

Municipality/Organization: Town of Concord, MA

EPA NPDES Permit Number: MA041187

MassDEP Transmittal Number: W-035280

**Annual Report Number
& Reporting Period:** No. 9: March 11-March 12

**NPDES PII Small MS4 General Permit
Annual Report
(Due: May 1, 2012)**

Part I. General Information

Contact Person: William J. Renault Jr., P.E. **Title:** Town Engineer

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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, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: 

Printed Name: Christopher Whelan

Title: Town Manager

Date: April 30, 2012

Part II. Self-Assessment

The Town of Concord, MA has completed the required self-assessment and has determined that our municipality is in compliance with all permit conditions.

Part III. Summary of Minimum Control Measures

1. Public Education and Outreach

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
1	Stormwater information page on Town of Concord website.	Concord Public Works (CPW)	Post stormwater information on Town webpages.	<p>Completed</p> <p>Website created in 2009 (Year 6) and linked to the town website. The page can be viewed at: http://www.concordma.gov under the Engineering Division's Page. Prior to 2009, stormwater information was posted on other town web pages as described below.</p> <p>CPW Water/Sewer Division page posted including information on water quality and posting of previous water quality reports including stormwater information.</p>	Continue to maintain and update the web page. As questions or comments arise, make edits to the page based upon frequently asked questions or comments.
		Division of Natural Resources (DNR)	Post stormwater information on Mill Brook Task Force webpage.	Mill Brook Task Force page posted prior to permit including information on stormwater education and basin tagging.	Continue to maintain and update the web page.

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2	Provide stormwater informational bill inserts.	CPW	Insert stormwater informational into Water/Sewer Division mailings once or more annually	Completed Provided Stormwater information within the Fall 2006 Water Connection mailer (newsletter for Concord Water customers). Stormwater information also included within annual Water Quality Report mailing by CPW's Water & Sewer Division.	Continue to include stormwater information within CPW Water/Sewer Division mailings and annual Water Quality Report.
3 Revised	Drop-off/Swap-off recycling days	CPW	Hold twice a year, every year	Completed Drop-off/Swap-off recycling days held May 7, 2011 and October 15, 2011. Both events also included an unwanted pharmaceuticals collection.	Drop-off/Swap-off recycling days currently scheduled for May 5, 2012 and October 13, 2012.
4	Provide stormwater information to businesses	CPW	Provide stormwater flyers to businesses in conjunction with Chamber of Commerce mailings and CPW's annual business recycling event.	Completed Emailed flyers/information and website link to over 400 businesses throughout the Town, via Chamber of Commerce within Year 8. Also provided informational flyers on stormwater to businesses that participated in Town recycling events within permit Year 7 and 8.	Continue providing information via yearly email to businesses via COC and/or business recycling events

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5	Provide informational brochures on recycling, household hazardous materials and medication disposal, composting, and water conservation.	CPW	Maintain at Town House, CPW Administration, and Dept. of Planning and Land management (DPLM)	Completed Always available	Continue to display and make available.
6	Hold "Conservation Coffees", informational and idea exchange sessions regarding maintenance of environmental quality.	DNR	Hold Monthly	Completed Held Monthly	Continue to hold monthly.
7	Provide informational brochures on open spaces and waterways.	Natural Resources Commission (NRC)	Maintain at Town House and NRC office.	Completed Always maintained	Continue to maintain and make available.
8	Maintain affiliations with various public conservation groups	NRC	Maintain affiliations	Completed Continued affiliations	Continue affiliations
9 Revised	Provide stormwater education to Concord Public Schools	CPW	Conduct a stormwater educational session with 8th graders as part of Public Works Day.	Completed CPW conducted a stormwater educational session to 8th graders during Public Works Day on May 20, 2011.	Conduct stormwater educational session to 8th graders during Public Works Day on June 8, 2012.

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		CPW	Conduct annual 4 th Grade educational session at Concord Public Schools on water quality.	<p>Completed CPW Water/Sewer Division conducted a 4th grade education session 12/7/11, 12/14/11 and 12/20/11 where 9 classes received a presentation which highlighted the hydrologic cycle, water conservation and the need to keep water clean by not dumping to the storm sewer system.</p>	Continue to conduct annual 4 th grade event in December 2012.
Added		CPW	Participate in Watershed Wise event at Concord Public Schools.	<p>Completed Developed talk entitled “Stormwater Quality and the Homeowner” for presentation at the Watershed Wise Night 4/10/12. Also developed a homeowner focused display for the pre-event meeting and greet where stormwater flyers were also available for handout.</p>	Continue participation in 2012 Watershed Wise night (if held).
10	Provide stormwater information to “Healthy Lawns” workshop	CPW	Provide information to workshop participants	<p>Completed Educational material developed, presented and discussed during 2008 workshop.</p>	If workshop conducted provide information to workshop participants.
11	Post stormwater information including web page address information on popular town bulletin boards and informational centers.	CPW	Post information on bulletin boards and informational brochures on stormwater and Phase II program	<p>Completed Stormwater education located at CPW Administration, DPLM offices and Town House.</p>	Continue to display and make available.

1a. Additions

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
12 Added	Develop targeted public outreach to pet owners regarding pet waste disposal based on illegal dumping activities discovered through catch basin cleaning and IDDE monitoring activities (BMPs 16, 18 and 37)	CPW	Develop informational brochures, dog owners mailing and neighborhood door hangers.	<p>Completed Developed educational brochures which were made available at the CPW offices, Town Clerk's office (the Town's administrator of dog licenses) and included within the presentations at the Watershed Wise night.</p>	Provide new pet waste information brochures for all new dog licenses and dog license renewals.
		CPW		<p>Completed Developed a targeted informational outreach within the neighborhoods of illegal dumping activities utilizing door hangers. Door hangers hung by CPW staff March 23rd and April 20th.</p>	Perform follow up inspections in areas of illegal dumping within 3 month, 6 month and 12 month to evaluate effectiveness of pet waste public outreach initiative
		CPW		<p>Completed Developed and mailed letter to all dog owners within Town regarding the illegal dumping activities and proper pet waste management.</p>	Perform follow up inspections in areas of illegal dumping within 3 month, 6 month and 12 month to evaluate effectiveness of pet waste public outreach initiative.

2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
13	Provide logistical support to river, etc. clean-up days.	CPW/DNR	Provide support once per year, on average. Hold annual Concord Clean Up event to collect trash within parks, open space and neighborhood areas within Town.	Completed Provide support to Green Team clean-up day Completed The Concord Clean Up event was held March 27– April 8, 2012.	Continue to provide support. Continue to hold annually
14	Tag catch basins throughout Town	NRC	Mill Brook Task Force tags all known catch basins within Mill Brook watershed as they are discovered and/or tags require replacement. (NRC)	Completed Continued monitoring, mapping and tagging of catch basins by the Mill Brook Task Force of the NRC.	Continue to monitor, map and tag catch basins as they are discovered and/or tags require replacement.
		CPW	Revise Town specifications for the standard CB grate to have “NO DUMPING: DRAINS TO WATERWAYS” cast into the perimeter of the grate.	Completed CPW revised the catch basin grate specifications to require the language specified. The new standard catch basin frame and grate was used for all new catch basin installations, catch basin replacements, and frame/grate replacements within 2011/2012. 20 new grates were installed.	Continue to use the new standard catch basin frame and grate on all new catch basin installations, catch basin replacements, and frame/grate replacements.
		CPW	Tag all catch basins within Town during planned catch basin cleaning activities	In Process Began installation of additional catch basin tags with catch basin cleaning activities. 113 new tags installed within Year 9. (459 tags total installed throughout Town)	Continue installation of new tags during catch basin cleaning operations Year 10.

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15	Accept public input for erosion control and stormwater quality issues within Town permitting processes.	NRC/ Dept. of Planning and Land Mgmt. (DPLM)	Accept public input at Town Board/Commission hearings.	Completed Public input accepted at Town Board/Commission hearings.	Continue to accept public input at Town Board/Commission hearings.
		CPW	Provide 10 day public input period for projects NOT requiring approval through Town Board/Commission hearings but meeting review thresholds of the Town of Concord Stormwater Regulations. Projects are posted on CPW website and Town Clerk's office, consistent with new Town of Concord Stormwater Regulations	Completed Created the "Site Plan Review" webpage on CPW website included project post date and comment due date. <i>http://www.concordma.gov/Pages/ConcordMA_Engineering/siteplan</i>	Continue to provide 10 day public input period through CPW website and Town Clerk postings.

