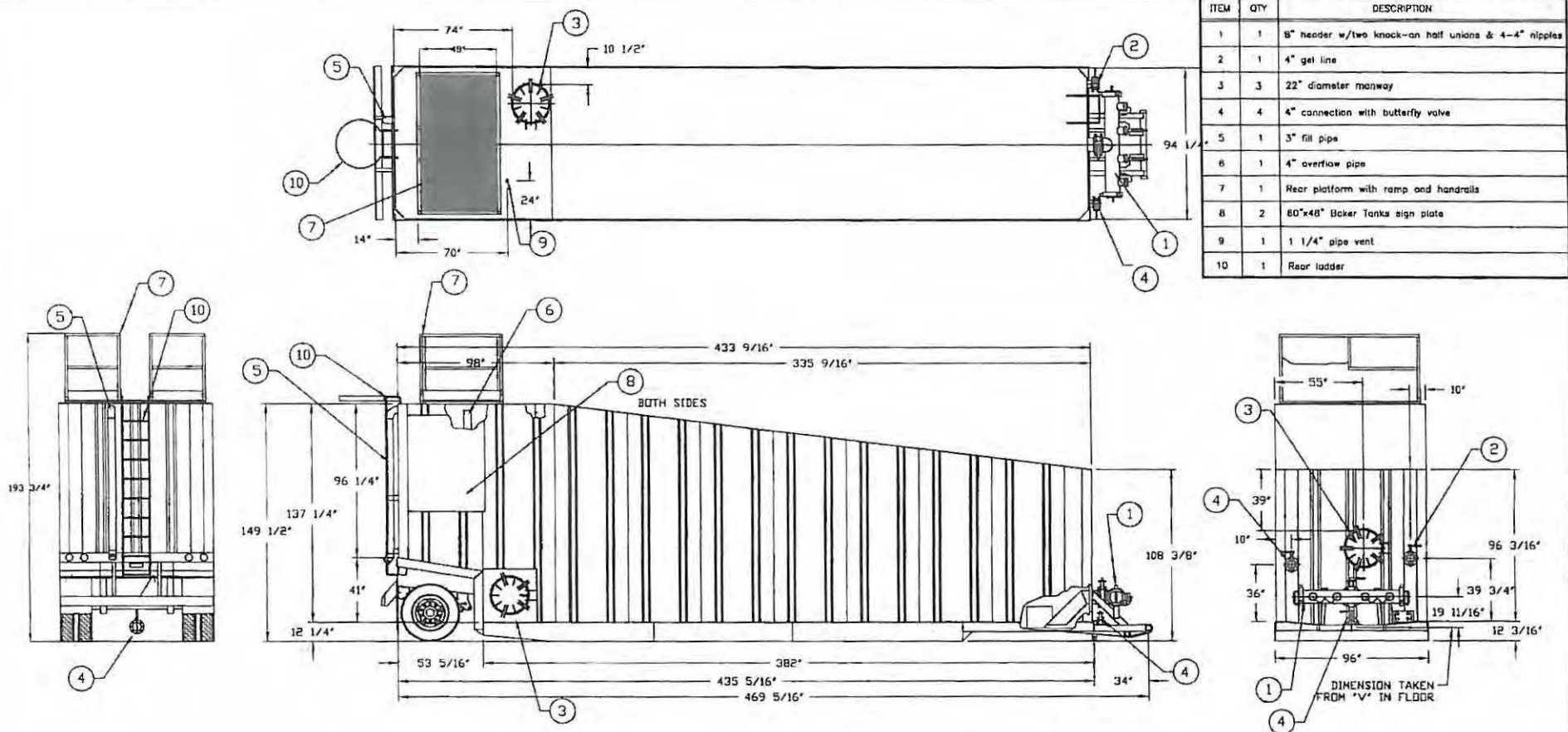
Warning: Some parameters are outside the suggested range. Estimates will be extrapolations with unknown errors.

Low Flows Streamflow Statistics					
Statistic	Flow (ft ³ /s)	Prediction Error (percent)	Equivalent years of record	90-Percent Prediction Interval	
				Minimum	Maximum
D50	6.97	18		3.72	13
D60	5.44	20		1.89	15.5
D70	3.84	24		1.53	9.55
D75	3.12	26		1.29	7.49
D80	2.77	28		1.2	6.29
D85	2.07	32		0.82	5.14
D90	1.71	37		0.68	4.21
D95	0.98	46		0.33	2.86
D98	0.65	60		0.19	2.09
D99	0.48	65		0.13	1.66
M7D2Y	1.01	49		0.33	2.99

AUGD50	2.27	33	0.87	5.82
M7D10Y	0.46	71	0.12	1.67

The equation for estimating the probability of perennial flow is applicable for most areas of Massachusetts except eastern Buzzards Bay, Cape Cod, and the Island regions. The estimate obtained from the equation assumes natural flow conditions at the site. The equation also is best used for sites with drainage areas between 0.01 to 1.99 mi², as errors beyond for basins beyond these bounds are unknown.

Probability of Perennial Flow Statistics		
Statistic	Value	Standard Error (percent)
PROBPEREN	0.99	



ITEM	QTY	DESCRIPTION
1	1	8" header w/two knock-on half unions & 4-4" nipples
2	1	4" gel line
3	3	22" diameter manway
4	4	4" connection with butterfly valve
5	1	3" fill pipe
6	1	4" overflow pipe
7	1	Rear platform with ramp and handrails
8	2	60"x48" Baker Tanks sign plate
9	1	1 1/4" pipe vent
10	1	Rear ladder

SPECIFICATIONS:

- 1) Tank Capacity: 21,000 gallons (500 BBL)
- 2) Tank Weight: 18,000 lbs. (empty)

NOTES:

1. This drawing is a baseline representation for this model of tank. Variations between this drawing and the actual equipment in the field can and do exist, primarily with appurtenance locations, sizes and quantities. Consult your local BakerCorp representative if specific needs exist.
2. THIS TANK IS **NOT DESIGNED FOR TRANSPORTING LIQUIDS**. It should be moved only when empty.

The information contained herein is proprietary to Baker Tanks and shall not be reproduced or disclosed in whole or in part, or used for any design or manufacture except when user obtains direct written authorization from Baker Tanks.

BAKER CORP

3020 OLD RANCH PARKWAY
SEAL BEACH, CA 90740-2751

G		SCALE:	SIZE	ORIGINAL DWG. DATE
F		Do Not Scale	B	16 JUL 02
E		DRAWN BY:	APPROVED BY:	CAT/CLASS
D		P.J.B.		--
C		TITLE		SHEET
B		VE ENTERPRISES FRAC TANK		1 of 1
A		DRAWING NO.		REV.
REV.	DESCRIPTION	DATE	BY	
			S-2-M0004-1-	0



Pumped Sediment Removal System

Whenever accumulated water must be pumped!

Protect the environment effectively and economically with Dirtbag®! Collect sand, silt and fines. Avoid silting streams, surrounding property and storm sewers. As more and more emphasis is put on saving our wetlands, regulations are becoming more stringent regarding the pumping of dirty water from holes around construction sites—such as foundations, pipe line construction, repairing municipal water/sewer lines, marine construction, utility, highway and site development areas. Dirtbag® applications are endless.

Use Recommendations

ACF Environmental manufactures Dirtbag® using a variety of woven and nonwoven geotextile fabrics. The fabric properties on the Specifications page affirm the strength of Dirtbag® and are a result of tests conducted at on-site laboratories at the geotextile factory. All test methods are ASTM or industry standards.

Each standard Dirtbag® has a fill spout large enough to accommodate a 4" discharge hose. Straps are attached to secure the hose and prevent pumped water from escaping without being filtered.

Strap the neck of Dirtbag® tightly to the discharge hose. To increase the efficiency of filtration, place the bag on an aggregate or haybale bed to maximize water flow through the surface area of the bag.



Dirtbag® is full when it no longer can efficiently filter sediment or pass water at a reasonable rate. Flow rates will vary depending on the size of Dirtbag®, the type and amount of sediment discharged into Dirtbag, the type of ground, rock or other substance under the bag. Under most circumstances Dirtbag® will accommodate flow rates of 750 gallons per minute. Use of excessive flow rates or overfilling Dirtbag® with sediment will cause ruptures of the bags or failure of the hose attachment straps.

Dirtbag must be monitored during use.

Easy To Use

First, Dirtbag® is easy to transport to the site. To install, simply unfold and insert up to 4" pump discharge the hose into the hand-sewn spout and secure with the attached straps. Pump dirty water into Dirtbag®. The bag collects sediment silt as the clean water gently filters out from all sides.

Compare Dirtbag® to the alternatives such as straw bale forts which are more cumbersome to transport, to build and to clean afterward. Best of all, Dirtbag® poses no threat to the environment when disposed properly.

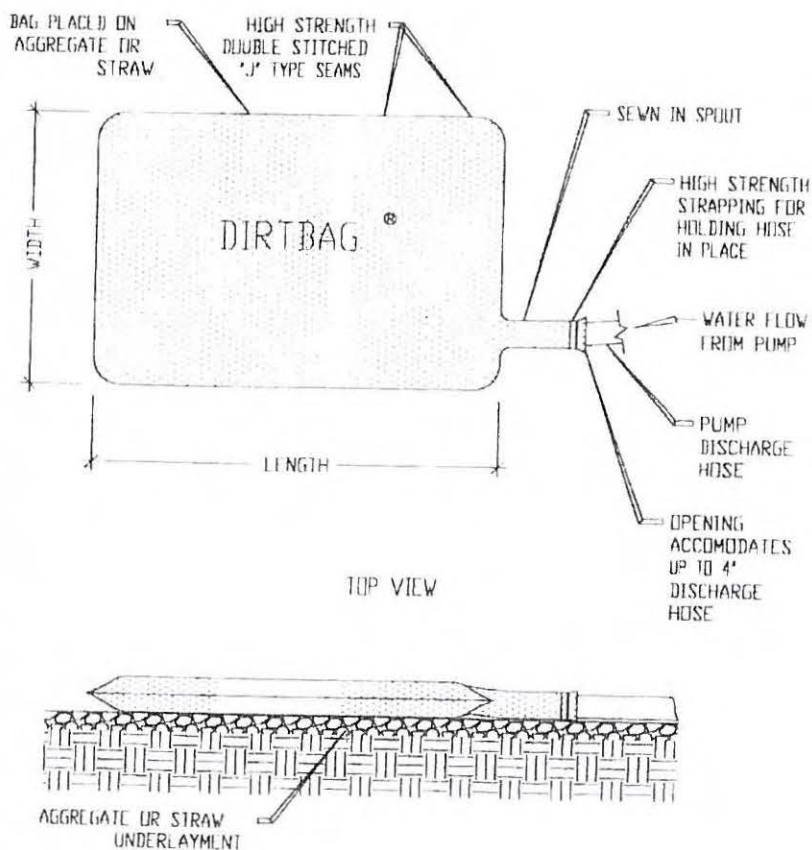
Dirtbag® Features

- Designed and produced from a variety of fabrics to meet engineering specifications for flow rates, strength and permeability.
- Stabilized to provide resistance to ultra-violet degradation.
- Meets municipal, state and Corps of Engineers specifications.
- Available in 10'x15', 12 ½' x 15' and 15' x 15' sizes. Custom sizes available.

Hillside Installation on Straw Underlayment



Typical Dirtbag® Construction



Dirtbag® Specification Control of Sediment In Pumped Water

All properties are Minimum Average Roll Value (MARV) except the weight of the fabric which is given for information only. Depending on soil conditions and filtration requirements, additional geotextile options are available. Please call our engineering staff for solutions.

1.0 Description

- 1.1 This work shall consist of furnishing, placing and removing Dirtbag® pumped sediment control device as directed by the design engineer or as shown on the contract drawings. Dirtbag® pumped-silt control system is marketed by:

*ACF Environmental, Inc.
2831 Cardwell Road
Richmond, Virginia 23234
Phone: 800-448-3636 • Fax: 804-743-7779
www.acfenvironmental.com*

2.0 Materials

2.1 Dirtbag®

- 2.1.1 Dirtbag® shall be manufactured using a polypropylene nonwoven geotextile sewn into a bag with a double needle matching using a high strength thread.
- 2.1.2 Each standard Dirtbag® has a fill spout large enough to accommodate a 4" discharge hose. Straps are attached to secure the hose and prevent pumped water from escaping without being filtered.
- 2.1.3 Dirtbag® seams shall have an average wide width strength per ASTM D-4884 as follows:

Dirtbag® Style	Test Method	Test Method
Dirtbag® 53	ASTM D-4884	60 lbs./in
Dirtbag® 55	ASTM D-4884	100 lbs./in

Property	Test Method	Units	Test Results	
			Style 53	Style 55
Weight	ASTM D-3776	oz/yd	8	10
Grab Tensile	ASTM D-4632	lbs	205	250
Puncture	ASTM D-4833	lbs	110	150
Flow Rate	ASTM D-4491	gal/min/ft²	110	85
Permittivity	ASTM D-4491	sec.¹	1.5	1.2
Mullen Burst	ASTM D-3786	lbs. in²	350	460
UV Resistant	ASTM D-4355	%	70	70
AOS % Retained	ASTM D-4751	US Sieve	80	100

3.0 Construction Sequence

- 3.1.1 To install Dirtbag® on a slope so incoming water flows downhill through Dirtbag® without creating more erosion. Strap the neck of Dirtbag® tightly to the discharge hose. To increase the efficiency of filtration, place the bag on an aggregate or haybale bed to maximize water flow through the surface area of the bag.
- 3.1.2 Dirtbag® is full when it no longer can efficiently filter sediment or allow water to pass at a reasonable rate. Flow rates will vary depending on the size of Dirtbag®, the type and amount of sediment discharged into Dirtbag®, the type of ground, rock or other substance under the bag and the degree of the slope on which the bag lies. Under most circumstances Dirtbag® will accommodate flow rates of 750 gallons per minute. Use of excessive flow rates or overfilling Dirtbag® with sediment will cause the bag to rupture or failure of the hose attachment straps.

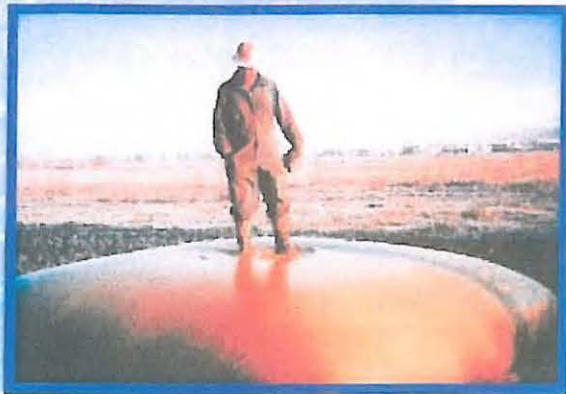
*Must be monitored during use.

- 3.1.3 Dispose Dirtbag® as directed by the site engineer. If allowed, Dirtbag® may be cut open and the contents seeded after removing visible fabric. Dirtbag® is strong enough to be lifted with optional straps if it must be hauled away. Off-site disposal may be facilitated by placing Dirtbag® in the back of a dump truck or flatbed prior to use and allowing the water to drain from the bag while in place, thereby eliminating the need to lift Dirtbag®.

4.0 Basis of Payment

- 4.1 The payment for any Dirtbag® used during construction is to be included in the bid of overall erosion and sediment control plan unless a unit price is requested.

*ACF Environmental is not liable for failures or misuse of the Dirtbag®.

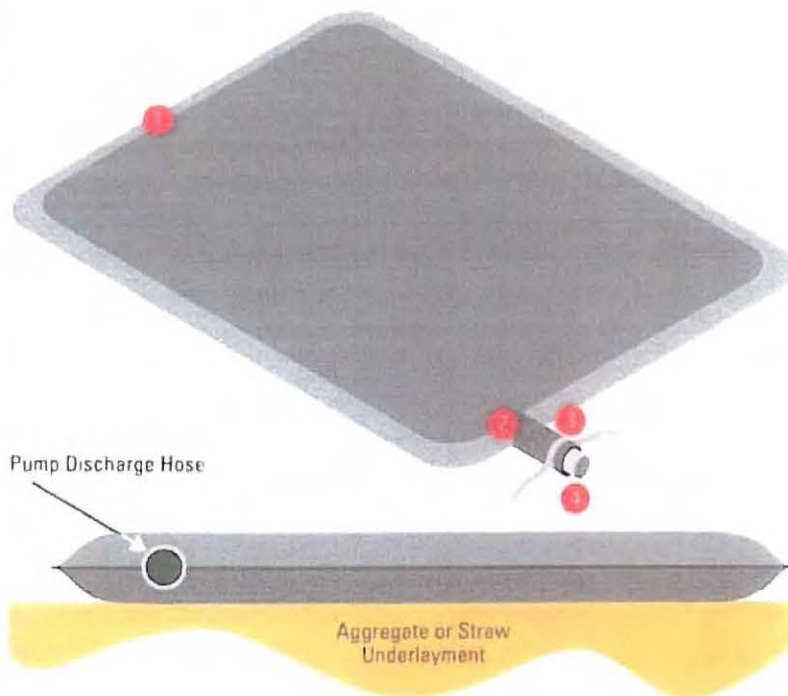


Above: Dirtbag® installation shown on inclined hillside for maximum flow.

Dirtbag® Features:

1. High strength double stitched "J" type seams.
2. Sewn in spout.
3. High strength strapping for holding hose in place.
4. Hose opening accommodate up to 4" discharge hose.

For optimal flow, install over straw or aggregate.



Disposal

Dispose of Dirtbag® as directed by the site engineer. If allowed, Dirtbag® may be cut open and the contents seeded after removing visible fabric. Dirtbag® is strong enough to be lifted with optional straps if it must be hauled away. Off-site disposal may be facilitated by placing Dirtbag® in the back of a dump truck or flatbed prior to use and allowing the water to drain from the bag while in place, thereby eliminating the need to lift Dirtbag®.



Customer Focused, Environmentally Committed
2831 Cardwell Road
Richmond, Virginia 23234
(800) 448-3636 • FAX (804) 743-7779
www.acfenvironmental.com

ACF Environmental

"Complete Source for Stormwater Solutions"

Distributed by:

APPENDIX B

ANALYTICAL REPORT



Wednesday, October 08, 2014

Ralph Tella
Lord Associates, Inc.
1506 Providence Highway
Suite 30
Norwood, MA 02062-4647

GeoLabs, Inc.
45 Johnson Lane
Braintree MA 02184
Tele: 781 848 7844
Fax: 781 848 7811

TEL: (781) 255-5554

FAX: (781) 255-5535

Project: 2137

Location:

Order No.: 1409220

Dear Ralph Tella:

GeoLabs, Inc. received 1 sample(s) on 9/30/2014 for the analyses presented in the following report.

The laboratory results in this report relate only to samples submitted. All data for associated QC met method or laboratory specifications, except where noted in the Case Narrative.

Analytical methods and results meet requirements of 310CMR 40.1056(J) as per MADEP Compendium of Analytical Methods (CAM).

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

David Mick
Laboratory Director

For current certifications, please visit our website at www.geolabs.com

Certifications:

CT (PH-0148) - MA (M-MA015) - NH (2508) - RI (LA000252)

MassDEP Analytical Protocol Certification Form						
Laboratory Name: GeoLabs, Inc.			Project #: 2137			
Project Location:			RTN:			
This form provides certification for the following data set: 1409220-001						
Matrices: ☒ Groundwater/Surface Water ☐ Soil/Sediment ☐ Drinking Water ☐ Air ☐ Other						
CAM Protocol (check all that apply below):						
8260 VOC CAM II A ☒	7470/7471 Hg CAM III B ☐	MassDEP VPH CAM IV A ☐	8081 Pesticides CAM V B ☐	7196 Hex Cr CAM VI B ☐	MassDEP 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 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 ☐ No ☐ Yes ☐ 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 are required for "Presumptive Certainty" status						
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?					☒ Yes ☐ No
Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40.1056 (2) (k) and WSC-07-350.						
H	Were all QC performance standards as 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 laboratory 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: David Mick			Date: October 8, 2014			

Date: 08-Oct-14

CLIENT: Lord Associates, Inc.
Project: 2137
Lab Order: 1409220

CASE NARRATIVE

Physical Condition of Samples

The project was received by the laboratory in satisfactory condition. The sample(s) were received undamaged, in appropriate containers with the correct preservation.

Project Documentation

The project was accompanied by satisfactory Chain of Custody documentation.

Analysis of Sample(s)

Select metals reported via method 6010C, per client request.

All extractable samples were extracted and analyzed and any Volatile samples were analyzed within method specified holding times and according to GeoLabs documented Standard Operating Procedure. The following analytical anomalies or non-conformances were noted by the laboratory during the processing of these samples:

See QC to review spike & RPD % recoveries outside of recovery limits.

Limits for 1,1,2,2-Tetrachloroethane, 1,4-Dioxane, cis-1,2-Dichloropropene, Dibromochloromethane, and trans-1,3-Dichloropropene do not meet MCP limits.

SIGNATURE:



LAB DIRECTOR

PRINTED NAME: David Mick

DATE: 10/08/14

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date: 08-Oct-14

CLIENT: Lord Associates, Inc.
Project: 2137

Lab Order: 1409220

Lab ID: 1409220-001

Collection Date: 9/30/2014 9:00:00 AM

Client Sample ID: MW-7

Matrix: GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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TOTAL SUSPENDED SOLIDS - SM2540D

Analyst: CR

Prep Method:

Prep Date:

Total Suspended Solids	14.0	4.00		mg/L	1	10/3/2014
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TOTAL PETROLEUM HYDROCARBONS - 8100M

Analyst: KG

Prep Method: (8100M)

Prep Date: 10/3/2014 11:46:09 AM

Total Petroleum Hydrocarbons	ND	0.156		mg/L	1	10/3/2014
Surr: o-Terphenyl	101	40-140		%REC	1	10/3/2014

TOTAL METALS BY ICP - SW6010C

Analyst: QS

Prep Method: (SW3010A)

Prep Date: 10/2/2014 12:04:16 PM

Antimony	ND	0.0100		mg/L	1	10/2/2014
Arsenic	0.0570	0.0100		mg/L	1	10/2/2014
Cadmium	ND	0.0100		mg/L	1	10/2/2014
Chromium	ND	0.0100		mg/L	1	10/2/2014
Copper	ND	0.0100		mg/L	1	10/2/2014
Lead	ND	0.0100		mg/L	1	10/2/2014
Nickel	ND	0.0100		mg/L	1	10/2/2014
Selenium	ND	0.0100		mg/L	1	10/2/2014
Silver	ND	0.0100		mg/L	1	10/2/2014

TOTAL MERCURY - 7470A

Analyst: EC

Prep Method:

Prep Date:

Mercury	ND	0.000200		mg/L	1	10/3/2014
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SEMIVOLATILE ORGANICS BASE NEUTRALS - S

Analyst: ZYZ

Prep Method: (SW3510)

Prep Date: 10/3/2014 9:12:49 AM

1,2,4-Trichlorobenzene	ND	1.10		µg/L	1	10/3/2014 5:21:00 PM
1,2-Dichlorobenzene	ND	1.10		µg/L	1	10/3/2014 5:21:00 PM
1,2-Dinitrobenzene	ND	1.10		µg/L	1	10/3/2014 5:21:00 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date: 08-Oct-14

CLIENT: Lord Associates, Inc.
Project: 2137

Lab Order: 1409220

SEMIVOLATILE ORGANICS BASE NEUTRALS - S

Analyst: ZYZ

Prep Method: (SW3510)

Prep Date: 10/3/2014 9:12:49 AM

1,3-Dichlorobenzene	ND	1.10	µg/L	1	10/3/2014 5:21:00 PM
1,3-Dinitrobenzene	ND	1.10	µg/L	1	10/3/2014 5:21:00 PM
1,4-Dichlorobenzene	ND	1.10	µg/L	1	10/3/2014 5:21:00 PM
1,4-Dinitrobenzene	ND	1.10	µg/L	1	10/3/2014 5:21:00 PM
2,4-Dinitrotoluene	ND	1.10	µg/L	1	10/3/2014 5:21:00 PM
2,6-Dinitrotoluene	ND	1.10	µg/L	1	10/3/2014 5:21:00 PM
2-Chloronaphthalene	ND	1.10	µg/L	1	10/3/2014 5:21:00 PM
2-Methylnaphthalene	ND	1.10	µg/L	1	10/3/2014 5:21:00 PM
2-Nitroaniline	ND	1.10	µg/L	1	10/3/2014 5:21:00 PM
3,3'-Dichlorobenzidine	ND	1.10	µg/L	1	10/3/2014 5:21:00 PM
3-Nitroaniline	ND	1.10	µg/L	1	10/3/2014 5:21:00 PM
4-Bromophenyl Phenyl Ether	ND	1.10	µg/L	1	10/3/2014 5:21:00 PM
4-Chloroaniline	ND	1.10	µg/L	1	10/3/2014 5:21:00 PM
4-Chlorophenyl Phenyl Ether	ND	1.10	µg/L	1	10/3/2014 5:21:00 PM
4-Nitroaniline	ND	1.10	µg/L	1	10/3/2014 5:21:00 PM
Acenaphthene	ND	1.10	µg/L	1	10/3/2014 5:21:00 PM
Acenaphthylene	ND	1.10	µg/L	1	10/3/2014 5:21:00 PM
Acetophenone	ND	1.10	µg/L	1	10/3/2014 5:21:00 PM
Anthracene	ND	1.10	µg/L	1	10/3/2014 5:21:00 PM
Benz(a)Anthracene	ND	0.110	µg/L	1	10/3/2014 5:21:00 PM
Benzo(a)Pyrene	ND	0.110	µg/L	1	10/3/2014 5:21:00 PM
Benzo(b)Fluoranthene	ND	0.549	µg/L	1	10/3/2014 5:21:00 PM
Benzo(g,h,i)Perylene	ND	1.10	µg/L	1	10/3/2014 5:21:00 PM
Benzo(k)Fluoranthene	ND	0.549	µg/L	1	10/3/2014 5:21:00 PM
Bis(2-Chloroethoxy)Methane	ND	1.10	µg/L	1	10/3/2014 5:21:00 PM
Bis(2-Chloroethyl)Ether	ND	1.10	µg/L	1	10/3/2014 5:21:00 PM
Bis(2-Chloroisopropyl)Ether	ND	1.10	µg/L	1	10/3/2014 5:21:00 PM
Bis(2-Ethylhexyl)Phthalate	ND	1.10	µg/L	1	10/3/2014 5:21:00 PM
Butyl Benzyl Phthalate	ND	1.10	µg/L	1	10/3/2014 5:21:00 PM
Carbazole	ND	1.10	µg/L	1	10/3/2014 5:21:00 PM
Chrysene	ND	1.10	µg/L	1	10/3/2014 5:21:00 PM
Dibenz(a,h)Anthracene	ND	0.110	µg/L	1	10/3/2014 5:21:00 PM
Dibenzofuran	ND	1.10	µg/L	1	10/3/2014 5:21:00 PM
Diethyl Phthalate	ND	1.10	µg/L	1	10/3/2014 5:21:00 PM
Dimethyl Phthalate	ND	1.10	µg/L	1	10/3/2014 5:21:00 PM
Di-n-Butyl Phthalate	ND	1.10	µg/L	1	10/3/2014 5:21:00 PM
Di-n-Octyl Phthalate	ND	1.10	µg/L	1	10/3/2014 5:21:00 PM
Fluoranthene	ND	1.10	µg/L	1	10/3/2014 5:21:00 PM
Fluorene	ND	1.10	µg/L	1	10/3/2014 5:21:00 PM
Hexachlorobenzene	ND	0.110	µg/L	1	10/3/2014 5:21:00 PM

Qualifiers: B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
RL Reporting Limit

BRL Below Reporting Limit
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
S Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date: 08-Oct-14

CLIENT: Lord Associates, Inc.
Project: 2137

Lab Order: 1409220

SEMIVOLATILE ORGANICS BASE NEUTRALS - S

Analyst: ZYZ

Prep Method: (SW3510)