2a. Additions

None

3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
16 Revised	Create GIS based drainage map of the entire Town	CPW	Create by year 5, maintain and update as needed.	Completed Inventory of drainage system (DMH, CBs and drain lines) completed within 2002-2003 and developed into a GIS data layer. 2004-2006: Drainage system mapping was field verified by Engineering Division and Highway Division staff	Continue to update GIS inventory as new information becomes available.
Revised		CPW	Provide updated drainage information to GIS staff for all drainage system modifications.	Completed Engineering Division staff verifies drainage layer accuracy while surveying and designing the annual roads program and drainage program projects. Drainage system mapping is updated when appropriate.	Continue to update GIS inventory information based on annual drainage and roads program improvements.
Revised		CPW	Provide updated drainage information to GIS staff based on annual catch basin cleaning activities.	Completed Highway Division staff complete measurements and IDDE inspections while performing catch basin cleaning activities and CB rehabs in the Fall 2011 and Spring 2012 and. Drainage layer updated when appropriate.	Continue to update GIS inventory information based on annual catch basin cleaning activities.
Added		CPW	Begin drainage layer accuracy improvement project to provide survey-grade position and elevation data	Completed GIS Program staff is performing sub-cm GPS data collection on a per watershed basis. Data collection completed within the Elm, Nashoba and Cold Brook watersheds	Continue to update GIS information for the Sudbury River and Mill Brook watersheds.

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17	Town of Concord Public Storm Drainage Connection Regulations	CPW	<p>Modify policy to regulation based on feedback received from EPA Administrative Order requirements and comments received during Administrative Complaint process. Complete in Year 7; enforce at all times</p> <p>Incorporate connection regulation language into a comprehensive Town of Concord Stormwater Regulation document using authority of the Private Digging of Roads Bylaw and MGL Chapter 83, Section 10. Complete in Year 8; enforce at all times</p>	<p>Completed Drafted new regulations and forwarded to EPA for review and comment in January 2010. No comments received back from EPA regarding previously submitted PSDCR.</p> <p>Completed Town of Concord Stormwater Regulations adopted by the Public Works Commission March 15, 2011, using authority of the Private Digging of Roads Bylaw and MGL 83 Section 10. Regulations enforced at all times.</p>	<p>Adopt regulations upon receipt of comments from EPA. Enforce at all times.</p> <p>Enforce regulations at all times.</p>
18	Revised Develop system to locate priority areas of illicit connections.	CPW	<p>Investigate <u>all</u> catch basins and drain manholes within Town for visual indicators of illicit discharges.</p> <p>In place by end of year 5.</p> <p>Develop maps of priority areas for additional monitoring based on areas with positive indicators during 2002-2003 drainage system inventory.</p>	<p>Completed Inventory of entire drainage system completed in association with BMP #14 (between 2002 and 2003) included visual inspection of all drainage structures (CBs and DMHs) within the Town. The inspection identified IDDE indicators including staining, dryflow, foam, odor, etc.</p> <p>Completed Performed follow up inspection for all priority areas including drainage structures and downstream outfalls.</p>	<p>Continue to monitor drainage structures for IDDE indicators consistent with IDDE Protocol.</p> <p>Continue to monitor drainage structures for IDDE indicators consistent with IDDE Protocol.</p>

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
		CPW	Based on requirement of EPA Administrative Order, perform visual screenings of all remaining outfalls outside of priority areas outlined above. Complete by end of Year 7.	Completed Visual inspections and logging of all outfalls within completed by the end of Year 7. Outfall Inspection Matrix is included as an attachment within Year 7 Annual Report.	Continue to monitor outfalls for IDDE indicators consistent with IDDE Protocol when appropriate.
		CPW	Based on requirement of EPA Administrative Order, perform dry weather outfall sampling and testing at outfalls based on screening program within Year 7. (17 dry weather samples identified)	Completed All 17 outfalls targeted for dry weather sampling were inspected and samples were collected from the seven outfalls where flow was observed during the sampling event.	Continue to monitor outfalls for IDDE indicators consistent with IDDE Protocol when appropriate.
		CPW	Based on requirement of EPA Administrative Order, perform wet weather outfall sampling of "all outfalls that discharge directly to a water body impaired for pathogens or discharge upstream of a water body impaired for pathogens". (62 wet-weather samples identified)	Completed All 62 outfalls targeted for wet weather sampling were inspected and samples were collected from 57 of the targeted outfalls within Year 7 Results of outfall testing were forwarded to EPA in November 2010 consistent with the Administrative Order requirements.	Continue to monitor outfalls for IDDE indicators consistent with IDDE Protocol when appropriate.
		CPW	Based on requirement of EPA Administrative Order, draft new IDDE Protocol by end of Year 7	Completed CPW drafted and supplied EPA with a document entitled "Town of Concord- IDDE Protocol" in January 2010. Provides a 5 phase standardized protocol for IDDE program.	Continue to utilize IDDE Protocols and investigate sources of new potential illicit discharges as they become known.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
Added		CPW	Follow-up testing required for 1 dry weather outfall and 4 wet weather outfalls from lists above. On-going mapping efforts also identified 13 additional outfalls to require wet weather testing. Complete by end of Year 9	Completed All remaining inspection and testing completed consistent with the Town's IDDE protocol within Year 9. Sampling and testing results included within this annual report.	Continue to monitor outfalls for IDDE indicators consistent with IDDE protocol when appropriate.
Added		CPW	Perform IDDE screening during annual catch basin cleaning activities.	Completed Highway Division crews utilize a mobile GIS application during catch basin cleaning activities, perform inspection/screening activities and highlight areas for follow up by Engineering Division staff.	Continue to perform screening and inspection activities during the catch basin cleaning activities and utilize IDDE Protocols to investigate sources of new potential illicit discharges as they become known.
19	Develop procedure for tracing source of illicit connections.	CPW	Based on requirement of EPA Administrative Order, draft new IDDE Protocol by end of Year 7. Protocol includes a 5 phase standardized protocol for IDDE program.	Completed CPW drafted and supplied EPA with a document entitled "Town of Concord- IDDE Protocol" in January 2010. Provides a 5 phase standardized protocol for IDDE program.	Continue to utilize IDDE Protocols and investigate sources of new potential illicit discharges as they become known.

EMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
20	Develop procedure for removing source of illicit/illegal discharges.	CPW	System in place by end of year 4.	<p>Completed Town of Concord Public Storm Drain Connection Policy (in place prior to permit), outlines requirements for connections to the Town drainage system and includes sections on enforcement. The PSDCP was used within permit term to regulate and remove both stormwater discharges and non-stormwater discharges to the Town's drainage system.</p>	
		CPW	Modify policy to regulation based on EPA Administrative Order and discussion and comments received during Administrative Complaint process. Complete in Year 7; enforce at all times	<p>Completed Drafted new regulations and forwarded to EPA for review and comment in January 2010.</p>	
		CPW	Incorporate removal authority language previously submitted EPA, into a comprehensive Town of Concord Stormwater Regulation document using authority of the Private Digging of Roads Bylaw and MGL Chapter 83, Section 10.	<p>Completed Town of Concord Stormwater Regulations adopted by the Public Works Commission March 15, 2011, using authority of the Private Digging of Roads Bylaw and MGL 83 Section 10.</p> <p>Regulations enforced at all times.</p>	Enforce regulations at all times.
			Complete in Year 8; enforce at all times		

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
21	Develop procedure for evaluating the progress of the programs.	CPW	Based on requirement of EPA Administrative Order, draft new IDDE Protocol by end of Year 7.	Completed CPW drafted and supplied EPA with a document entitled "Town of Concord- IDDE Protocol" within Year 7. Provides a 5 phase standardized protocol for IDDE program which includes procedures for removing illicit discharges	Continue to utilize protocol and remove sources of new potential illicit discharges as they become known.
22	Implement BMPs 16-21 (i.e. the IDDE program)	CPW	Based on requirement of EPA Administrative Order, draft new IDDE Protocol by end of Year 7	Completed CPW drafted and supplied EPA with a document entitled "Town of Concord- IDDE Protocol" within Year 7. Provides a 5 phase standardized protocol for IDDE program including procedure for follow up inspections and evaluation of illicit connection removal efforts.	Utilize protocol and perform follow-up testing/inspections when appropriate.
23	Implement BMPs 16-21 (i.e. the IDDE program)	CPW	Implement during Year 7	Completed IDDE program implemented.	Continue to carry out IDDE program.
	Develop Wastewater Master Plan	CPW/ Water/Sewer	Completed creation by end of Year 1.	Completed CWMP created.	Continue to utilize guidelines within the CWMP.
		CPW/ Water/Sewer	Create Wastewater Planning Task Force to investigate possible amendments to the CWMP	Completed Board of Selectman created Wastewater Planning Task Force to further examine centralized wastewater treatment facility capacity constraints and develop recommendations for Town Meeting 2009 Approval	Continue Wastewater Capacity Study, investigating alternatives analysis to address wastewater capacity constraints and align comprehensive long range plan, planned production housing plan and comprehensive wastewater management plan.