Prep Date: 10/3/2014 9:12:49 AM

Hexachlorobutadiene	ND	0.110	µg/L	1	10/3/2014 5:21:00 PM
Hexachloroethane	ND	1.10	µg/L	1	10/3/2014 5:21:00 PM
Indeno(1,2,3-cd)Pyrene	ND	0.110	µg/L	1	10/3/2014 5:21:00 PM
Isophorone	ND	1.10	µg/L	1	10/3/2014 5:21:00 PM
Naphthalene	ND	1.10	µg/L	1	10/3/2014 5:21:00 PM
Nitrobenzene	ND	1.10	µg/L	1	10/3/2014 5:21:00 PM
N-Nitrosodimethylamine	ND	5.49	µg/L	1	10/3/2014 5:21:00 PM
N-Nitrosodi-n-Propylamine	ND	1.10	µg/L	1	10/3/2014 5:21:00 PM
N-Nitrosodiphenylamine	ND	5.49	µg/L	1	10/3/2014 5:21:00 PM
Phenanthrene	ND	1.10	µg/L	1	10/3/2014 5:21:00 PM
Pyrene	ND	1.10	µg/L	1	10/3/2014 5:21:00 PM
Pyridine	ND	5.49	µg/L	1	10/3/2014 5:21:00 PM
Surr: 2-Fluorobiphenyl	45.9	30-130	%REC	1	10/3/2014 5:21:00 PM
Surr: Nitrobenzene-d5	35.1	30-130	%REC	1	10/3/2014 5:21:00 PM
Surr: Terphenyl-d14	66.1	30-130	%REC	1	10/3/2014 5:21:00 PM

VOLATILE ORGANIC COMPOUNDS - SW8260B

Analyst: ZC

Prep Method:

Prep Date:

1,1,1,2-Tetrachloroethane	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM
1,1,1-Trichloroethane	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM
1,1,2,2-Tetrachloroethane	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM
1,1,2-Trichloroethane	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM
1,1-Dichloroethane	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM
1,1-Dichloroethene	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM
1,1-Dichloropropene	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM
1,2,3-Trichlorobenzene	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM
1,2,3-Trichloropropane	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM
1,2,4-Trichlorobenzene	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM
1,2,4-Trimethylbenzene	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM
1,2-Dibromo-3-Chloropropane	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM
1,2-Dibromoethane	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM
1,2-Dichlorobenzene	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM
1,2-Dichloroethane	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM
1,2-Dichloropropane	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM
1,3,5-Trimethylbenzene	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM
1,3-Dichlorobenzene	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM
1,3-Dichloropropane	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM
1,4-Dichlorobenzene	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM

Qualifiers: B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
RL Reporting Limit

BRL Below Reporting Limit
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
S Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date: 08-Oct-14

CLIENT: Lord Associates, Inc.
Project: 2137

Lab Order: 1409220

VOLATILE ORGANIC COMPOUNDS - SW8260B

Analyst: ZC

Prep Method:		Prep Date:				
1,4-Dioxane	ND	500	µg/L	1	10/2/2014 4:25:00 PM	
2,2-Dichloropropane	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM	
2-Butanone	ND	10.0	µg/L	1	10/2/2014 4:25:00 PM	
2-Chlorotoluene	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM	
2-Hexanone	ND	10.0	µg/L	1	10/2/2014 4:25:00 PM	
2-Methoxy-2-Methylbutane (TAME)	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM	
4-Chlorotoluene	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM	
4-Isopropyltoluene	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM	
4-Methyl-2-Pentanone	ND	5.00	µg/L	1	10/2/2014 4:25:00 PM	
Acetone	ND	10.0	µg/L	1	10/2/2014 4:25:00 PM	
Benzene	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM	
Bromobenzene	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM	
Bromochloromethane	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM	
Bromodichloromethane	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM	
Bromoform	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM	
Bromomethane	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM	
Carbon Disulfide	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM	
Carbon Tetrachloride	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM	
Chlorobenzene	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM	
Chloroethane	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM	
Chloroform	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM	
Chloromethane	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM	
cis-1,2-Dichloroethene	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM	
cis-1,3-Dichloropropene	ND	0.170	µg/L	1	10/2/2014 4:25:00 PM	
Dibromochloromethane	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM	
Dibromomethane	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM	
Dichlorodifluoromethane	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM	
Diethyl Ether	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM	
Diisopropyl Ether	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM	
Ethylbenzene	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM	
Ethyl-t-Butyl Ether	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM	
Hexachlorobutadiene	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM	
Isopropylbenzene	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM	
Methyl Tert-Butyl Ether	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM	
Methylene Chloride	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM	
Naphthalene	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM	
n-Butylbenzene	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM	
n-Propylbenzene	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM	
sec-Butylbenzene	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM	
Styrene	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM	

Qualifiers: B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
RL Reporting Limit

BRL Below Reporting Limit
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
S Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date: 08-Oct-14

CLIENT: Lord Associates, Inc.
Project: 2137

Lab Order: 1409220

VOLATILE ORGANIC COMPOUNDS - SW8260B

Analyst: ZC

Prep Method:		Prep Date:				
t-Butyl Alcohol	ND	20.0	µg/L	1	10/2/2014 4:25:00 PM	
tert-Butylbenzene	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM	
Tetrachloroethene	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM	
Tetrahydrofuran	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM	
Toluene	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM	
trans-1,2-Dichloroethene	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM	
trans-1,3-Dichloropropene	ND	0.270	µg/L	1	10/2/2014 4:25:00 PM	
Trichloroethene	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM	
Trichlorofluoromethane	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM	
Vinyl Chloride	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM	
Xylenes, Total	ND	2.00	µg/L	1	10/2/2014 4:25:00 PM	
Surr: 1,2-Dichloroethane-d4	99.9	70-130	%REC	1	10/2/2014 4:25:00 PM	
Surr: 4-Bromofluorobenzene	108	70-130	%REC	1	10/2/2014 4:25:00 PM	
Surr: Dibromofluoromethane	98.7	70-130	%REC	1	10/2/2014 4:25:00 PM	
Surr: Toluene-d8	98.6	70-130	%REC	1	10/2/2014 4:25:00 PM	

CHLORIDE - L-10-117-07-1-B

Analyst: RP

Prep Method:		Prep Date:				
Chloride	702	10.0	mg/L	10	10/3/2014	

Qualifiers: B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
RL Reporting Limit

BRL Below Reporting Limit
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
S Spike Recovery outside recovery limits

GeoLabs, Inc.
45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL QC SUMMARY REPORT

Date: 08-Oct-14

CLIENT: Lord Associates, Inc.

Work Order: 1409220

Project: 2137

TestCode: 6010C_W

Sample ID: MBLK-24743	SampType: MBLK	TestCode: 6010C_W	Units: mg/L	Prep Date: 10/2/2014	RunNo: 56151
Client ID: ZZZZZ	Batch ID: 24743	TestNo: SW6010B	(SW3010A)	Analysis Date: 10/2/2014	SeqNo: 626602

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.01000	0.0100									
Arsenic	ND	0.0100									
Cadmium	ND	0.0100									
Chromium	ND	0.0100									
Copper	0.01100	0.0100									
Lead	ND	0.0100									
Nickel	ND	0.0100									
Selenium	ND	0.0100									
Silver	ND	0.0100									

Sample ID: LCS-24743	SampType: LCS	TestCode: 6010C_W	Units: mg/L	Prep Date: 10/2/2014	RunNo: 56151
Client ID: ZZZZZ	Batch ID: 24743	TestNo: SW6010B	(SW3010A)	Analysis Date: 10/2/2014	SeqNo: 626600

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	1.991	0.0100	2	0.01	99.0	80	120				
Arsenic	1.983	0.0100	2	0	99.2	80	120				
Cadmium	1.888	0.0100	2	0	94.4	80	120				
Chromium	1.948	0.0100	2	0	97.4	80	120				
Copper	1.939	0.0100	2	0.011	96.4	80	120				
Lead	1.909	0.0100	2	0	95.4	80	120				
Nickel	1.940	0.0100	2	0	97.0	80	120				
Selenium	1.933	0.0100	2	0	96.6	80	120				
Silver	0.4790	0.0100	0.5	0	95.8	80	120				

Qualifiers: BRL Below Reporting Limit

J Analyte detected below quantitation limits

RL Reporting Limit

E Value above quantitation range

ND Not Detected at the Reporting Limit

S Spike Recovery outside recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

CLIENT: Lord Associates, Inc.

Work Order: 1409220

Project: 2137

TestCode: 6010C_W

Sample ID: LCSD-24743	SampType: LCSD	TestCode: 6010C_W	Units: mg/L	Prep Date: 10/2/2014	RunNo: 56151						
Client ID: ZZZZZ	Batch ID: 24743	TestNo: SW6010B	(SW3010A)	Analysis Date: 10/2/2014	SeqNo: 626601						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	2.032	0.0100	2	0.01	101	80	120	1.991	2.04	20	
Arsenic	2.028	0.0100	2	0	101	80	120	1.983	2.24	20	
Cadmium	1.911	0.0100	2	0	95.6	80	120	1.888	1.21	20	
Chromium	1.974	0.0100	2	0	98.7	80	120	1.948	1.33	20	
Copper	1.958	0.0100	2	0.011	97.4	80	120	1.939	0.975	20	
Lead	1.951	0.0100	2	0	97.6	80	120	1.909	2.18	20	
Nickel	1.964	0.0100	2	0	98.2	80	120	1.94	1.23	20	
Selenium	1.969	0.0100	2	0	98.5	80	120	1.933	1.85	20	
Silver	0.4840	0.0100	0.5	0	96.8	80	120	0.479	1.04	20	

Qualifiers: BRL Below Reporting Limit

J Analyte detected below quantitation limits

RL Reporting Limit

E Value above quantitation range

ND Not Detected at the Reporting Limit

S Spike Recovery outside recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

CLIENT: Lord Associates, Inc.

Work Order: 1409220

Project: 2137

TestCode: 8260B_W MCP

Sample ID: MBLK	SampType: MBLK	TestCode: 8260B_W MC	Units: µg/L	Prep Date:	RunNo: 56149
Client ID: ZZZZZ	Batch ID: R56149	TestNo: SW8260B		Analysis Date: 10/2/2014	SeqNo: 626551

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	2.00									
1,1,1-Trichloroethane	ND	2.00									
1,1,2,2-Tetrachloroethane	ND	2.00									
1,1,2-Trichloroethane	ND	2.00									
1,1-Dichloroethane	ND	2.00									
1,1-Dichloroethene	ND	2.00									
1,1-Dichloropropene	ND	2.00									
1,2,3-Trichlorobenzene	ND	2.00									
1,2,3-Trichloropropane	ND	2.00									
1,2,4-Trichlorobenzene	ND	2.00									
1,2,4-Trimethylbenzene	ND	2.00									
1,2-Dibromo-3-Chloropropane	ND	2.00									
1,2-Dibromoethane	ND	2.00									
1,2-Dichlorobenzene	ND	2.00									
1,2-Dichloroethane	ND	2.00									
1,2-Dichloropropane	ND	2.00									
1,3,5-Trimethylbenzene	ND	2.00									
1,3-Dichlorobenzene	ND	2.00									
1,3-Dichloropropane	ND	2.00									
1,4-Dichlorobenzene	ND	2.00									
1,4-Dioxane	ND	500									
2,2-Dichloropropane	ND	2.00									
2-Butanone	ND	10.0									
2-Chlorotoluene	ND	2.00									
2-Hexanone	ND	10.0									
2-Methoxy-2-Methylbutane (TAME)	ND	2.00									
4-Chlorotoluene	ND	2.00									
4-Isopropyltoluene	ND	2.00									

Qualifiers: BRL Below Reporting Limit

J Analyte detected below quantitation limits

RL Reporting Limit

E Value above quantitation range

ND Not Detected at the Reporting Limit

S Spike Recovery outside recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

CLIENT: Lord Associates, Inc.

Work Order: 1409220

Project: 2137

TestCode: 8260B_W MCP

Sample ID: MBLK	SampType: MBLK	TestCode: 8260B_W MC	Units: µg/L	Prep Date:	RunNo: 56149						
Client ID: ZZZZZ	Batch ID: R56149	TestNo: SW8260B		Analysis Date: 10/2/2014	SeqNo: 626551						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

4-Methyl-2-Pentanone	ND	5.00
Acetone	ND	10.0
Benzene	ND	2.00
Bromobenzene	ND	2.00
Bromochloromethane	ND	2.00
Bromodichloromethane	ND	2.00
Bromoform	ND	2.00
Bromomethane	ND	2.00
Carbon Disulfide	ND	2.00
Carbon Tetrachloride	ND	2.00
Chlorobenzene	ND	2.00
Chloroethane	ND	2.00
Chloroform	ND	2.00
Chloromethane	ND	2.00
cis-1,2-Dichloroethene	ND	2.00
cis-1,3-Dichloropropene	ND	0.170
Dibromochloromethane	ND	2.00
Dibromomethane	ND	2.00
Dichlorodifluoromethane	ND	2.00
Diethyl Ether	ND	2.00
Diisopropyl Ether	ND	2.00
Ethylbenzene	ND	2.00
Ethyl-t-Butyl Ether	ND	2.00
Hexachlorobutadiene	ND	2.00
Isopropylbenzene	ND	2.00
Methyl Tert-Butyl Ether	ND	2.00
Methylene Chloride	ND	2.00
Naphthalene	ND	2.00

Qualifiers: BRL Below Reporting Limit

J Analyte detected below quantitation limits

RL Reporting Limit

E Value above quantitation range

ND Not Detected at the Reporting Limit

S Spike Recovery outside recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

CLIENT: Lord Associates, Inc.