3a. Additions

None

4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
24	All projects [in or near wetlands] which are required to file MADEP Stormwater Management Form (Standards #1 - #10)	NRC	100% compliance for all work within wetland resource areas and buffer zones.	Completed Continued to require full compliance.	Continue to require full compliance and implement Wetlands Bylaw and Regulations.
		NRC	Adopt new non-zoning Wetlands Bylaw and Regulations	Completed New wetland bylaw adopted at 2009 Town meeting. Wetland Bylaw Regulations adopted at 2010 Town Meeting. Bylaw codifies a 25' no disturb zone from wetlands, adds protection for certified vernal pools by creating a 100-foot Buffer Zone from certified vernal pools; and provides the ability for the Town to issue fines for noncompliant offenders.	Continue to require full compliance and implement Wetlands Bylaw and Regulations

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25	Soil Erosion and Sediment Control section incorporated into Subdivision Rules and Regulations and Site Plan Review standards.	Dept. of Planning and Land Mgmt. (DPLM) / CPW	Soil Erosion and Sediment Control Standards updated within CPW Design Standards and Construction Specifications. Subdivision Rules and Regulations and Site Plan Review standards reference the design standards.	<p>Completed</p> <p>Prior to permit issuance, CPW Design Standards and Construction Specifications developed. All development and redevelopment work regulated through subdivision review process, site plan review process, and Right of Way and Building permit application processes. All construction work performed in accordance with Concord Public Works Design Standards and Construction Specifications.</p> <p>During Year 7, Soil Erosion and Sediment Control standards updated within Concord Public Works Design Standards and Construction Specifications.</p>	

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
	Town of Concord Stormwater Regulations	CPW	<p>Adopt comprehensive Stormwater Regulations using authority of the Private Digging of Roads Bylaw and MGL Chapter 83, Section 10. Regulations require submittals of erosion control and stormwater management plans for projects disturbing an acre of land or projects requiring technical stormwater peer review through the subdivision review process, site plan review process, and Right of Way and Building permit application processes.</p> <p>Complete in Year 8; enforce at all times</p>	<p>Completed Town of Concord Stormwater Regulations adopted by the Public Works Commission March 15, 2011.</p>	Continue to enforce new Stormwater Regulations
	Public Works Design and Construction Standards and Details	CPW	<p>Revise Public Works Design and Construction Standards and Details to clarify submittal requirements for Erosion Control Plans, Stormwater Management Plans and Long term Operation and Maintenance Plans consistent with new Town of Concord Stormwater Regulations.</p> <p>Standards also provide requirements for design of stormwater BMPs and erosion control BMPs.</p>	<p>Completed Concord Public Works Design and Construction Standards and Details adopted by the Public Works Commission March 15, 2011.</p>	Continue to regulate development and redevelopment projects through subdivision review process, site plan review process and Right of Way permit application process and ensure construction performed in accordance with Public Works Design and Construction Standards and Details and Town of Concord Stormwater Regulations.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
26	Site Plan Reviews by Town Staff	DPLM, DNR, CPW	All site plans reviewed for water quality concerns.	Completed All regulated site plans reviewed for water quality concerns and to ensure conformance with Town of Concord Stormwater Regulations and Public Works Design and Construction Standards and Details.	Continue to review all regulated site plans for water quality concerns and to ensure conformance with Town of Concord Stormwater Regulations and Public Works Design and Construction Standards and Details.
27	Public input on all proposed projects subject to local regulations.	DPLM, DNR, CPW	Purchase and implement new Town wide permitting software to improve the overall communication between departments/divisions	Ongoing Town staff evaluating the options for permitting software.	Purchase and implement new Town wide permitting software.
28	Site inspection of construction projects for proper erosion control.	DPLM, NRC	Planning Board, Board of Appeals & NRC allow public comment on regulated projects. Develop Public Works Design and Construction Standards to include requirements for submittal of monthly reports prepared by a qualified Environmental Monitor.	Completed Ongoing at all times.	Continue at all times.
		CPW		Completed Public Works Concord Public Works Design and Construction Standards and Details adopted by Public Works Commission on March	Continue to ensure construction is performed in accordance with Concord Public Works Design and Construction Standards and Details.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
		DPLM	Condition projects meeting erosion control plan review thresholds to require monthly environmental monitor submittals	Completed Projects appropriately conditioned and submittals provided as required. (Monthly erosion control reports provided for 4 on-going projects in Year 9)	Continue to condition environmental monitor submittals. (2 new projects in review currently)
		DNR	DNR inspects all sites with an active Order of Conditions.	Completed Ongoing at all times.	Continue DNR inspections.
		CPW	Construction sites also receive periodic visits from Town staff to ensure proper operation of erosion controls.	Completed Inspections of construction sites conducted for compliance with approvals. Inspections ensure construction performed in accordance with Concord Public Works Design and Construction Standards and Details.	Continue to ensure construction is performed in accordance with Concord Public Works Design and Construction Standards and Details.
29	All work within the public right-of-way (ROW) is inspected to prevent erosion and sediments from washing into the public way.	CPW	Ensure all projects receiving access through the Town's right of way obtain ROW permit. Inspect all construction sites receiving ROW permit application approval. Ensure all construction work is performed in accordance with Concord Public Works Design Standards and Construction Specifications.	Completed Inspections of construction sites conducted for compliance with approvals. Inspections ensured construction performed in accordance with Concord Public Works Design Standards and Construction Specifications.	Continue permitting and inspecting construction sites receiving access through the Town's right of way to ensure construction is performed in accordance with Concord Public Works Design Standards and Construction Specifications.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
30	Stormwater pollution prevention training provided to Town's inspectors of construction sites, and Municipal Operations		Appropriate employees trained annually on pollution prevention. Upon completion of BMP #24 additional training will be provided.	Completed Training provided to CPW of the methods concerning pollution prevention and appropriate spill control and protocol.	Continue to implement appropriate protocol and train new employees of the correct methods of stormwater pollution prevention and spill control.

4a. Additions
None

5. Post-Construction Stormwater Management in New Development and Redevelopment

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
31	MADEP Stormwater Standards 2, 3, 4, and 7.	NRC	Concord Public Works Design Standards and Construction Specifications updated to require MADEP Stormwater standards met for all applicable redevelopment projects in Town requiring site plan review, subdivision review, a building permit and/or a ROW Permit.	Completed All regulated projects required to comply with this standard.	Continue compliance with all regulated projects.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
	Require threshold projects to meet MADEP Stormwater Standards 1-10.	CPW	Develop Concord Stormwater Regulations and Public Works Design and Construction Standards and Details to require all MADEP standards be met for projects regardless of proximity to wetlands.	<p>Completed Concord Stormwater Regulations and Public Works Design and Construction Standards Details adopted by the Public Works Commission March 15, 2011.</p> <p>Projects reviewed to ensure conformance with Concord Stormwater Regulations and Public Works Design and Construction Standards Details and MADEP Stormwater standards.</p>	Continue to ensure plans conform with Concord Stormwater Regulations and Public Works Design and Construction Standards Details and MADEP Stormwater standards.
32	Pre-construction review of regulated developments.	NRC, DPLM, CPW	Concord Public Works Design Standards and Construction Specifications updated to require MADEP Stormwater standards met for all applicable redevelopment projects in Town requiring site plan review, subdivision review, a building permit and/or a ROW Permit.	<p>Completed All regulated projects were reviewed.</p>	Continue to review all regulated projects.
		CPW	Develop Concord Stormwater Regulations and Public Works Design and Construction Standards and Details require preconstruction submittals of erosion control plan, stormwater management plan and long term operation and management plan.	<p>Completed Concord Stormwater Regulations and Public Works Design and Construction Standards Details adopted by the Public Works Commission March 15, 2011.</p> <p>Projects reviewed to ensure conformance with Concord Stormwater Regulations and Public Works Design and Construction Standards Details.</p>	Continue to ensure plans conform with Concord Stormwater Regulations and Public Works Design and Construction Standards Details