Work Order: 1409220

Project: 2137

TestCode: 8260B_W MCP

Sample ID: MBLK	SampType: MBLK	TestCode: 8260B_W MC		Units: µg/L	Prep Date:				RunNo: 56149		
Client ID: ZZZZZ	Batch ID: R56149	TestNo: SW8260B		Analysis Date: 10/2/2014				SeqNo: 626551			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
n-Butylbenzene	ND	2.00									
n-Propylbenzene	ND	2.00									
sec-Butylbenzene	ND	2.00									
Styrene	ND	2.00									
t-Butyl Alcohol	ND	20.0									
tert-Butylbenzene	ND	2.00									
Tetrachloroethene	ND	2.00									
Tetrahydrofuran	ND	2.00									
Toluene	ND	2.00									
trans-1,2-Dichloroethene	ND	2.00									
trans-1,3-Dichloropropene	ND	0.270									
Trichloroethene	ND	2.00									
Trichlorofluoromethane	ND	2.00									
Vinyl Chloride	ND	2.00									
Xylenes, Total	ND	2.00									
Surr: 1,2-Dichloroethane-d4	30.50	0	30	0	102	70	130				
Surr: 4-Bromofluorobenzene	32.24	0	30	0	107	70	130				
Surr: Dibromofluoromethane	29.30	0	30	0	97.7	70	130				
Surr: Toluene-d8	29.71	0	30	0	99.0	70	130				

Sample ID: LCS	SampType: LCS	TestCode: 8260B_W MC	Units: µg/L	Prep Date:	RunNo: 56149						
Client ID: ZZZZZ	Batch ID: R56149	TestNo: SW8260B		Analysis Date: 10/2/2014	SeqNo: 626549						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	55.60	2.00	50	0	111	70	130				
1,1,1-Trichloroethane	59.62	2.00	50	0	119	70	130				
1,1,2,2-Tetrachloroethane	53.05	2.00	50	0	106	70	130				

Qualifiers: BRL Below Reporting Limit

J Analyte detected below quantitation limits

RL Reporting Limit

E Value above quantitation range

ND Not Detected at the Reporting Limit

S Spike Recovery outside recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

CLIENT: Lord Associates, Inc.
 Work Order: 1409220
 Project: 2137

TestCode: 8260B_W MCP

Sample ID: LCS	SampType: LCS	TestCode: 8260B_W MC	Units: µg/L	Prep Date:	RunNo: 56149						
Client ID: ZZZZZ	Batch ID: R56149	TestNo: SW8260B		Analysis Date: 10/2/2014	SeqNo: 626549						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,2-Trichloroethane	52.80	2.00	50	0	106	70	130				
1,1-Dichloroethane	57.41	2.00	50	0	115	70	130				
1,1-Dichloroethene	60.59	2.00	50	0	121	70	130				
1,1-Dichloropropene	58.52	2.00	50	0	117	70	130				
1,2,3-Trichlorobenzene	54.00	2.00	50	0	108	70	130				
1,2,3-Trichloropropane	55.81	2.00	50	0	112	70	130				
1,2,4-Trichlorobenzene	51.31	2.00	50	0	103	70	130				
1,2,4-Trimethylbenzene	56.94	2.00	50	0	114	70	130				
1,2-Dibromo-3-Chloropropane	53.27	2.00	50	0	107	70	130				
1,2-Dibromoethane	52.30	2.00	50	0	105	70	130				
1,2-Dichlorobenzene	54.95	2.00	50	0	110	70	130				
1,2-Dichloroethane	57.82	2.00	50	0	116	70	130				
1,2-Dichloropropane	54.22	2.00	50	0	108	70	130				
1,3,5-Trimethylbenzene	56.75	2.00	50	0	114	70	130				
1,3-Dichlorobenzene	52.56	2.00	50	0	105	70	130				
1,3-Dichloropropane	54.26	2.00	50	0	109	70	130				
1,4-Dichlorobenzene	51.52	2.00	50	0	103	70	130				
1,4-Dioxane	ND	500	50	0	0	70	130				S
2,2-Dichloropropane	49.62	2.00	50	0	99.2	70	130				
2-Butanone	64.46	10.0	50	0	129	70	130				
2-Chlorotoluene	55.46	2.00	50	0	111	70	130				
2-Hexanone	60.17	10.0	50	0	120	70	130				
2-Methoxy-2-Methylbutane (TAME)	ND	2.00	50	0	0	70	130				S
4-Chlorotoluene	55.08	2.00	50	0	110	70	130				
4-Isopropyltoluene	56.20	2.00	50	0	112	70	130				
4-Methyl-2-Pentanone	56.36	5.00	50	0	113	70	130				
Acetone	51.41	10.0	50	0	103	70	130				
Benzene	51.47	2.00	50	0	103	70	130				

Qualifiers:	BRL Below Reporting Limit	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit	R RPD outside recovery limits
	RL Reporting Limit	S Spike Recovery outside recovery limits	

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

CLIENT: Lord Associates, Inc.

Work Order: 1409220

Project: 2137

TestCode: 8260B_W MCP

Sample ID: LCS	SampType: LCS	TestCode: 8260B_W MC	Units: µg/L	Prep Date:	RunNo: 56149						
Client ID: ZZZZZ	Batch ID: R56149	TestNo: SW8260B		Analysis Date: 10/2/2014	SeqNo: 626549						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromobenzene	54.01	2.00	50	0	108	70	130				
Bromochloromethane	55.68	2.00	50	0	111	70	130				
Bromodichloromethane	55.63	2.00	50	0	111	70	130				
Bromoform	58.48	2.00	50	0	117	70	130				
Bromomethane	64.50	2.00	50	0	129	70	130				
Carbon Disulfide	65.24	2.00	50	0	130	70	130				S
Carbon Tetrachloride	60.44	2.00	50	0	121	70	130				
Chlorobenzene	52.47	2.00	50	0	105	70	130				
Chloroethane	65.58	2.00	50	0	131	70	130				S
Chloroform	56.72	2.00	50	0	113	70	130				
Chloromethane	51.60	2.00	50	0	103	70	130				
cis-1,2-Dichloroethene	53.93	2.00	50	0	108	70	130				
cis-1,3-Dichloropropene	55.70	0.170	50	0	111	70	130				
Dibromochloromethane	56.12	2.00	50	0	112	70	130				
Dibromomethane	53.67	2.00	50	0	107	70	130				
Dichlorodifluoromethane	60.15	2.00	50	0	120	70	130				
Diethyl Ether	ND	2.00	50	0	0	70	130				S
Diisopropyl Ether	55.47	2.00	50	0	111	70	130				
Ethylbenzene	57.44	2.00	50	0	115	70	130				
Ethyl-t-Butyl Ether	61.95	2.00	50	0	124	70	130				
Hexachlorobutadiene	55.93	2.00	50	0	112	70	130				
Isopropylbenzene	58.85	2.00	50	0	118	70	130				
Methyl Tert-Butyl Ether	59.25	2.00	50	0	118	70	130				
Methylene Chloride	54.02	2.00	50	0	108	70	130				
Naphthalene	48.94	2.00	50	0	97.9	70	130				
n-Butylbenzene	55.08	2.00	50	0	110	70	130				
n-Propylbenzene	57.38	2.00	50	0	115	70	130				
sec-Butylbenzene	57.34	2.00	50	0	115	70	130				

Qualifiers: BRL Below Reporting Limit

J Analyte detected below quantitation limits

RL Reporting Limit

E Value above quantitation range

ND Not Detected at the Reporting Limit

S Spike Recovery outside recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

CLIENT: Lord Associates, Inc.
 Work Order: 1409220
 Project: 2137

TestCode: 8260B_W MCP

Sample ID: LCS	SampType: LCS	TestCode: 8260B_W MC	Units: µg/L	Prep Date:	RunNo: 56149						
Client ID: ZZZZZ	Batch ID: R56149	TestNo: SW8260B		Analysis Date: 10/2/2014	SeqNo: 626549						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Styrene	53.41	2.00	50	0	107	70	130				
t-Butyl Alcohol	616.8	20.0	500	0	123	70	130				
tert-Butylbenzene	55.03	2.00	50	0	110	70	130				
Tetrachloroethene	56.23	2.00	50	0	112	70	130				
Tetrahydrofuran	51.69	2.00	50	0	103	70	130				
Toluene	54.18	2.00	50	0	108	70	130				
trans-1,2-Dichloroethene	55.53	2.00	50	0	111	70	130				
trans-1,3-Dichloropropene	50.23	0.270	50	0	100	70	130				
Trichloroethene	55.95	2.00	50	0	112	70	130				
Trichlorofluoromethane	63.33	2.00	50	0	127	70	130				
Vinyl Chloride	51.99	2.00	50	0	104	70	130				
Xylenes, Total	175.5	2.00	150	0	117	70	130				
Surr: 1,2-Dichloroethane-d4	30.81	0	30	0	103	70	130				
Surr: 4-Bromofluorobenzene	32.22	0	30	0	107	70	130				
Surr: Dibromofluoromethane	32.96	0	30	0	110	70	130				
Surr: Toluene-d8	30.32	0	30	0	101	70	130				

Sample ID: LCSD	SampType: LCSD	TestCode: 8260B_W MC	Units: µg/L	Prep Date:	RunNo: 56149						
Client ID: ZZZZZ	Batch ID: R56149	TestNo: SW8260B		Analysis Date: 10/2/2014	SeqNo: 626550						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	49.45	2.00	50	0	98.9	70	130	55.6	11.7	20	
1,1,1-Trichloroethane	52.70	2.00	50	0	105	70	130	59.62	12.3	20	
1,1,2,2-Tetrachloroethane	45.94	2.00	50	0	91.9	70	130	53.05	14.4	20	
1,1,2-Trichloroethane	46.84	2.00	50	0	93.7	70	130	52.8	12.0	20	
1,1-Dichloroethane	51.19	2.00	50	0	102	70	130	57.41	11.5	20	
1,1-Dichloroethene	52.35	2.00	50	0	105	70	130	60.59	14.6	20	

Qualifiers:	BRL Below Reporting Limit	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit	R RPD outside recovery limits
	RL Reporting Limit	S Spike Recovery outside recovery limits	

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

CLIENT: Lord Associates, Inc.

Work Order: 1409220

Project: 2137

TestCode: 8260B_W MCP

Sample ID: LCSD	SampType: LCSD	TestCode: 8260B_W MC	Units: µg/L	Prep Date:	RunNo: 56149						
Client ID: ZZZZZ	Batch ID: R56149	TestNo: SW8260B		Analysis Date: 10/2/2014	SeqNo: 626550						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloropropene	48.03	2.00	50	0	96.1	70	130	58.52	19.7	20	
1,2,3-Trichlorobenzene	52.33	2.00	50	0	105	70	130	54	3.14	20	
1,2,3-Trichloropropane	50.03	2.00	50	0	100	70	130	55.81	10.9	20	
1,2,4-Trichlorobenzene	46.52	2.00	50	0	93.0	70	130	51.31	9.79	20	
1,2,4-Trimethylbenzene	51.71	2.00	50	0	103	70	130	56.94	9.63	20	
1,2-Dibromo-3-Chloropropane	46.14	2.00	50	0	92.3	70	130	53.27	14.3	20	
1,2-Dibromoethane	46.96	2.00	50	0	93.9	70	130	52.3	10.8	20	
1,2-Dichlorobenzene	49.95	2.00	50	0	99.9	70	130	54.95	9.53	20	
1,2-Dichloroethane	50.90	2.00	50	0	102	70	130	57.82	12.7	20	
1,2-Dichloropropane	48.82	2.00	50	0	97.6	70	130	54.22	10.5	20	
1,3,5-Trimethylbenzene	50.96	2.00	50	0	102	70	130	56.75	10.8	20	
1,3-Dichlorobenzene	48.52	2.00	50	0	97.0	70	130	52.56	7.99	20	
1,3-Dichloropropane	47.55	2.00	50	0	95.1	70	130	54.26	13.2	20	
1,4-Dichlorobenzene	46.91	2.00	50	0	93.8	70	130	51.52	9.37	20	
1,4-Dioxane	ND	500	50	0	0	70	130	0	0	20	S
2,2-Dichloropropane	47.87	2.00	50	0	95.7	70	130	49.62	3.59	20	
2-Butanone	55.07	10.0	50	0	110	70	130	64.46	15.7	20	
2-Chlorotoluene	50.28	2.00	50	0	101	70	130	55.46	9.80	20	
2-Hexanone	52.39	10.0	50	0	105	70	130	60.17	13.8	20	
2-Methoxy-2-Methylbutane (TAME)	ND	2.00	50	0	0	70	130	0	0	20	S
4-Chlorotoluene	50.08	2.00	50	0	100	70	130	55.08	9.51	20	
4-Isopropyltoluene	50.72	2.00	50	0	101	70	130	56.2	10.3	20	
4-Methyl-2-Pentanone	49.76	5.00	50	0	99.5	70	130	56.36	12.4	20	
Acetone	55.22	10.0	50	0	110	70	130	51.41	7.15	20	
Benzene	46.26	2.00	50	0	92.5	70	130	51.47	10.7	20	
Bromobenzene	48.54	2.00	50	0	97.1	70	130	54.01	10.7	20	
Bromochloromethane	49.98	2.00	50	0	100	70	130	55.68	10.8	20	
Bromodichloromethane	49.43	2.00	50	0	98.9	70	130	55.63	11.8	20	

Qualifiers: BRL Below Reporting Limit

J Analyte detected below quantitation limits

RL Reporting Limit

E Value above quantitation range

ND Not Detected at the Reporting Limit

S Spike Recovery outside recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

CLIENT: Lord Associates, Inc.
 Work Order: 1409220
 Project: 2137

TestCode: 8260B_W MCP

Sample ID: LCSD	SampType: LCSD	TestCode: 8260B_W MC	Units: µg/L	Prep Date:	RunNo: 56149						
Client ID: ZZZZZ	Batch ID: R56149	TestNo: SW8260B		Analysis Date: 10/2/2014	SeqNo: 626550						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromoform	51.63	2.00	50	0	103	70	130	58.48	12.4	20	
Bromomethane	42.08	2.00	50	0	84.2	70	130	64.5	42.1	20	R
Carbon Disulfide	58.17	2.00	50	0	116	70	130	65.24	11.5	20	
Carbon Tetrachloride	52.13	2.00	50	0	104	70	130	60.44	14.8	20	
Chlorobenzene	47.34	2.00	50	0	94.7	70	130	52.47	10.3	20	
Chloroethane	56.54	2.00	50	0	113	70	130	65.58	14.8	20	
Chloroform	50.51	2.00	50	0	101	70	130	56.72	11.6	20	
Chloromethane	44.18	2.00	50	0	88.4	70	130	51.6	15.5	20	
cis-1,2-Dichloroethene	48.29	2.00	50	0	96.6	70	130	53.93	11.0	20	
cis-1,3-Dichloropropene	49.66	0.170	50	0	99.3	70	130	55.7	11.5	20	
Dibromochloromethane	50.00	2.00	50	0	100	70	130	56.12	11.5	20	
Dibromomethane	47.60	2.00	50	0	95.2	70	130	53.67	12.0	20	
Dichlorodifluoromethane	47.75	2.00	50	0	95.5	70	130	60.15	23.0	20	R
Diethyl Ether	ND	2.00	50	0	0	70	130	0	0	20	S
Diisopropyl Ether	49.07	2.00	50	0	98.1	70	130	55.47	12.2	20	
Ethylbenzene	51.41	2.00	50	0	103	70	130	57.44	11.1	20	
Ethyl-t-Butyl Ether	49.53	2.00	50	0	99.1	70	130	61.95	22.3	20	R
Hexachlorobutadiene	49.59	2.00	50	0	99.2	70	130	55.93	12.0	20	
Isopropylbenzene	52.88	2.00	50	0	106	70	130	58.85	10.7	20	
Methyl Tert-Butyl Ether	51.04	2.00	50	0	102	70	130	59.25	14.9	20	
Methylene Chloride	47.48	2.00	50	0	95.0	70	130	54.02	12.9	20	
Naphthalene	46.86	2.00	50	0	93.7	70	130	48.94	4.34	20	
n-Butylbenzene	49.84	2.00	50	0	99.7	70	130	55.08	9.99	20	
n-Propylbenzene	51.53	2.00	50	0	103	70	130	57.38	10.7	20	
sec-Butylbenzene	52.13	2.00	50	0	104	70	130	57.34	9.52	20	
Styrene	48.15	2.00	50	0	96.3	70	130	53.41	10.4	20	
t-Butyl Alcohol	493.2	20.0	500	0	98.6	70	130	616.8	22.3	20	R
tert-Butylbenzene	49.10	2.00	50	0	98.2	70	130	55.03	11.4	20	

Qualifiers: BRL Below Reporting Limit

J Analyte detected below quantitation limits

RL Reporting Limit

E Value above quantitation range

ND Not Detected at the Reporting Limit

S Spike Recovery outside recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

CLIENT: Lord Associates, Inc.

Work Order: 1409220

Project: 2137

TestCode: 8260B_W MCP

Sample ID: LCSD	SampType: LCSD	TestCode: 8260B_W MC	Units: µg/L	Prep Date:	RunNo: 56149						
Client ID: ZZZZZ	Batch ID: R56149	TestNo: SW8260B		Analysis Date: 10/2/2014	SeqNo: 626550						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tetrachloroethene	49.91	2.00	50	0	99.8	70	130	56.23	11.9	20	
Tetrahydrofuran	46.24	2.00	50	0	92.5	70	130	51.69	11.1	20	
Toluene	48.22	2.00	50	0	96.4	70	130	54.18	11.6	20	
trans-1,2-Dichloroethene	47.01	2.00	50	0	94.0	70	130	55.53	16.6	20	
trans-1,3-Dichloropropene	46.81	0.270	50	0	93.6	70	130	50.23	7.05	20	
Trichloroethene	50.76	2.00	50	0	102	70	130	55.95	9.73	20	
Trichlorofluoromethane	52.20	2.00	50	0	104	70	130	63.33	19.3	20	
Vinyl Chloride	45.51	2.00	50	0	91.0	70	130	51.99	13.3	20	
Xylenes, Total	156.7	2.00	150	0	104	70	130	175.5	11.3	20	
Surr: 1,2-Dichloroethane-d4	29.54	0	30	0	98.5	70	130	0	0	0	
Surr: 4-Bromofluorobenzene	30.50	0	30	0	102	70	130	0	0	0	
Surr: Dibromofluoromethane	32.26	0	30	0	108	70	130	0	0	0	
Surr: Toluene-d8	29.97	0	30	0	99.9	70	130	0	0	0	

Qualifiers: BRL Below Reporting Limit

J Analyte detected below quantitation limits

RL Reporting Limit

E Value above quantitation range

ND Not Detected at the Reporting Limit

S Spike Recovery outside recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

CLIENT: Lord Associates, Inc.

Work Order: 1409220

Project: 2137

TestCode: 8270D_W_BN

Sample ID: MB-24747	SampType: mblk	TestCode: 8270D_W_BN Units: µg/L			Prep Date: 10/3/2014			RunNo: 56165			
Client ID: ZZZZZ	Batch ID: 24747	TestNo: SW8270C (SW3510)			Analysis Date: 10/3/2014			SeqNo: 626948			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	ND	1.00									
1,2-Dichlorobenzene	ND	1.00									
1,2-Dinitrobenzene	ND	1.00									
1,3-Dichlorobenzene	ND	1.00									
1,3-Dinitrobenzene	ND	1.00									
1,4-Dichlorobenzene	ND	1.00									
1,4-Dinitrobenzene	ND	1.00									
2,4-Dinitrotoluene	ND	1.00									
2,6-Dinitrotoluene	ND	1.00									
2-Chloronaphthalene	ND	1.00									
2-Methylnaphthalene	ND	1.00									
2-Nitroaniline	ND	1.00									
3,3'-Dichlorobenzidine	ND	1.00									
3-Nitroaniline	ND	1.00									
4-Bromophenyl Phenyl Ether	ND	1.00									
4-Chloroaniline	ND	1.00									
4-Chlorophenyl Phenyl Ether	ND	1.00									
4-Nitroaniline	ND	1.00									
Acenaphthene	ND	1.00									
Acenaphthylene	ND	1.00									
Acetophenone	ND	1.00									
Anthracene	ND	1.00									
Benz(a)Anthracene	ND	0.100									
Benzo(a)Pyrene	ND	0.100									
Benzo(b)Fluoranthene	ND	0.500									
Benzo(g,h,i)Perylene	ND	1.00									
Benzo(k)Fluoranthene	ND	0.500									
Bis(2-Chloroethoxy)Methane	ND	1.00									

Qualifiers: BRL Below Reporting Limit

J Analyte detected below quantitation limits

RL Reporting Limit

E Value above quantitation range

ND Not Detected at the Reporting Limit

S Spike Recovery outside recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

CLIENT: Lord Associates, Inc.

Work Order: 1409220

Project: 2137

TestCode: 8270D_W_BN

Sample ID: MB-24747	SampType: mblk	TestCode: 8270D_W_BN Units: µg/L			Prep Date: 10/3/2014			RunNo: 56165			
Client ID: ZZZZZ	Batch ID: 24747	TestNo: SW8270C (SW3510)			Analysis Date: 10/3/2014			SeqNo: 626948			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bis(2-Chloroethyl)Ether	ND	1.00									
Bis(2-Chloroisopropyl)Ether	ND	1.00									
Bis(2-Ethylhexyl)Phthalate	ND	1.00									
Butyl Benzyl Phthalate	ND	1.00									
Carbazole	ND	1.00									
Chrysene	ND	1.00									
Dibenz(a,h)Anthracene	ND	0.100									
Dibenzofuran	ND	1.00									
Diethyl Phthalate	ND	1.00									
Dimethyl Phthalate	ND	1.00									
Di-n-Butyl Phthalate	ND	1.00									
Di-n-Octyl Phthalate	ND	1.00									
Fluoranthene	ND	1.00									
Fluorene	ND	1.00									
Hexachlorobenzene	ND	0.100									
Hexachlorobutadiene	ND	0.100									
Hexachloroethane	ND	1.00									
Indeno(1,2,3-cd)Pyrene	ND	0.100									
Isophorone	ND	1.00									
Naphthalene	ND	1.00									
Nitrobenzene	ND	1.00									
N-Nitrosodimethylamine	ND	5.00									
N-Nitrosodi-n-Propylamine	ND	1.00									
N-Nitrosodiphenylamine	ND	5.00									
Phenanthrene	ND	1.00									
Pyrene	ND	1.00									
Pyridine	ND	5.00									
Surr: 2-Fluorobiphenyl	24.28	0	50	0	48.6	30	130				

Qualifiers: BRL Below Reporting Limit

J Analyte detected below quantitation limits

RL Reporting Limit

E Value above quantitation range

ND Not Detected at the Reporting Limit

S Spike Recovery outside recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

CLIENT: Lord Associates, Inc.

Work Order: 1409220

Project: 2137

TestCode: 8270D_W_BN

Sample ID: MB-24747	SampType: mblk	TestCode: 8270D_W_BN	Units: µg/L	Prep Date: 10/3/2014	RunNo: 56165						
Client ID: ZZZZZ	Batch ID: 24747	TestNo: SW8270C	(SW3510)	Analysis Date: 10/3/2014	SeqNo: 626948						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: Nitrobenzene-d5	23.31	0	50	0	46.6	30	130				
Surr: Terphenyl-d14	33.08	0	50	0	66.2	30	130				

Sample ID: LCS-24747	SampType: lcs	TestCode: 8270D_W_BN Units: µg/L				Prep Date: 10/3/2014			RunNo: 56165		
Client ID: ZZZZZ	Batch ID: 24747	TestNo: SW8270C		(SW3510)		Analysis Date: 10/3/2014			SeqNo: 626949		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	14.58	1.00	25	0	58.3	40	140				
1,2-Dichlorobenzene	13.74	1.00	25	0	54.9	40	140				
1,2-Dinitrobenzene	14.81	1.00	25	0	59.2	40	140				
1,3-Dichlorobenzene	13.55	1.00	25	0	54.2	40	140				
1,3-Dinitrobenzene	14.77	1.00	25	0	59.1	40	140				
1,4-Dichlorobenzene	13.27	1.00	25	0	53.1	40	140				
1,4-Dinitrobenzene	14.44	1.00	25	0	57.8	40	140				
2,4-Dinitrotoluene	15.41	1.00	25	0	61.6	40	140				
2,6-Dinitrotoluene	15.44	1.00	25	0	61.7	40	140				
2-Chloronaphthalene	16.12	1.00	25	0	64.5	40	140				
2-Methylnaphthalene	14.31	1.00	25	0	57.2	40	140				
2-Nitroaniline	14.55	1.00	25	0	58.2	40	140				
3,3'-Dichlorobenzidine	ND	1.00	25	0	0	40	140				S
3-Nitroaniline	15.78	1.00	25	0	63.1	40	140				
4-Bromophenyl Phenyl Ether	15.84	1.00	25	0	63.3	40	140				
4-Chloroaniline	16.78	1.00	25	0	67.1	40	140				
4-Chlorophenyl Phenyl Ether	15.32	1.00	25	0	61.3	40	140				
4-Nitroaniline	15.66	1.00	25	0	62.6	40	140				
Acenaphthene	15.66	1.00	25	0	62.6	40	140				
Acenaphthylene	15.06	1.00	25	0	60.2	40	140				

Qualifiers: BRL Below Reporting Limit

J Analyte detected below quantitation limits

RL Reporting Limit

E Value above quantitation range

ND Not Detected at the Reporting Limit

S Spike Recovery outside recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

CLIENT: Lord Associates, Inc.

Work Order: 1409220

Project: 2137

TestCode: 8270D_W_BN

Sample ID: LCS-24747	SampType: lcs	TestCode: 8270D_W_BN Units: µg/L				Prep Date: 10/3/2014			RunNo: 56165		
Client ID: ZZZZZ	Batch ID: 24747	TestNo: SW8270C (SW3510)				Analysis Date: 10/3/2014			SeqNo: 626949		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acetophenone	15.98	1.00	25	0	63.9	40	140				
Anthracene	16.46	1.00	25	0	65.8	40	140				
Benzo(a)Anthracene	16.04	0.100	25	0	64.2	40	140				
Benzo(a)Pyrene	20.54	0.100	25	0	82.1	40	140				
Benzo(b)Fluoranthene	20.80	0.500	25	0	83.2	40	140				
Benzo(g,h,i)Perylene	19.94	1.00	25	0	79.8	40	140				
Benzo(k)Fluoranthene	20.77	0.500	25	0	83.1	40	140				
Bis(2-Chloroethoxy)Methane	14.76	1.00	25	0	59.0	40	140				
Bis(2-Chloroethyl)Ether	13.80	1.00	25	0	55.2	40	140				
Bis(2-Chloroisopropyl)Ether	13.37	1.00	25	0	53.5	40	140				
Bis(2-Ethylhexyl)Phthalate	19.94	1.00	25	0	79.7	40	140				
Butyl Benzyl Phthalate	18.26	1.00	25	0	73.0	40	140				
Carbazole	16.46	1.00	25	0	65.8	40	140				
Chrysene	16.60	1.00	25	0	66.4	40	140				
Dibenz(a,h)Anthracene	20.68	0.100	25	0	82.7	40	140				
Dibenzofuran	14.66	1.00	25	0	58.7	40	140				
Diethyl Phthalate	15.36	1.00	25	0	61.4	40	140				
Dimethyl Phthalate	14.98	1.00	25	0	59.9	40	140				
Di-n-Butyl Phthalate	18.28	1.00	25	0	73.1	40	140				
Di-n-Octyl Phthalate	24.36	1.00	25	0	97.4	40	140				
Fluoranthene	17.12	1.00	25	0	68.5	40	140				
Fluorene	15.16	1.00	25	0	60.6	40	140				
Hexachlorobenzene	15.94	0.100	25	0	63.8	40	140				
Hexachlorobutadiene	16.12	0.100	25	0	64.5	40	140				
Hexachloroethane	14.28	1.00	25	0	57.1	40	140				
Indeno(1,2,3-cd)Pyrene	20.46	0.100	25	0	81.8	40	140				
Isophorone	29.57	1.00	25	0	118	40	140				
Naphthalene	15.08	1.00	25	0	60.3	40	140				

Qualifiers: BRL Below Reporting Limit

J Analyte detected below quantitation limits

RL Reporting Limit

E Value above quantitation range

ND Not Detected at the Reporting Limit

S Spike Recovery outside recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