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33	Massachusetts Wetland Protection Act	NRC	100% of projects within wetland jurisdiction areas reviewed.	Completed All regulated projects were reviewed and permitted as necessary.	Continue to review and permit all projects as appropriate.
34	Inspection of regulated subdivisions.	CPW/DNR CPW	100% of regulated subdivisions inspected to ensure proper construction of environmental protections and drainage utilities. Develop Public Works Design and Construction Standards to include requirements for submittal of monthly reports prepared by a qualified Environmental Monitor.	Completed All regulated projects were inspected. Completed Public Works Concord Public Works Design and Construction Standards and Details adopted by Public Works Commission on March 15, 2011.	Continue to inspect all regulated projects as appropriate. Continue to ensure construction is performed in accordance with Concord Public Works Design and Construction Standards and Details.
35	Recommended list of BMPs to be used in new construction to be developed and provided to potential developers.	DPLM, CPW CPW	Concord Public Works Design Standards and Construction Specifications updated to include recommended structural stormwater BMPs. All applicable development and redevelopment projects in Town requiring site plan review, subdivision review, a building permit and/or a ROW Permit required to meet standards outlined in CPW Design Standards and Construction Specifications. Revise Public Works Design and Construction Standards and Details to provide contractors/developer standard for design of stormwater BMPs and erosion control BMPs.	Completed EPA poster “Stormwater and the Construction Industry” is posted prominently in the CPW Engineering Office. Poster depicts the proper use and placement of BMPs on construction sites. Completed Public Works Design and Construction Standards and Details updated and adopted by Public Works Commission on March 15, 2011.	Continue to make available to potential developers a list of reference documents for efficient and accepted BMPs. Draft requirements for site specific BMPs if necessary. Continue to make Public Works Design and Construction Standards and Details available and revise as appropriate.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
36	Subdivision / Site Plan Rules and Regulations	DPLM, CPW	Evaluate yearly for effectiveness.	Completed Updated Public Works Design and Construction Standards and Details to eliminate inconsistencies between Subdivision/Site Plan Rules and Regulations.	Continue to evaluate rules yearly for effectiveness.

5a. Additions
None

6. Pollution Prevention and Good Housekeeping in Municipal Operations

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
37	Cleaning of catch basins	CPW	25% of catch basins cleaned each year.	Completed Cleaned 25% of catch basins during Year 9.	Continue to clean up to 25% of catch basins within Town annually.
38	Annual street sweeping	CPW	100% of Town streets are swept of sand and sediments annually.	Completed 100% of streets swept of sand and sediments.	Continue to sweep all public streets at least once annually.
39	Central Business District (CBD) street sweeping.	CPW	All three CBDs swept weekly, weather permitting, April to November.	Completed Sweeping of all CBDs performed as planned.	Continue with weekly sweeping in CBDs from April to November.
40	Sewer main and manhole cleanings sent to WWTP.	CPW	All cleanings are properly disposed at WWTP.	Completed All cleanings were properly disposed at WWTP.	Continue to properly dispose all sewer main and manhole cleanings at WWTP.
41	Composting facility open to public, accepts used paint.	CPW	Open to public once a week from April to November.	Completed Composting facility opened as planned.	Continue to open and operate composting facility as planned.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
42 Revised	Hazardous household waste collection	CPW	Hold Household Hazardous Waste Events	Completed Maintained membership with in Minuteman Household Hazardous Waste Facility and held 7 events: 4/23, 5/21, 6/18, 7/16, 8/20, 9/18, 10/15 and 11/5.	Continue participation in monthly Minuteman network household hazardous waste events (7 Days - 4/21, 5/19, 6/16, 7/21, 8/18, 9/16, 10/20, 11/10)
Added		CPW	Provide year round collection at CPW offices for "universal" collection items (fluorescent bulbs, mercury, etc.).	Completed Material collected throughout permit Year 9.	Also hold Concord Hazardous Waste Disposal Day June 6 th Continue to collect hazardous material.
43	CPW drainage maintenance within the right-of-way and in NRC wetland jurisdictional areas are controlled by Drainage Maintenance Permit Order of Conditions issued by NRC	NRC, CPW	Meet terms and conditions of the permit.	Completed Met conditions within the general maintenance permit with the NRC for all Town initiated maintenance/construction activities. Permit includes requirements for erosion control during construction activities.	Continue to follow terms and conditions of the permit for all Town initiated maintenance/construction activities.
44	Stormwater Pollution Prevention Plan (SWPPP) and Integrated Contingency Plan (ICP) in place and in effect for CPW facility.	CPW	Maintain SWPPP and ICP, review and update as needed.	Completed Continued to comply with SWPPP, and ICP. Comply with SPCC Plan adopted in November 2008. Updated Spill Prevention Control and Countermeasure (SPCC) plan and contracted professional consulting services to complete a facility wide environmental audit.	Continue to comply with SWPPP, ICP, and SPCC Plan. Update as necessary. Implement recommendations developed from environmental audit and manage continued compliance with creation of compliance calendar.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
45	CPW operation employees receive stormwater, spill control and prevention, and wetlands training.	CPW	100% of operations employees receive training.	Completed All new employees receive initial orientation training.	All new employees continue to receive initial orientation. Develop and implement ongoing training program for all operations personnel.
46 Revised	Drainage system mapping and GIS system will be used to optimize catch basin cleaning program.	CPW	By year 5, catch basin cleaning program has been optimized.	Completed Highway Division crews completed measurements for infrastructure documentation, structure condition and depth of sediments removed within the catch basin cleaning operations. GIS Drainage layer updated when appropriate.	Highway Division cleaning crews will continue to document structure condition, sediment depth removed and drainage system map updates when appropriate.
47	Use GIS/Drainage system inventory/mapping to identify catch basins in poor condition and then repair and /or retrofit those basins.	CPW	Remove/Retrofit/Repair at least 5 catch basins a year, beginning in year 1.	Completed Highway Division crews documented structure condition and repaired when appropriate. 38 catch basins removed/retrofitted/ repaired and Derby Street drainage replaced 7 CBs, 4 DMHs and 625' of pipe.	Continue Highway Division crew structure condition documentation and perform maintenance when appropriate. Upgrade minimum of 5 catch basins per year.
48	Increase use of infiltration chambers, LID technologies and stormwater pretreatment for roadway and parking lot redevelopment projects.	CPW	Where soil and site conditions are appropriate, use infiltration chambers/low impact development techniques for stormwater treatment.	Completed See list of projects below.	Continue to identify new and retrofit projects where LID techniques can be employed.