CLIENT: Lord Associates, Inc.
Work Order: 1409220
Project: 2137

TestCode: 8270D_W_BN

Sample ID: LCS-24747	SampType: lcs	TestCode: 8270D_W_BN Units: µg/L				Prep Date: 10/3/2014			RunNo: 56165		
Client ID: ZZZZZ	Batch ID: 24747	TestNo: SW8270C (SW3510)				Analysis Date: 10/3/2014			SeqNo: 626949		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrobenzene	15.23	1.00	25	0	60.9	40	140				
N-Nitrosodimethylamine	10.80	5.00	25	0	43.2	40	140				
N-Nitrosodi-n-Propylamine	12.52	1.00	25	0	50.1	40	140				
N-Nitrosodiphenylamine	16.27	5.00	25	0	65.1	40	140				
Phenanthrene	16.51	1.00	25	0	66.0	40	140				
Pyrene	15.64	1.00	25	0	62.5	40	140				
Pyridine	ND	5.00	25	0	11.6	40	140				S
Surr: 2-Fluorobiphenyl	29.09	0	50	0	58.2	30	130				
Surr: Nitrobenzene-d5	27.60	0	50	0	55.2	30	130				
Surr: Terphenyl-d14	30.11	0	50	0	60.2	30	130				

Sample ID: LCS2-24747	SampType: lcsd	TestCode: 8270D_W_BN Units: µg/L				Prep Date: 10/3/2014			RunNo: 56165		
Client ID: ZZZZZ	Batch ID: 24747	TestNo: SW8270C (SW3510)				Analysis Date: 10/3/2014			SeqNo: 626950		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1'-Biphenyl	ND	0.100	25	0	0	40	140	0	0	20	S
1,2,4-Trichlorobenzene	16.28	1.00	25	0	65.1	40	140	14.58	11.0	20	
1,2-Dichlorobenzene	14.89	1.00	25	0	59.6	40	140	13.74	8.07	20	
1,2-Dinitrobenzene	15.90	1.00	25	0	63.6	40	140	14.81	7.10	20	
1,3-Dichlorobenzene	14.56	1.00	25	0	58.2	40	140	13.55	7.19	20	
1,3-Dinitrobenzene	15.94	1.00	25	0	63.7	40	140	14.77	7.59	20	
1,4-Dichlorobenzene	14.06	1.00	25	0	56.3	40	140	13.27	5.85	20	
1,4-Dinitrobenzene	15.72	1.00	25	0	62.9	40	140	14.44	8.49	20	
2,4-Dinitrotoluene	16.48	1.00	25	0	65.9	40	140	15.41	6.71	20	
2,6-Dinitrotoluene	16.51	1.00	25	0	66.0	40	140	15.44	6.73	20	
2-Chloronaphthalene	18.00	1.00	25	0	72.0	40	140	16.12	11.1	20	
2-Methylnaphthalene	15.52	1.00	25	0	62.1	40	140	14.31	8.08	20	

Qualifiers: BRL Below Reporting Limit

J Analyte detected below quantitation limits

RL Reporting Limit

E Value above quantitation range

ND Not Detected at the Reporting Limit

S Spike Recovery outside recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

CLIENT: Lord Associates, Inc.

Work Order: 1409220

Project: 2137

TestCode: 8270D_W_BN

Sample ID: LCS2-24747	SampType: lcsd	TestCode: 8270D_W_BN Units: µg/L				Prep Date: 10/3/2014			RunNo: 56165		
Client ID: ZZZZZ	Batch ID: 24747	TestNo: SW8270C (SW3510)				Analysis Date: 10/3/2014			SeqNo: 626950		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Nitroaniline	17.08	1.00	25	0	68.3	40	140	14.55	16.0	20	
3,3'-Dichlorobenzidine	ND	1.00	25	0	0	40	140	0	0	20	S
3-Nitroaniline	20.74	1.00	25	0	83.0	40	140	15.78	27.2	20	R
4-Bromophenyl Phenyl Ether	17.38	1.00	25	0	69.5	40	140	15.84	9.30	20	
4-Chloroaniline	15.48	1.00	25	0	61.9	40	140	16.78	8.09	20	
4-Chlorophenyl Phenyl Ether	17.03	1.00	25	0	68.1	40	140	15.32	10.5	20	
4-Nitroaniline	20.59	1.00	25	0	82.4	40	140	15.66	27.2	20	R
Acenaphthene	17.51	1.00	25	0	70.0	40	140	15.66	11.2	20	
Acenaphthylene	16.63	1.00	25	0	66.5	40	140	15.06	9.91	20	
Acetophenone	17.66	1.00	25	0	70.6	40	140	15.98	9.99	20	
Anthracene	17.40	1.00	25	0	69.6	40	140	16.46	5.52	20	
Benz(a)Anthracene	17.40	0.100	25	0	69.6	40	140	16.04	8.07	20	
Benzo(a)Pyrene	21.96	0.100	25	0	87.9	40	140	20.54	6.73	20	
Benzo(b)Fluoranthene	22.52	0.500	25	0	90.1	40	140	20.8	7.96	20	
Benzo(g,h,i)Perylene	21.42	1.00	25	0	85.7	40	140	19.94	7.16	20	
Benzo(k)Fluoranthene	22.08	0.500	25	0	88.3	40	140	20.77	6.14	20	
Bis(2-Chloroethoxy)Methane	16.41	1.00	25	0	65.6	40	140	14.76	10.6	20	
Bis(2-Chloroethyl)Ether	14.27	1.00	25	0	57.1	40	140	13.8	3.31	20	
Bis(2-Chloroisopropyl)Ether	14.26	1.00	25	0	57.0	40	140	13.37	6.41	20	
Bis(2-Ethylhexyl)Phthalate	22.06	1.00	25	0	88.2	40	140	19.94	10.1	20	
Butyl Benzyl Phthalate	19.70	1.00	25	0	78.8	40	140	18.26	7.61	20	
Carbazole	17.26	1.00	25	0	69.1	40	140	16.46	4.80	20	
Chrysene	18.02	1.00	25	0	72.1	40	140	16.6	8.17	20	
Dibenz(a,h)Anthracene	22.13	0.100	25	0	88.5	40	140	20.68	6.77	20	
Dibenzofuran	16.43	1.00	25	0	65.7	40	140	14.66	11.4	20	
Diethyl Phthalate	16.59	1.00	25	0	66.4	40	140	15.36	7.73	20	
Dimethyl Phthalate	16.48	1.00	25	0	65.9	40	140	14.98	9.51	20	
Di-n-Butyl Phthalate	18.98	1.00	25	0	75.9	40	140	18.28	3.76	20	

Qualifiers: BRL Below Reporting Limit

J Analyte detected below quantitation limits

RL Reporting Limit

E Value above quantitation range

ND Not Detected at the Reporting Limit

S Spike Recovery outside recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

CLIENT: Lord Associates, Inc.
 Work Order: 1409220
 Project: 2137

TestCode: 8270D_W_BN

Sample ID: LCS2-24747	SampType: lcsd	TestCode: 8270D_W_BN Units: µg/L				Prep Date: 10/3/2014			RunNo: 56165		
Client ID: ZZZZZ	Batch ID: 24747	TestNo: SW8270C (SW3510)				Analysis Date: 10/3/2014			SeqNo: 626950		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Di-n-Octyl Phthalate	27.67	1.00	25	0	111	40	140	24.36	12.7	20	
Fluoranthene	17.92	1.00	25	0	71.7	40	140	17.12	4.59	20	
Fluorene	16.72	1.00	25	0	66.9	40	140	15.16	9.82	20	
Hexachlorobenzene	17.50	0.100	25	0	70.0	40	140	15.94	9.27	20	
Hexachlorobutadiene	17.54	0.100	25	0	70.2	40	140	16.12	8.43	20	
Hexachloroethane	15.81	1.00	25	0	63.2	40	140	14.28	10.2	20	
Indeno(1,2,3-cd)Pyrene	22.00	0.100	25	0	88.0	40	140	20.46	7.26	20	
Isophorone	32.18	1.00	25	0	129	40	140	29.57	8.44	20	
Naphthalene	16.53	1.00	25	0	66.1	40	140	15.08	9.18	20	
Nitrobenzene	16.77	1.00	25	0	67.1	40	140	15.23	9.63	20	
N-Nitrosodimethylamine	11.89	5.00	25	0	47.6	40	140	10.8	9.65	20	
N-Nitrosodi-n-Propylamine	14.52	1.00	25	0	58.1	40	140	12.52	14.8	20	
N-Nitrosodiphenylamine	17.46	5.00	25	0	69.8	40	140	16.27	7.06	20	
Phenanthrene	17.68	1.00	25	0	70.7	40	140	16.51	6.84	20	
Pyrene	17.03	1.00	25	0	68.1	40	140	15.64	8.51	20	
Pyridine	ND	5.00	50	0	5.48	30	130	2.89	0	20	S
Surr: 2-Fluorobiphenyl	31.81	0	50	0	63.6	30	130	0	0	0	
Surr: Nitrobenzene-d5	28.84	0	50	0	57.7	30	130	0	0	0	
Surr: Terphenyl-d14	31.38	0	50	0	62.8	30	130	0	0	0	

Qualifiers: BRL Below Reporting Limit

J Analyte detected below quantitation limits

RL Reporting Limit

E Value above quantitation range

ND Not Detected at the Reporting Limit

S Spike Recovery outside recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

CLIENT: Lord Associates, Inc.

Work Order: 1409220

Project: 2137

TestCode: CHLORIDE_W

Sample ID: MB-R56166	SampType: MBLK	TestCode: CHLORIDE_	Units: mg/L	Prep Date:	RunNo: 56166						
Client ID: ZZZZZ	Batch ID: R56166	TestNo: L10-117-07-1-		Analysis Date: 10/3/2014	SeqNo: 626763						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	1.00									

Sample ID: MB-R56166	SampType: MBLK	TestCode: CHLORIDE_	Units: mg/L	Prep Date:	RunNo: 56166						
Client ID: ZZZZZ	Batch ID: R56166	TestNo: L10-117-07-1-		Analysis Date: 10/3/2014	SeqNo: 626776						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	1.00									

Sample ID: LCS-R56166	SampType: LCS	TestCode: CHLORIDE_	Units: mg/L	Prep Date:	RunNo: 56166						
Client ID: ZZZZZ	Batch ID: R56166	TestNo: L10-117-07-1-		Analysis Date: 10/3/2014	SeqNo: 626764						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	53.20	1.00	50	0	106	90	110				

Sample ID: LCS-R56166	SampType: LCS	TestCode: CHLORIDE_	Units: mg/L	Prep Date:	RunNo: 56166						
Client ID: ZZZZZ	Batch ID: R56166	TestNo: L10-117-07-1-		Analysis Date: 10/3/2014	SeqNo: 626777						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	52.30	1.00	50	0.366	104	90	110				

Qualifiers: BRL Below Reporting Limit
J Analyte detected below quantitation limits
RL Reporting Limit

E Value above quantitation range
ND Not Detected at the Reporting Limit
S Spike Recovery outside recovery limits

H Holding times for preparation or analysis exceeded
R RPD outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

CLIENT: Lord Associates, Inc.

Work Order: 1409220

Project: 2137

TestCode: HG-7470A_W

Sample ID: MB-R56171	SampType: MBLK	TestCode: HG-7470A_W	Units: mg/L	Prep Date:	RunNo: 56171
Client ID: ZZZZZ	Batch ID: R56171	TestNo: SW7470A		Analysis Date: 10/3/2014	SeqNo: 626932
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Mercury ND 0.000200

Sample ID: LCS	SampType: LCS	TestCode: HG-7470A_W	Units: mg/L	Prep Date:	RunNo: 56171
Client ID: ZZZZZ	Batch ID: R56171	TestNo: SW7470A		Analysis Date: 10/3/2014	SeqNo: 626933
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Mercury 0.005160 0.000200 0.005 0 103 80 120

Sample ID: LCSD	SampType: LCSD	TestCode: HG-7470A_W	Units: mg/L	Prep Date:	RunNo: 56171
Client ID: ZZZZZ	Batch ID: R56171	TestNo: SW7470A		Analysis Date: 10/3/2014	SeqNo: 626934
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Mercury 0.005280 0.000200 0.005 0 106 80 120 0.00516 2.30 20

Qualifiers: BRL Below Reporting Limit
J Analyte detected below quantitation limits
RL Reporting Limit

E Value above quantitation range
ND Not Detected at the Reporting Limit
S Spike Recovery outside recovery limits

H Holding times for preparation or analysis exceeded
R RPD outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

CLIENT: Lord Associates, Inc.

Work Order: 1409220

Project: 2137

TestCode: tph_w

Sample ID: MB-24755	SampType: mblk	TestCode: tph_w	Units: mg/L	Prep Date: 10/3/2014	RunNo: 56175						
Client ID: ZZZZZ	Batch ID: 24755	TestNo: 8100M	(8100M)	Analysis Date: 10/3/2014	SeqNo: 627088						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Total Petroleum Hydrocarbons

ND

0.150

Surr: o-Terphenyl

68.67

0

100

0

68.7

40

140

Sample ID: LCS-24755	SampType: Lcs	TestCode: tph_w	Units: mg/L	Prep Date: 10/3/2014	RunNo: 56175						
Client ID: ZZZZZ	Batch ID: 24755	TestNo: 8100M	(8100M)	Analysis Date: 10/3/2014	SeqNo: 627089						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Total Petroleum Hydrocarbons

1.560

0.150

2

0

78.0

40

140

Surr: o-Terphenyl

85.18

0

100

0

85.2

40

140

Sample ID: LCS2-24755	SampType: Lcsd	TestCode: tph_w	Units: mg/L	Prep Date: 10/3/2014	RunNo: 56175						
Client ID: ZZZZZ	Batch ID: 24755	TestNo: 8100M	(8100M)	Analysis Date: 10/3/2014	SeqNo: 627090						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Total Petroleum Hydrocarbons

1.496

0.150

2

0

74.8

40

140

1.56

4.19

50

Surr: o-Terphenyl

83.26

0

100

0

83.3

40

140

0

0

50

Qualifiers: BRL Below Reporting Limit
J Analyte detected below quantitation limits
RL Reporting Limit

E Value above quantitation range
ND Not Detected at the Reporting Limit
S Spike Recovery outside recovery limits

H Holding times for preparation or analysis exceeded
R RPD outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

CLIENT: Lord Associates, Inc.