1) Tuttle Trail Accessible Trail Parking Lot – CPW Engineering Division designed a porous pavement 2-car handicapped accessible parking facility for an accessible handicapped trail in the Town Forest. Construction was conducted by CPW Highway Division as an internal project. **Project Completed Fall of 2010.**

2) Route 62 Footprint Reconstruction Project – CPW worked with MassHighway/MassDOT to incorporate an infiltrative BMP retrofit into the 1.2 mi roadway reconstruction project funded through the Transportation Improvement Program. *Offline drywell infiltrators were*

incorporated into the proposed drainage extension being constructed as part of the project. The proposed drainage system will promote infiltration on the project, provide additional groundwater recharge and decrease overall stormwater volume created. **Project Completed Summer 2010.**

- 3) Vanderhoof Parking Lot – Connected a previously installed Vortech stormwater treatment chamber to the Town's drainage system as part of the reconstruction of the parking lot. The project increased total suspended solid removal in stormwater discharging to the Mill Brook. **Project Completed 2009.**
- 4) Plainfield Road - CPW designed an infiltrative BMP retrofit into a proposed roadway reconstruction project. Offline drywell infiltrators were incorporated into the proposed drainage extension being constructed as part of the project. The proposed drainage system will promote infiltration on the project, provide additional groundwater recharge and decrease overall stormwater volume created. Project is located within a Zone II. **Project Completed Summer 2010.**
- 5) Willard School LID Retrofit – The Town of Concord implemented low impact development techniques as part of the stormwater controls within the school replacement project. The project included the installation of rain gardens, bioretention areas and infiltrative BMPs to incorporate additional stormwater mitigation for the project. Project is located within a Zone II. **Project Completed 2009.**
- 6) Concord-Carlisle Regional High School – Concord Public Works – Park and tree crews implemented an all-organic turf care treatment regimen for the new turf junior varsity practice fields installed at the high school.
- 7) Prairie Street – Concord Public Works worked with a right-of-way permit applicant to install a bioretention area retrofit to infiltrate the road's stormwater runoff within the grass strip area of the road. The project was designed jointly by the Engineering Division and applicant landscaped architect. An agreement with the applicant and the Town was developed to ensure all maintenance activities are performed by applicant in accordance with MADEP Stormwater Handbook. This is a pilot project for possible future LID retrofits. **Project Completed 2009.**
- 8) Junction Park - CPW Engineering Division completed design and bidding for replacement of the brick paver surface at the park with a porous paver treatment. The infiltration design also retrofits a bioretention area into the park area. The project will be constructed within 2012.
- 9) Pail Factory Pocket Park – CPW Engineering Division conceptually designed and received grant funding for an offline infiltration chamber system to be located under a proposed park located adjacent to the Warner's Pond Dam. The project is still in the planning phase.

6a. Additions
None

7. BMPs for Meeting Total Maximum Daily Load (TMDL) Waste Load Allocations (WLA)

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
49	NRC Order of Conditions, Special Condition #27 prohibits the use of herbicides, pesticides, or fertilizers within resource areas except in a case-by-case basis for invasive species removal.	NRC	In place, will enforce at all times.	Completed Special condition enforced.	Continue to enforce special conditions.
50	Remove direct discharge of Walden Street stormwater to Walden Pond.	CPW (in partnership with Walden Pond State Reservation)	Walden Pond infiltration system installed. Monitor system efficiency.	Completed System efficiency monitored.	Continue monitoring system efficiency.
51 Revised	Make Elm Brook watershed an ongoing priority area for IDDE program	CPW	Screen drainage structures and outfalls in Elm Brook watershed for signs of illicit discharges.	Completed All Elm Brook outfalls were screened, sampled and tested within BMP 18. Drainage structure screenings were also conducted within BMP 16 for the drainage layer accuracy improvement project.	Continue to screen drainage structures at least biannually with catch basin cleaning activities.
		CPW	Conduct wet-weather sampling of outfalls in Elm Brook watershed.	Completed Outfalls in watershed identified and designated on Outfall Matrix.	

7a. Additions

7b. WLA Assessment

TMDLs in place in Concord waterbodies are: Assabet River (phosphorus); Elm Brook (Shawsheen River Basin Pathogen TMDL); and Walden and White Ponds (mercury). Of these TMDLs, only the Shawsheen River Basin Pathogen TMDL has a Waste Load Allocation for MS4 stormwater discharges. Although not required, BMPs 49 and 50 will help enhance water quality in the Assabet River and Walden Pond respectively. For Elm Brook, vigilant screening of drainage structures will ensure that no illicit discharges are present.

Wet-weather sampling has been conducted with no presence of pathogens detected. If discovered, the Town will further investigate any source is from an illicit connection or discharge consistent with the Town's IDDE protocol and remove the connection/dischARGE.

Part IV. Summary of Information Collected and Analyzed

Attached are the final results from follow up outfall sampling and testing completed within Permit Year 9 as outlined within BMP #18.

Part V. Program Outputs & Accomplishments (OPTIONAL)

(Since beginning of permit coverage unless specified otherwise by a **, which indicates response is for period covering April 1, 2011 through March 31, 2012)

Programmatic

	(Preferred Units)	Response
Stormwater management position created/staffed	(y/n)	Y
Annual program budget/expenditures **	(\$)	\$225,000 (FY12)
Total program expenditures since beginning of permit coverage	(\$)	\$1,410,000
Funding mechanism(s) (General Fund, Enterprise, Utility, etc)		General Fund

Education, Involvement, and Training

Estimated number of property owners reached by education program(s)	(# or %)	400 (100%) Businesses 4,900 Residents
Stormwater management committee established	(y/n)	Y
Stream teams established or supported	(# or y/n)	Y
Shoreline clean-up participation or quantity of shoreline miles cleaned **	(y/n or mi.)	N/A
Shoreline cleaned since beginning of permit coverage	(mi.)	N/A
Household Hazardous Waste Collection Days / Drop Off Swap Off Day		
▪ days sponsored (Hazardous Waste Collection Day) **	(#)	8
▪ days sponsored (Drop Off Swap Off Day) **		2
▪ community participation (Combined)**	(# or %) (cars/day))	1952 cars
▪ material collected **	(tons or gal)	13,668
- Fluorescent bulbs (linear feet of bulbs)		27
- Mercury (lbs.)		343
- Rechargeable and Specialty Batteries (lbs.)		600
- Lead batteries and lead ballast (lbs.)		1080
- Latex based paints (non-hazardous) (gals.)		600
- Oil and alkyl based paints, polyurethane, paint thinner and stripper (hazardous) (gals.)		
School curricula implemented	(y/n)	Y

Legal/Regulatory

	In Place Prior to Phase II	Reviewing Existing Authorities	Drafted	Draft in Review	Adopted
Regulatory Mechanism Status (indicate with "X")					
Illicit Discharge Detection & Elimination	X				X
▪ Erosion & Sediment Control	X				X
▪ Post-Development Stormwater Management	X				X

Accompanying Regulation Status (indicate with "X")			
▪ Illicit Discharge Detection & Elimination (Town of Concord Stormwater Regulations)	X		X
▪ Erosion & Sediment Control (Town of Concord Stormwater Regulations & Public Works Design and Construction Standards and Details)	X		X
▪ Post-Development Stormwater Management (Town of Concord Stormwater Regulations & Public Works Design and Construction Standards and Details)	X		X

Mapping and Illicit Discharges

	(Preferred Units)		Response
	(%)	(#)	
Outfall mapping complete (paper, GIS, or both)			100% of known
Estimated or actual number of outfalls (Reduced based on inspections to remove detention basin inlets)			373
System-Wide mapping complete (complete storm sewer infrastructure)			100%
Mapping method(s)			
▪ Paper/Mylar	(%)		25%
▪ CADD - Sub-cm Survey grade accuracy	(%)		10%
▪ GIS	(%)		100%
Outfalls inspected/screened **	(# or %)		100%
Outfalls inspected/screened (Since beginning of permit coverage)	(# or %)		100%
Illicit discharges identified **	(#)		2
(Revised to eliminate illegal stormwater connections identified within previous annual updates)	(#)		(Illegal dumping)
Illicit discharges identified (Since beginning of permit coverage)	(#)		4
(Revised to eliminate illegal stormwater connections identified within previous annual updates)	(#)		(Illegal dumping)
Illicit connections removed **	(#); and		0
(Revised to eliminate illegal stormwater connections identified within previous annual updates)	(est. gpd)		
Illicit connections removed (Since beginning of permit coverage)	(#); and		0
(Revised to eliminate illegal stormwater connections identified within previous annual updates)	(est. gpd)		
% of population on sewer	(%)		35%

% of population on septic systems	(%)	65%
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Construction

	(Preferred Units)	Response
Number of construction starts (>1-acre) **	(#)	9
Estimated percentage of construction starts adequately regulated for erosion and sediment control **	(%)	100%
Site inspections completed **	(# or %)	Ongoing
Tickets/Stop work orders issued **	(# or %)	0
Fines collected **	(# and \$)	0
Complaints/concerns received from public **	(#)	0

Post-Development Stormwater Management

Estimated percentage of development/redevelopment projects adequately regulated for post-construction stormwater control	(%)	100%
Site inspections for proper BMP installation & operation completed **	(# or %)	100%
BMP maintenance required through covenants, escrow, deed restrictions, etc.	(y/n)	Y
Low-impact development (LID) practices permitted and encouraged	(y/n)	Y