Work Order: 1409220

Project: 2137

TestCode: TSS_SM

Sample ID: MB-R56201	SampType: MBLK	TestCode: TSS_SM	Units: mg/L	Prep Date:	RunNo: 56201						
Client ID: ZZZZZ	Batch ID: R56201	TestNo: SM2540D		Analysis Date: 10/3/2014	SeqNo: 627209						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Total Suspended Solids	ND	4.00									
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Sample ID: LCS-R56201	SampType: LCS	TestCode: TSS_SM	Units: mg/L	Prep Date:	RunNo: 56201						
Client ID: ZZZZZ	Batch ID: R56201	TestNo: SM2540D		Analysis Date: 10/3/2014	SeqNo: 627210						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Total Suspended Solids	109.0	4.00	100	0	109	77.1	110				
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Qualifiers: BRL Below Reporting Limit

J Analyte detected below quantitation limits

RL Reporting Limit

E Value above quantitation range

ND Not Detected at the Reporting Limit

S Spike Recovery outside recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

**CHAIN OF CUSTODY RECORD**

GeoLabs, Inc. Environmental Laboratories
 45 Johnson Lane, Braintree, MA 02184
 p 781.848.7844 • f 781.848.7811
 www.geolabs.com

Sample Handling: circle choice
 Filtration Done
 Not Needed
 Lab to do
 Preservation Lab to do Y/N

1404220

PAGE 1 OF 1

Special Instructions
 *As, Ag, Sb, Cd, Cr, Cu, Pb, Hg, Ni, Se

** B/N only - NO ACID EXTRACTION

Turnaround: circle one 1-day 3-day 2-day <u>5/7-days</u>		Data Delivery: circle choice (s) Fax Format: <u>email</u> Excel <u>PDF</u>		GW-1 S-1 QC		MCP Methods DEP Other		Requirements: circle choice (s) CT RCP (Reasonable Confidence Protocols) State / Fed Program - Criteria	
Client: <u>LORD ASSOC. INC.</u> Address: <u>1506 PROV. HIGHWAY, SUITE 30</u> <u>NORWOOD, MA</u> Contact: <u>RALPH TELLA</u>				Phone: <u>781-255-5554</u> Fax: <u>781-255-5535</u> email: <u>RTELLA@LORDENV.COM</u>				Project: <u>2137</u> Project PO: <u>F-HAM</u> Invoice to: <u>RALPH</u>	

COLLECTION			SAMPLE LOCATION / ID	CONTAINER					GeoLabs SAMPLE NUMBER	Preservative:	Analysis Requested						Lab Use Only	
DATE	TIME	SAMPLED		TYPE	QUANTITY	MATRIX	COMP	GRAB									TEMPERATURE	LAB pH
9/30/14	9AM	RT	MW-7	V	2	GW		X	9220 -061	8260							7/5	
			MW-7	G	1	GW		X										
			MW-7	P	1	GW		X										
			MW-7	G	2	GW		X										
			MW-7	P	4	GW		X										

Matrix Codes: GW = Ground Water DW = Drinking Water S = Soil A = Air WW = Waste Water SL = Sludge O = Oil OT = Other				Received on Ice ☐		Preservatives 1 = HCl 3 = H2SO4 5 = NaOH 7 = Other 2 = HNO3 4 = Na2S2O3 6 = MEQH				Containers: A = Amber B = Bag O = Other G = Glass P = Plastic S = Summa V = Voa			
Relinquished by: <u>Ralph Tella</u> Date / Time: <u>9/30/14</u> <u>9:30 AM</u>				Received by: <u>[Signature]</u> Date / Time: <u>9/30/14</u> <u>1520</u>									

2010730.J&P.C of CR.09/22/10 THANK YOU - WE APPRECIATE YOUR BUSINESS All discounting will be removed after 90 days * All Payment terms are NET 30 Days. A late payment charge of 1.5% per month or 18% per year, together with expenses above and beyond collection costs, including attorney's fees and court costs, will be applied to balances that go beyond NET 30 days.

NH (2508) MA (MA-015)
 RI (LA000252)

ANALYTICAL REPORT



Friday, September 19, 2014

Ralph Tella
Lord Associates, Inc.
1506 Providence Highway
Suite 30
Norwood, MA 02062-4647

GeoLabs, Inc.
45 Johnson Lane
Braintree MA 02184
Tele: 781 848 7844
Fax: 781 848 7811

TEL: (781) 255-5554

FAX: (781) 255-5535

Project: 2137

Location: F-ham

Order No.: 1409066

Dear Ralph Tella:

GeoLabs, Inc. received 1 sample(s) on 9/10/2014 for the analyses presented in the following report.

The laboratory results in this report relate only to samples submitted.

All data for associated QC met method or laboratory specifications, except when noted in the Case Narrative.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

A handwritten signature in black ink, appearing to read "David Mick".

David Mick
Laboratory Director

For current certifications, please visit our website at www.geolabs.com

Certifications:

CT (PH-0148) - MA (M-MA015) - NH (2508) - RI (LA000252)

Date: 19-Sep-14

CLIENT: Lord Associates, Inc.
Project: 2137
Lab Order: 1409066

CASE NARRATIVE

Physical Condition of Samples

The project was received by the laboratory in satisfactory condition. The sample(s) were received undamaged, in appropriate containers with the correct preservation.

Project Documentation

The project was accompanied by satisfactory Chain of Custody documentation.

Analysis of Sample(s)

All extractable samples were extracted and analyzed and any Volatile samples were analyzed within method specified holding times and according to GeoLabs documented Standard Operating Procedure. No analytical anomalies or non-conformances were noted by the laboratory during the processing of these samples.

SIGNATURE:



LAB DIRECTOR

PRINTED NAME: David Mick

DATE: 9/19/14

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date: 19-Sep-14

CLIENT: Lord Associates, Inc.
Project: 2137

Lab Order: 1409066

Lab ID: 1409066-001

Collection Date: 9/10/2014 8:30:00 AM

Client Sample ID: MW-7

Matrix: GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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TOTAL METALS BY ICP - SW6010B

Analyst: QS

Prep Method: (SW3010A)

Prep Date: 9/17/2014 9:45:05 AM

Lead	0.102	0.0500		mg/L	1	9/17/2014
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Qualifiers: B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
RL Reporting Limit

BRL Below Reporting Limit
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
S Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

APPENDIX C



MASSACHUSETTS - Middlesex County

F

1767 Milestones (added 1971 - - #71000084)
Between Boston and Springfield along Old Post Rd. , Cambridge

Historic Significance: Event
Area of Significance: Transportation
Period of Significance: 1750-1799, 1700-1749
Owner: **Private , State**
Historic Function: Recreation And Culture
Historic Sub-function: Monument/Marker
Current Function: Recreation And Culture
Current Sub-function: Monument/Marker

F

1767 Milestones (added 1971 - - #71000084)
Between Boston and Springfield along Old Post Rd. , Sudbury

Historic Significance: Event
Area of Significance: Transportation
Period of Significance: 1750-1799, 1700-1749
Owner: **Private , State**
Historic Function: Recreation And Culture
Historic Sub-function: Monument/Marker
Current Function: Recreation And Culture
Current Sub-function: Monument/Marker

I d p b | # j h q h d a r j | # R q d b h

j h q h d a r j | e d q n l f r p

0 0 f 0 0 # 0 0 f 0 0 y h g 0 0 h o l d / n v # 0 0 # 0 0 h 0 0 d g h v w i k e 0 0 d u j 0 0 f 0 0 k / n 0 0 q d i n

F

1790 House (added 1974 - - #74000381)
Also known as **North Congregational Parish Church**
827 Main St. , Woburn

Historic Significance: Architecture/Engineering
Architect, builder, or engineer: Unknown
Architectural Style: Federal
Area of Significance: Architecture
Period of Significance: 1800-1824, 1750-1799
Owner: **Private**
Historic Function: Domestic, Religion
Historic Sub-function: Church Related Residence, Single Dwelling
Current Function: Religion
Current Sub-function: Church Related Residence, Church School

F

Abbot, Edwin, House (added 1979 - - #79000354)
Also known as **Longy School of Music**
1 Follen St. , Cambridge

Historic Significance: Architecture/Engineering
Architect, builder, or engineer: Longfellow, Alden & Harlow
Architectural Style: Other, Romanesque
Area of Significance: Architecture
Period of Significance: 1875-1899
Owner: **Private**
Historic Function: Domestic
Historic Sub-function: Single Dwelling
Current Function: Education
Current Sub-function: School

F

Aborn, John, House (added 1982 - - #82001883)
41 Orchard St. , Cambridge

Historic Significance: Architecture/Engineering

Architect, builder, or engineer: Fernald, Joshua
 Architectural Style: Greek Revival, Other, Italianate
 Area of Significance: Architecture
 Period of Significance: 1875-1899, 1825-1849
 Owner: **Private**
 Historic Function: Domestic
 Historic Sub-function: Single Dwelling
 Current Function: Domestic
 Current Sub-function: Single Dwelling

Ace Art Company (added 1985 - - #85000497)
 24 Gould St. , Reading

Historic Significance: Person, Event, Architecture/Engineering
 Architect, builder, or engineer: Unknown
 Architectural Style: Art Deco
 Historic Person: Riley, Lester S.
 Significant Year: 1924
 Area of Significance: Architecture, Industry
 Period of Significance: 1925-1949, 1900-1924
 Owner: **Private**
 Historic Function: Commerce/Trade, Industry/Processing/Extraction
 Historic Sub-function: Manufacturing Facility
 Current Function: Commerce/Trade, Industry/Processing/Extraction
 Current Sub-function: Manufacturing Facility

Acton Centre Historic District (added 1983 - - #83000780)
 Main St., Wood and Woodbur Lanes, Newton, Concord, and Nagog Hill Rds. , Acton

Historic Significance: Architecture/Engineering, Event
 Architect, builder, or engineer: Taylor, Moses, Hartwell & Richardson
 Architectural Style: Greek Revival, Federal
 Area of Significance: Politics/Government, Architecture, Military, Industry, Agriculture, Religion
 Period of Significance: 1850-1874, 1825-1849, 1800-1824
 Owner: **Private**
 Historic Function: Commerce/Trade, Domestic, Government, Religion
 Historic Sub-function: Business, City Hall, Religious Structure, Single Dwelling
 Current Function: Commerce/Trade, Domestic, Government, Religion

Adams, Amos, House (added 1986 - - #86001767)
 37 Park Ave. , Newton

Historic Significance: Architecture/Engineering
 Architect, builder, or engineer: Unknown
 Architectural Style: Queen Anne
 Area of Significance: Architecture
 Period of Significance: 1875-1899
 Owner: **Private**
 Historic Function: Domestic
 Historic Sub-function: Secondary Structure, Single Dwelling
 Current Function: Domestic
 Current Sub-function: Secondary Structure, Single Dwelling

Adams, Charles—Woodbury Locke House (added 1989 - - #89001240)
 178 Central St. , Somerville

Historic Significance: Event, Architecture/Engineering, Person
 Architect, builder, or engineer: Unknown
 Architectural Style: Greek Revival
 Historic Person: Adams, Charles
 Significant Year: 1840
 Area of Significance: Commerce, Agriculture, Architecture
 Period of Significance: 1825-1849
 Owner: **Private**
 Historic Function: Domestic
 Historic Sub-function: Secondary Structure, Single Dwelling
 Current Function: Domestic
 Current Sub-function: Secondary Structure, Single Dwelling

Adams, Seth, House (added 1986 - - #86001768)
 72 Jewett St. , Newton

Historic Significance: Person
 Historic Person: Adams, Seth
 Area of Significance: Social History
 Period of Significance: 1850-1874
 Owner: **Private**
 Historic Function: Domestic
 Historic Sub-function: Single Dwelling

Current Function: Vacant/Not In Use

Allen, Abel, House (added 1978 -- #78000465)
S of Weston at 1 Chestnut St. , Weston

Historic Significance: Person, Architecture/Engineering
 Architect, builder, or engineer: Rand, Thomas
 Architectural Style: Other, Colonial
 Historic Person: Allen, Abel, et al.
 Significant Year: 1961, 1760, 1696
 Area of Significance: Law, Politics/Government, Architecture, Military, Community Planning And
 Development, Agriculture, Religion
 Period of Significance: 1800-1824, 1750-1799, 1650-1699
 Owner: Private
 Historic Function: Domestic
 Historic Sub-function: Single Dwelling
 Current Function: Domestic
 Current Sub-function: Single Dwelling

Allen, Nathaniel Topliff, Homestead (added 1978 -- #78000457)
Also known as **Allen House**
25 Webster St. , Newton

Historic Significance: Event, Person, Architecture/Engineering
 Architect, builder, or engineer: Unknown
 Architectural Style: Greek Revival
 Historic Person: Allen, Nathaniel Topliff
 Significant Year: 1852, 1848
 Area of Significance: Education, Architecture, Social History
 Period of Significance: 1875-1899, 1850-1874, 1825-1849
 Owner: Private
 Historic Function: Domestic, Education
 Historic Sub-function: Educational Related Housing, School, Single Dwelling
 Current Function: Domestic
 Current Sub-function: Single Dwelling

Allyn House (added 1985 -- #85002680)
Also known as # 339
94 Oakland Ave. , Arlington

Historic Significance: Architecture/Engineering
 Architect, builder, or engineer: Unknown
 Architectural Style: Bungalow/Craftsman
 Area of Significance: Architecture
 Period of Significance: 1875-1899
 Owner: Private
 Historic Function: Domestic
 Historic Sub-function: Single Dwelling
 Current Function: Domestic
 Current Sub-function: Single Dwelling

Almshouse (added 1982 -- #82001908)
41 Orchard St. , Cambridge

Historic Significance: Event, Architecture/Engineering
 Architect, builder, or engineer: Dwight, Rev. Louis, Bryant, Gridley J. F.
 Architectural Style: Italianate, Greek Revival
 Area of Significance: Architecture, Social History
 Period of Significance: 1925-1949, 1900-1924, 1875-1899, 1850-1874
 Owner: Private
 Historic Function: Domestic, Government
 Historic Sub-function: Institutional Housing
 Current Function: Religion
 Current Sub-function: Church Related Residence, Church School