Operations and Maintenance

Average frequency of catch basin cleaning (non-commercial/non-arterial streets) **	(times/yr)	Every other year
Average frequency of catch basin cleaning (commercial/arterial or other critical streets) **	(times/yr)	Every other year
Qty of structures cleaned **	(#)	750
Qty. of storm drain cleaned **	(%, LF or mi.)	2,500 LF (approx)
Qty. of screenings/debris removed from storm sewer infrastructure **	(lbs. or tons)	116 Tons
Disposal or use of screenings (landfill, POTW, compost, beneficial use, etc.) **	(location)	Removed and disposed at landfill

Basin Cleaning Costs		
• Annual budget/expenditure (labor & equipment)**	(\$)	\$28,866
• Hourly or per basin contract rate **	(\$ per basin)	N/A
• Disposal cost**	(\$)	\$7,500
Cleaning Equipment		
• Clam shell truck(s) owned/leased	(#)	1 (Town owned)
• Vacuum truck(s) owned/leased	(#)	1 (Town owned)
• Vacuum trucks specified in contracts	(y/n)	N
• % Structures cleaned with clam shells **	(%)	95%
• % Structures cleaned with vacor **	(%)	5%

	(Preferred Units)	Response
Average frequency of street sweeping (non-commercial/non-arterial streets) **	(times/yr)	2
Average frequency of street sweeping (commercial/arterial or other critical streets) **	(times/yr)	52
Qty. of sand/debris collected by sweeping **	(lbs. or tons)	2,000 tons
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.) **	(location)	Town Storage
Annual Sweeping Costs		
• Annual budget/expenditure (labor & equipment)**	(\$)	\$50,000
• Hourly or lane mile contract rate **	(\$/hr. or ln mi.)	N/A
• Disposal cost**	(\$)	N/A
Sweeping Equipment		
• Rotary brush street sweepers owned/leased	(#)	2
• Vacuum street sweepers owned/leased	(#)	0
• Vacuum street sweepers specified in contracts	(y/n)	N
• % Roads swept with rotary brush sweepers **	%	100%
• % Roads swept with vacuum sweepers **	%	0%

Reduction (since beginning of permit coverage) in application on public land of:
 ("N/A" = never used; "100%" = elimination)

<ul style="list-style-type: none"> ▪ Fertilizers 	(lbs. or %)	0% (Level Use)
<ul style="list-style-type: none"> ▪ Herbicides 	(lbs. or %)	0% (Level Use)
<ul style="list-style-type: none"> ▪ Pesticides 	(lbs. or %)	N/A
Integrated Pest Management (IPM) Practices Implemented	(y/n)	Yes

	(Preferred Units)	Response
Average Ratio of Anti-/De-Icing products used **	% NaCl	32%
	% CaCl ₂	1%
(also identify chemicals and ratios used in specific areas, e.g., water supply protection areas)	% MgCl ₂	0%
	% CMA	0%
	% K _{ac}	0%
	% KCl	0%
	% Sand	66%
Pre-wetting techniques utilized **	(y/n or %)	Approx 15% Arterial/ Collectors Roads Only
Manual control spreaders used **	(y/n or %)	86%
Zero-velocity spreaders used **	(y/n or %)	14%
Estimated net reduction or increase in typical year salt/chemical application rate	(±lbs/in mi. or %)	10%
Estimated net reduction or increase in typical year sand application rate **	(±lbs/in mi. or %)	20%
% of salt/chemical pile(s) covered in storage shed(s)	(%)	100%
Storage shed(s) in design or under construction	(y/n or #)	N
100% of salt/chemical pile(s) covered in storage shed(s) by May 2010	(y/n)	Y

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Water Supply Protection

Storm water outfalls to public water supplies eliminated or relocated	# or y/n	N/A (wells)
Installed or planned treatment BMPs for public drinking water supplies and their protection areas	# or y/n	Y
<ul style="list-style-type: none"> Treatment units induce infiltration within 500-feet of a wellhead protection area 	# or y/n	Y *

* Plainfield Road, Willard School and Tuttle Trail projects outlined Section 6 above are located with 500' of a Zone II.



April 26, 2011

Mr. William Renault, P.E.
Town Engineer
Concord Department of Public Works
Engineering Division
133 Keyes Road
2nd Floor
Concord, MA 01742

**Subject: Stormwater Outfall Inspection and Monitoring Project
Phase 2 Update
Town of Concord, Massachusetts**

Dear Mr. Renault:

Throughout 2010, Coneco Engineers & Scientists, Incorporated (Coneco) conducted the first phase of outfall inspections and monitoring (Phase 1) in accordance with the Environmental Protection Agency's (EPA's) August 2009 Administrative Order (the "Order"). This initial phase of activities included inspections at a total of 82 outfalls and the collection and analysis of wet and dry weather samples in accordance with the Order. Once received, the laboratory results were evaluated in accordance with the Town's established Illicit Discharge Detection and Elimination (IDDE) protocol.

The results of Phase 1 of the program were summarized in a letter to the EPA dated November 1, 2010. Along with providing an evaluation and summary of the results, the 2010 letter also included proposed additional activities. These additional activities consisted of:

- wet weather inspections at 13 additional outfalls that were identified as potentially discharging to impaired water bodies within the Town's designated MS4 area; and
- ammonia/potassium ratio determination at five outfalls (one dry weather and four wet weather) that were evaluated during the 2010 program and a comparison of the results with the Town's IDDE protocol.

As directed, Coneco has proceeded with the performance of these recommended activities as Phase 2 of the program. This letter provides a summary of the activities conducted under Phase 2 and a summary of our findings.

Additional Wet Weather Sampling

At the completion of Phase 1, the project team conducted an additional review of outfall locations to determine whether further outfalls existed that, although exhibiting a lesser potential for discharge to

impaired waters, should be included in the evaluation program. Through this review, it was determined that the following 13 outfalls should be added to the program:

OF-25	OF-245
OF-26	OF-257
OF-75	OF-305
OF-141	OF-320
OF-143	OF-322
OF-224	OF-330
	OF-339

All 13 of the identified outfalls were inspected and wet weather samples were collected from eight of the 13. The remaining five outfalls were not sampled due to the following:

- Although originally identified as outfalls, OF-141 and OF-332 were found to be culverts
- OF-257 discharges directly to the ground surface adjacent to commuter rail tracks with no direct connection to surface water
- OF-224 was dry
- OF-339 could not be located

The results of the wet weather sampling program are summarized in Table 1. Wet weather samples were collected during a rain event that occurred on April 13, 2011 and, consistent with Phase 1, the collected data was evaluated using the Town's IDDE protocol.

As shown on Table 1, surfactant levels did not exceed the threshold of 0.25 mg/l as established in the IDDE protocol in any of the samples collected. In addition, although levels of microbiological parameters (e.coli and fecal coliform) were detected at varying levels within each of the eight outfalls monitored, no visual evidence of illicit discharges was observed at any of the eight outfalls. Consistent with Phase 1 protocol, due to the lack of visual evidence of an illicit discharge, combined with detected surfactant levels below 0.25 mg/l, it is assumed that the presence of the microbiological parameters results from the transport of animal wastes in storm water runoff.

Ammonia/Potassium Ratio Determination

In accordance with the recommendations presented in the November 1, 2010 summary letter to the EPA, one outfall was targeted for additional dry weather monitoring and analysis (OF-122) and four outfalls were targeted for additional wet weather monitoring and analysis (OF-41, OF- 56, OF-263, and OF-332). These outfalls were selected for further evaluation during Phase 2 based on the elevated levels of surfactants detected in samples collected from the outfalls during Phase 1.

The dry weather sample was collected from outfall OF-122 on April 8, 2011 and wet weather samples were collected from outfalls OF-263 and OF-332 during the April 13, 2011 storm event. Outfall OF-56 could not be sampled because it was covered by a snow stockpile and OF-41 could not be located. These two outfalls will be re-visited during a future storm event.

The additional Phase 2 monitoring was performed in accordance with the Town's IDDE protocol with the intent of determining whether the flow contained possible sanitary wastewater or washwater contamination. In accordance with the IDDE protocol, the evaluation included the collection of dry or wet weather samples and the determination of the ammonia/potassium ratio in the collected discharge sample. An ammonia/potassium ratio in excess of 1.0 indicates possible sanitary wastewater contamination, while a ratio below 1.0 indicates the possible presence of washwater within the outfall discharge. As shown in Table 2, the ammonia/potassium ratio in all of the five outfalls that were evaluated was below 1.0, indicating that a sanitary wastewater connection to the storm drain system does not exist.