Almshouse (added 1984 -- #84002464)
136 Elm St. , Stoneham

Historic Significance: Event, Architecture/Engineering
 Architect, builder, or engineer: Unknown
 Architectural Style: Greek Revival
 Area of Significance: Architecture, Social History
 Period of Significance: 1850-1874
 Owner: Local
 Historic Function: Domestic, Social
 Historic Sub-function: Civic, Institutional Housing
 Current Function: Health Care
 Current Sub-function: Sanatorium

American Net and Twine Company Factory (added 1982 - - #82001906)
155 2nd St. , Cambridge

Historic Significance: Architecture/Engineering, Event
Architect, builder, or engineer: Unknown
Architectural Style: Other
Area of Significance: Architecture, Industry
Period of Significance: 1875-1899
Owner: **Private**
Historic Function: Industry/Processing/Extraction
Historic Sub-function: Manufacturing Facility
Current Function: Industry/Processing/Extraction
Current Sub-function: Manufacturing Facility

American Waltham Watch Company Historic District (added 1989 - - #89001501)
185--241 Crescent St. , Waltham

Historic Significance: Architecture/Engineering, Event
Architect, builder, or engineer: Unknown
Architectural Style: Romanesque, Queen Anne
Area of Significance: Industry, Architecture
Period of Significance: 1900-1924, 1875-1899
Owner: **Private**
Historic Function: Industry/Processing/Extraction
Historic Sub-function: Manufacturing Facility
Current Function: Industry/Processing/Extraction
Current Sub-function: Manufacturing Facility

American Watch Tool Company (added 1989 - - #89001574)
169 Elm St. , Waltham

Historic Significance: Architecture/Engineering, Event
Architect, builder, or engineer: Unknown
Architectural Style: No Style Listed
Area of Significance: Industry, Architecture
Period of Significance: 1900-1924, 1875-1899
Owner: **Private**
Historic Function: Industry/Processing/Extraction
Historic Sub-function: Manufacturing Facility
Current Function: Industry/Processing/Extraction
Current Sub-function: Manufacturing Facility

Andover Street Historic District (added 2000 - - #00000568)
245--834 Andover St., 569, 579 E. Merrimack St. , Lowell

Historic Significance: Architecture/Engineering, Event
Architect, builder, or engineer: Stickney, Frederick W., Clark, Edwin R.
Architectural Style: Queen Anne, Gothic Revival
Area of Significance: Community Planning And Development, Agriculture, Architecture
Period of Significance: 1925-1949, 1900-1924, 1875-1899, 1850-1874, 1825-1849, 1800-1824
Owner: **Private**
Historic Function: Agriculture/Subsistence, Domestic
Historic Sub-function: Agricultural Fields, Secondary Structure, Single Dwelling
Current Function: Domestic, Religion
Current Sub-function: Religious Structure, Single Dwelling

Andrews, Joseph, House (added 1989 - - #89001554)
258 Linden St. , Waltham

Historic Significance: Architecture/Engineering
Architect, builder, or engineer: Harrington, Charles
Architectural Style: Italianate
Area of Significance: Architecture
Period of Significance: 1850-1874
Owner: **Private**
Historic Function: Domestic
Historic Sub-function: Single Dwelling
Current Function: Domestic
Current Sub-function: Single Dwelling

Angier, John B., House (added 1975 - - #75000267)
129 High St. , Medford

Historic Significance: Architecture/Engineering
Architect, builder, or engineer: Davis, Alexander Jackson
Architectural Style: Gothic Revival
Area of Significance: Architecture
Period of Significance: 1825-1849
Owner: **Private**

Historic Function: Domestic
 Historic Sub-function: Secondary Structure, Single Dwelling
 Current Function: Domestic
 Current Sub-function: Secondary Structure, Single Dwelling

F **Arlington Center Historic District** (added 1974 - - #74000361)
 Also known as **See Also: Arlington Center Historic District (Boundary Increase)**
 Bounded by Massachusetts Ave. and Academy, Pleasant and Maple Sts. , Arlington

Historic Significance: Architecture/Engineering
 Architect, builder, or engineer: Multiple
 Architectural Style: Gothic Revival, Late 19th And 20th Century Revivals, Federal
 Area of Significance: Art, Architecture, Landscape Architecture
 Period of Significance: 1900-1924, 1875-1899, 1850-1874, 1825-1849, 1800-1824, 1750-1799
 Owner: **Private , Local**
 Historic Function: Domestic, Education, Government, Landscape, Religion
 Historic Sub-function: City Hall, Library, Religious Structure, Secondary Structure, Single Dwelling
 Current Function: Domestic, Education, Government, Landscape, Religion
 Current Sub-function: City Hall, Library, Religious Structure, Secondary Structure, Single Dwelling

F **Arlington Center Historic District (Boundary Increase)** (added 1985 - - #85002691)
 Also known as **See Also: Arlington Center Historic District; Russell, Jason, Ho**
 Roughly bounded by Jason St., Massachusetts Ave., Pleasant and Gray Sts. , Arlington

Historic Significance: Event, Architecture/Engineering
 Architect, builder, or engineer: Multiple
 Architectural Style: Late 19th And 20th Century Revivals, Bungalow/Craftsman, Late Victorian
 Area of Significance: Exploration/Settlement, Architecture, Commerce
 Period of Significance: 1925-1949, 1900-1924, 1875-1899, 1850-1874, 1825-1849
 Owner: **Federal , Private , Local**
 Historic Function: Commerce/Trade, Domestic, Religion
 Historic Sub-function: Multiple Dwelling, Religious Structure, Single Dwelling, Specialty Store
 Current Function: Commerce/Trade, Domestic, Religion
 Current Sub-function: Multiple Dwelling, Religious Structure, Single Dwelling, Specialty Store

F **Arlington Coal & Lumber** (added 1985 - - #85001020)
 41 Park Ave. , Arlington

Historic Significance: Architecture/Engineering
 Architect, builder, or engineer: Unknown
 Architectural Style: Stick/Eastlake, Gothic
 Area of Significance: Architecture
 Period of Significance: 1875-1899
 Owner: **Private**
 Historic Function: Commerce/Trade, Social
 Historic Sub-function: Business, Meeting Hall
 Current Function: Commerce/Trade
 Current Sub-function: Business

F **Arlington Gaslight Company** (added 1985 - - #85001021)
 Also known as **Gas Works**
 Grove St. Town Yard , Arlington

Historic Significance: Event, Architecture/Engineering
 Architect, builder, or engineer: Unknown
 Architectural Style: Romanesque
 Area of Significance: Architecture, Industry
 Period of Significance: 1900-1924
 Owner: **Local**
 Historic Function: Industry/Processing/Extraction
 Historic Sub-function: Energy Facility, Manufacturing Facility
 Current Function: Government
 Current Sub-function: Public Works

F **Arlington Heights Center Historic District** (added 1985 - - #85003748)
 Also known as **Buildings at 1334 and 1339 Massachusetts Avenue**
 1334 and 1339 Massachusetts Ave. , Arlington

Owner: **Private**

F **Arlington Pumping Station** (added 1985 - - #85001022)
 Brattle Court off Brattle St. , Arlington

Historic Significance: Event, Architecture/Engineering
 Architect, builder, or engineer: Dodge, C.A.
 Architectural Style: Renaissance
 Area of Significance: Architecture, Community Planning And Development
 Period of Significance: 1900-1924

Owner: Local
 Historic Function: Government
 Historic Sub-function: Public Works
 Current Function: Government
 Current Sub-function: Public Works

Arlington Reservoir (added 1985 - - #85002676)
 Also known as # 902
 Park Circle , Arlington

Historic Significance: Architecture/Engineering
 Architect, builder, or engineer: Low, Frederick F.
 Architectural Style: Classical Revival
 Area of Significance: Architecture
 Period of Significance: 1900-1924
 Owner: Local
 Historic Function: Other
 Current Function: Other

Ash Street Historic District (added 1982 - - #82001916)
 Ash St. and Ash St. Place between Brattle and Mount Auburn Sts. , Cambridge

Historic Significance: Architecture/Engineering
 Architect, builder, or engineer: et al., Johnson, Philip
 Architectural Style: Greek Revival, Italianate, International Style
 Area of Significance: Architecture
 Period of Significance: 1925-1949, 1900-1924, 1875-1899, 1850-1874, 1825-1849
 Owner: Private
 Historic Function: Domestic
 Historic Sub-function: Single Dwelling
 Current Function: Domestic
 Current Sub-function: Single Dwelling

Ash Street Historic District (Boundary Increase) (added 1986 - - #86003902)
 Also known as See Also: Ash Street Historic District
 3--10 Acacia St., 11--42 Hawthorn St., and 151--165 Mt. Auburn St. , Cambridge

Ashland Dam and Spillway (added 1990 - - #89002289)
 N end of Ashland Reservoir in Ashland State Park , Ashland

Historic Significance: Architecture/Engineering, Event
 Architect, builder, or engineer: Unknown
 Architectural Style: No Style Listed
 Area of Significance: Politics/Government, Community Planning And Development, Engineering
 Period of Significance: 1875-1899
 Owner: Local
 Historic Function: Industry/Processing/Extraction
 Historic Sub-function: Water Works
 Current Function: Landscape
 Current Sub-function: Plaza

Ashland Town House (added 2004 - - #04000120)
 Also known as Ashland Town Hall
 101 Main St. , Ashland

Historic Significance: Architecture/Engineering, Event
 Architect, builder, or engineer: Johnson, A.W., et.al
 Architectural Style: Italianate, Greek Revival
 Area of Significance: Politics/Government, Education, Architecture, Community Planning And Development
 Period of Significance: 1950-1974, 1925-1949, 1900-1924, 1875-1899, 1850-1874
 Owner: Local
 Historic Function: Education, Government, Recreation And Culture, Social
 Historic Sub-function: Auditorium, City Hall, Correctional Facility, Library, Meeting Hall, School, Theater
 Current Function: Government
 Current Sub-function: City Hall

Assington (added 1986 - - #86000490)
 172 Forest St. , Sherborn

Historic Significance: Event, Architecture/Engineering
 Architect, builder, or engineer: Aldrich, William T.
 Architectural Style: Other
 Area of Significance: Architecture, Community Planning And Development
 Period of Significance: 1925-1949
 Owner: Private
 Historic Function: Domestic
 Historic Sub-function: Single Dwelling
 Current Function: Domestic

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215 1st St. , Cambridge

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110 Hancock St., Cambridge

11

64 Hancock St., Newton

17

Harvard University campus, Cambridge

R q d q h # E d f k h a r u v # I r u # J Q v

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Washington and Walnut Aves. and Agassiz, Humboldt, Arlington and Lancaster Sts., Cambridge

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Ayer, Albert, House (added 1989 -- #89000635)
8 Brooks St. , Winchester

Historic Significance: Architecture/Engineering, Person
Architect, builder, or engineer: Unknown
Architectural Style: Italianate
Historic Person: Ayer, Albert
Significant Year: 1865
Area of Significance: Architecture, Community Planning And Development
Period of Significance: 1850-1874
Owner: Private
Historic Function: Domestic
Historic Sub-function: Single Dwelling
Current Function: Domestic
Current Sub-function: Single Dwelling

Ayer, Thomas, House (added 1989 -- #89000630)
8 Grove St. , Winchester

Historic Significance: Event, Architecture/Engineering
Architect, builder, or engineer: Unknown
Architectural Style: Italianate
Area of Significance: Architecture, Community Planning And Development
Period of Significance: 1850-1874
Owner: Private
Historic Function: Domestic
Historic Sub-function: Single Dwelling
Current Function: Domestic
Current Sub-function: Single Dwelling

B and B Chemical Company (added 1982 -- #82001918)
780 Memorial Dr. , Cambridge

Historic Significance: Architecture/Engineering
Architect, builder, or engineer: Coolidge, Shepley, Bulfinch & Abbott
Architectural Style: International Style
Area of Significance: Architecture
Period of Significance: 1925-1949
Owner: Private
Historic Function: Commerce/Trade, Industry/Processing/Extraction
Historic Sub-function: Business, Manufacturing Facility
Current Function: Industry/Processing/Extraction
Current Sub-function: Manufacturing Facility

Bacon, Clifton, House (added 1989 -- #89001244)
27 Chester St. , Somerville

Historic Significance: Architecture/Engineering
Architect, builder, or engineer: Unknown
Architectural Style: Queen Anne, Shingle Style
Area of Significance: Architecture
Period of Significance: 1875-1899
Owner: Private
Historic Function: Domestic
Historic Sub-function: Single Dwelling
Current Function: Domestic
Current Sub-function: Single Dwelling

Bacon, Robert, House (added 1989 -- #89000611)
6 Mystic Valley Pkwy. , Winchester

Historic Significance: Architecture/Engineering, Person
Architect, builder, or engineer: Kutts, John
Architectural Style: Federal, Greek Revival
Historic Person: Bacon, Robert
Significant Year: 1830
Area of Significance: Industry, Architecture
Period of Significance: 1825-1849
Owner: Private
Historic Function: Domestic
Historic Sub-function: Single Dwelling
Current Function: Domestic
Current Sub-function: Single Dwelling

Bacon, Stephen, House (added 1990 -- #90000174)
105 N. Main St. , Natick

Historic Significance: Architecture/Engineering
Architect, builder, or engineer: Unknown

Architectural Style: Other, Colonial
 Area of Significance: Architecture
 Period of Significance: 1700-1749
 Owner: Private
 Historic Function: Domestic
 Historic Sub-function: Single Dwelling
 Current Function: Domestic, Funerary
 Current Sub-function: Mortuary, Single Dwelling



Bacon-Gleason-Blodgett Homestead (added 1977 -- #77000166)

Also known as **Old Mill House**

118 Wilson Rd. , Bedford

Historic Significance: Person, Architecture/Engineering
 Architect, builder, or engineer: Unknown
 Architectural Style: Other, Georgian
 Historic Person: Wilson, John, et al.
 Significant Year: 1740
 Area of Significance: Military, Industry, Agriculture, Architecture
 Period of Significance: 1700-1749
 Owner: Private
 Historic Function: Agriculture/Subsistence, Domestic
 Historic Sub-function: Single Dwelling
 Current Function: Domestic
 Current Sub-function: Single Dwelling

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