Through these Phase 2 activities, the proposed additional evaluations, as detailed in the November 1, 2010 letter to the EPA have been completed, with the exception of the analysis of outfalls OF-41 and OF-56 for ammonia/potassium ratio. Those two remaining outfalls will be evaluated as soon as weather conditions are favorable and the data will be forwarded to your attention.

If you should have any questions regarding the information contained herein, please do not hesitate to contact me at (617) 640-7949 (cell). You can also reach me by email at kmchugh@coneco.com.

Very truly yours,
Coneco Engineers & Scientists, Incorporated


Kevin E. McHugh, P.E.
Senior Civil Engineer

Attachments:

Tables 1 and 2
Laboratory Analytical Data Reports

TABLE 1
TOWN OF CONCORD
EPA PHASE 2 STORMWATER PROGRAM
WET WEATHER MS4 OUTFALL SAMPLING RESULTS
APRIL 26, 2011

ID	Date	Dry/Wet	Ammonia-Nitrogen	E. Coli	Fecal Coliform	Surfactant
of-25	4/13/2011	wet	0.346	350	300	0.027
of-26	4/13/2011	Wet	0.25	1500	1700	0.029
of-75	4/13/2011	Wet	0.34	430	550	0.058
of-143	4/13/2011	Wet	0.34	150	150	ND
of-245	4/13/2011	Wet	0.391	20	10	0.049
of-305	4/13/2011	Wet	0.469	270	310	0.039
of-320	4/13/2011	Wet	0.267	130	170	0.054
of-330	4/13/2011	Wet	0.396	2700	2400	0.084

TABLE 2
TOWN OF CONCORD
EPA PHASE 2 STORMWATER PROGRAM
AMMONIA/POTASSIUM RATIOS
APRIL 26, 2011

ID	Date	Dry/Wet	Ammonia	Potassium	Ratio
of-122	4/8/2011	Dry	0.52	5.36	0.10
of-263	4/13/2011	Wet	0.379	0.61	0.62
of-332	4/13/2011	Wet	0.267	1.84	0.15

ANALYTICAL REPORT



Wednesday, April 20, 2011

Kevin McHugh
Coneco Engineers & Scientists
99 Market Street
Lowell, MA 08152

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

TEL: 617-640-7949

FAX:

Project:

Location: Concord Outfalls

Order No.: 1104090

Dear Kevin McHugh:

GeoLabs, Inc. received 1 sample(s) on 4/8/2011 for the analyses presented in the following report.

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 cursive script that reads "David Mick".

David Mick
Laboratory Director

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

Certifications:

CT (PH-0148) - MA (M-MA015) - ME (MA0015) - NH (2508) - NJ (MA009) - PA (68-03417) - RI (LA000252)

Accredited in Accordance with NELAC

Date: 20-Apr-11

CLIENT: Coneco Engineers & Scientists

Project:

Lab Order: 1104090

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.

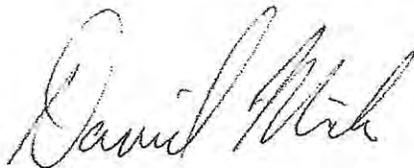
Project Documentation

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: April 20, 2011

GeoLabs, Inc.

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

ANALYTICAL REPORT

Reported Date: 20-Apr-11

CLIENT: Coneco Engineers & Scientists
Lab Order: 1104090
Project:
Lab ID: 1104090-001

Client Sample ID: OF-122
Collection Date: 4/8/2011 1:00:00 PM
Date Received: 4/8/2011
Matrix: OTHER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
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TOTAL METALS BY ICP - SW6010B

Analyst: QS

Prep Method: (SW3010A) **Prep Date:** 4/11/2011 1:23:52 PM

Potassium	5.36	0.100		mg/L	1	4/11/2011
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AMMONIA (AS N) - SM18 4500-NH3-B,C

Analyst: RP

Prep Method: **Prep Date:**

Ammonia (as N)	0.520	0.200		mg/L	1	4/18/2011
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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
	S	Spike Recovery outside recovery limits		

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Certified Parameter List as of: 01 JUL 2010

M-MA015

GEOLABS INC
BRAintree MA

NON POTABLE WATER (CHEMISTRY)

Effective Date 01 JUL 2010

Expiration Date 30 JUN 2011

<u>Analytes</u>	<u>Effective Date</u>	<u>Expiration Date</u>	<u>Methods</u>
ALUMINUM	01 JUL 2010	30 JUN 2011	EPA 200.7
ANTIMONY	01 JUL 2010	30 JUN 2011	EPA 200.7
ARSENIC	01 JUL 2010	30 JUN 2011	EPA 200.7
BERYLLIUM	01 JUL 2010	30 JUN 2011	EPA 200.7
CADMIUM	01 JUL 2010	30 JUN 2011	EPA 200.7
CHROMIUM	01 JUL 2010	30 JUN 2011	EPA 200.7
COBALT	01 JUL 2010	30 JUN 2011	EPA 200.7
COPPER	01 JUL 2010	30 JUN 2011	EPA 200.7
IRON	01 JUL 2010	30 JUN 2011	EPA 200.7
LEAD	01 JUL 2010	30 JUN 2011	EPA 200.7
MANGANESE	01 JUL 2010	30 JUN 2011	EPA 200.7
MERCURY	01 JUL 2010	30 JUN 2011	EPA 200.7
MOLYBDENUM	01 JUL 2010	30 JUN 2011	EPA 245.1
NICKEL	01 JUL 2010	30 JUN 2011	EPA 200.7
SELENIUM	01 JUL 2010	30 JUN 2011	EPA 200.7
SILVER	01 JUL 2010	30 JUN 2011	EPA 200.7
THALLIUM	01 JUL 2010	30 JUN 2011	EPA 200.7
TITANIUM	01 JUL 2010	30 JUN 2011	EPA 200.7
VANADIUM	01 JUL 2010	30 JUN 2011	EPA 200.7
ZINC	01 JUL 2010	30 JUN 2011	EPA 200.7
PH	01 JUL 2010	30 JUN 2011	EPA 200.7
SPECIFIC CONDUCTIVITY	01 JUL 2010	30 JUN 2011	SM 4800-H-B
TOTAL DISSOLVED SOLIDS	01 JUL 2010	30 JUN 2011	EPA 120.1
HARDNESS (CaCO ₃), TOTAL	01 JUL 2010	30 JUN 2011	SM 2540C
CALCIUM	01 JUL 2010	30 JUN 2011	SM 2340B
MAGNESIUM	01 JUL 2010	30 JUN 2011	EPA 200.7
ALKALINITY, TOTAL	01 JUL 2010	30 JUN 2011	EPA 200.7
CHLORIDE	01 JUL 2010	30 JUN 2011	SM 2320B
SULFATE	01 JUL 2010	30 JUN 2011	LACHAT 10-117-07-1-B
AMMONIA-N	01 JUL 2010	30 JUN 2011	ASTM D516
NITRATE-N	01 JUL 2010	30 JUN 2011	SM18-B,C-NES
KJELDAHL-N	01 JUL 2010	30 JUN 2011	LACHAT 10-107-04-1-C
ORTHOPHOSPHATE	01 JUL 2010	30 JUN 2011	SM18-B,C-NES
PHOSPHORUS, TOTAL	01 JUL 2010	30 JUN 2011	SM 4500-P-E
CHEMICAL OXYGEN DEMAND	01 JUL 2010	30 JUN 2011	LACHAT 10-115-01-1-E
CYANIDE, TOTAL	01 JUL 2010	30 JUN 2011	EPA 410.4
NON-FILTERABLE RESIDUE	01 JUL 2010	30 JUN 2011	SM 4500-CN-C,E
CHLORINE, TOTAL RESIDUAL	01 JUL 2010	30 JUN 2011	SM 2540D
OIL AND GREASE	01 JUL 2010	30 JUN 2011	HACH B167
VOLATILE HALOCARBONS	01 JUL 2010	30 JUN 2011	EPA 1684
VOLATILE AROMATICS	01 JUL 2010	30 JUN 2011	EPA 624
CHLORDANE	01 JUL 2010	30 JUN 2011	EPA 624
TOXAPHENE	01 JUL 2010	30 JUN 2011	EPA 608
	01 JUL 2010	30 JUN 2011	EPA 608

June 23, 2010

Provisional Certification

Page 1 of 3

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Certified Parameter List as of: 01 JUL 2010

M-MA015

GEOLABS INC
BRAintree MA

NON POTABLE WATER (CHEMISTRY)

<u>Analytes</u>	Effective Date	Expiration Date	<u>Methods</u>
ALDRIN	01 JUL 2010	30 JUN 2011	EPA 808
ALPHA-BHC			EPA 808
BETA-BHC			EPA 808
GAMMA-BHC			EPA 808
DELTA-BHC			EPA 808
DIELDRIN			EPA 808
DDD			EPA 808
DDE			EPA 808
DDT			EPA 808
ENDOSULFAN I			EPA 808
ENDOSULFAN II			EPA 808
ENDOSULFAN SULFATE			EPA 808
ENDRIN			EPA 808
ENDRIN ALDEHYDE			EPA 808
HEPTACHLOR			EPA 808
HEPTACHLOR EPOXIDE			EPA 808
SVOC-ACID EXTRACTABLES			EPA 808
SVOC-BASE/NEUTRAL EXTRACTABLES			EPA 625
POLYCHLORINATED BIPHENYLS (WATER)			EPA 625
POLYCHLORINATED BIPHENYLS (OIL)			EPA 808 EPA 800/4-81-045

POTABLE WATER (CHEMISTRY)

<u>Analytes</u>	Effective Date	Expiration Date	<u>Methods</u>
ANTIMONY	01 JUL 2010	30 JUN 2011	EPA 200.9
ARSENIC			EPA 200.9
BARIUM			EPA 200.7
BERYLLIUM			EPA 200.7
CADMIUM			EPA 200.7
CHROMIUM			EPA 200.7
COPPER			EPA 200.7
LEAD			EPA 200.7
MERCURY			EPA 200.9
NICKEL			EPA 245.1
SELENIUM			EPA 200.7
THALLIUM			EPA 200.9
NITRATE-N			EPA 200.9
NITRITE-N			LACHAT 10-107-04-1-C
TURBIDITY			LACHAT 10-107-05-1-A
CALCIUM			EPA 180.1
ALKALINITY, TOTAL			EPA 200.7
TOTAL DISSOLVED SOLIDS			SM 2320B
PH			SM 2540C EPA 150.1

June 23, 2010

*= Provisional Certification

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Certified Parameter List as of: 01 JUL 2010

M-MA015

GEOLABS INC
BRAintree MA

POTABLE WATER (CHEMISTRY)

Effective Date 01 JUL 2010

Expiration Date 30 JUN 2011

Analytes

TRihalOMETHANES
VOLATILE ORGANIC COMPOUNDS
1,2-DIBROMOETHANE
1,2-DIBROMO-3-CHLOROPROPANE

Methods

EPA 524.2
EPA 524.2
EPA 504.1
EPA 504.1

June 23, 2010

*= Provisional Certification

Page 3 of 3

ANALYTICAL REPORT



Tuesday, April 26, 2011

Kevin McHugh
Coneco Engineers & Scientists
99 Market Street
Lowell, MA 08152

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

TEL: 617-640-7949

FAX:

Project: Concord

Location:

Order No.: 1104143

Dear Kevin McHugh:

GeoLabs, Inc. received 5 sample(s) on 4/13/2011 for the analyses presented in the following report.

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", is written over a faint, larger version of the same signature.

David Mick
Laboratory Director

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

Certifications:

CT (PH-0148) - MA (M-MA015) - ME (MA0015) - NH (2508) - NJ (MA009) - PA (68-03417) - RI (LA000252)

Accredited in Accordance with NELAC

Date: 26-Apr-11

CLIENT: Coneco Engineers & Scientists
Project: Concord
Lab Order: 1104143

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: 04/26/11

GeoLabs, Inc.

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

ANALYTICAL REPORT

Reported Date: 26-Apr-11

CLIENT:	Coneco Engineers & Scientists	Client Sample ID:	OF-143
Lab Order:	1104143	Tag Number:	
Project:	Concord	Collection Date:	4/13/2011 12:10:00 PM
Lab ID:	1104143-001A	Date Received:	4/13/2011
		Matrix:	OTHER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
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E-COLI - EPA 1603

Analyst: SUB

Prep Method:

Prep Date:

E. Coli	150	0		CFU/100ml	1	4/13/2011
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NOTES:

Analyzed by G&L Laboratories MA-1100

FECAL COLIFORM - SM9222D

Analyst: SUB

Prep Method:

Prep Date:

Fecal Coliform	150	0		CFU/100ml	1	4/13/2011
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NOTES:

Analyzed by G&L Laboratories MA-1100

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
	S	Spike Recovery outside recovery limits		

GeoLabs, Inc.

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

ANALYTICAL REPORT

Reported Date: 26-Apr-11

CLIENT: Coneco Engineers & Scientists **Client Sample ID:** OF-143
Lab Order: 1104143 **Tag Number:**
Project: Concord **Collection Date:** 4/13/2011 12:10:00 PM
Lab ID: 1104143-001B **Date Received:** 4/13/2011 **Matrix:** OTHER

Analyses **Result** **Def. Limit** **Qual** **Units** **DF** **Date Analyzed**

SURFACTANTS (MBAS) - 8028

Analyst: RP

Prep Method:

Prep Date:

Surfactants ND 0.0200 mg/L 1 4/13/2011 8:30:00 AM

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
S Spike Recovery outside recovery limits

GeoLabs, Inc.

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

ANALYTICAL REPORT

Reported Date: 26-Apr-11

CLIENT:	Coneco Engineers & Scientists	Client Sample ID:	OF-143
Lab Order:	1104143	Tag Number:	
Project:	Concord	Collection Date:	4/13/2011 12:10:00 PM
Lab ID:	1104143-001C	Date Received:	4/13/2011
		Matrix:	OTHER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
AMMONIA (AS N) - SM18 4500-NH3-B,C						Analyst: RP
	Prep Method:			Prep Date:		
Ammonia (as N)	0.340	0.200		mg/L	1	4/18/2011

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
	S	Spike Recovery outside recovery limits		

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

ANALYTICAL REPORT

Reported Date: 26-Apr-11

CLIENT: Coneco Engineers & Scientists	Client Sample ID: OF-330
Lab Order: 1104143	Tag Number:
Project: Concord	Collection Date: 4/13/2011 10:00:00 AM
Lab ID: 1104143-002A	Date Received: 4/13/2011
	Matrix: OTHER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
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E-COLI - EPA 1603 Analyst: SUB

Prep Method:	Prep Date:
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E. Coli	2700	0		CFU/100ml	1	4/13/2011
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NOTES:
Analyzed by G&L Laboratories MA-1100

FECAL COLIFORM - SM9222D Analyst: SUB

Prep Method:	Prep Date:
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Fecal Coliform	2400	0		CFU/100ml	1	4/13/2011
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NOTES:
Analyzed by G&L Laboratories MA-1100

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
	S Spike Recovery outside recovery limits	

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

ANALYTICAL REPORT

Reported Date: 26-Apr-11

CLIENT: Coneco Engineers & Scientists **Client Sample ID:** OF-330
Lab Order: 1104143 **Tag Number:**
Project: Concord **Collection Date:** 4/13/2011 10:00:00 AM
Lab ID: 1104143-002B **Date Received:** 4/13/2011 **Matrix:** OTHER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
SURFACTANTS (MBAS) - 8028						Analyst: RP
	Prep Method:			Prep Date:		
Surfactants	0.0840	0.0200		mg/L	1	4/13/2011 8:30:00 AM

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
S Spike Recovery outside recovery limits

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

ANALYTICAL REPORT

Reported Date: 26-Apr-11

CLIENT:	Coneco Engineers & Scientists	Client Sample ID:	OF-330
Lab Order:	1104143	Tag Number:	
Project:	Concord	Collection Date:	4/13/2011 10:00:00 AM
Lab ID:	1104143-002C	Date Received:	4/13/2011
		Matrix:	OTHER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
AMMONIA (AS N) - SM18 4500-NH3-B,C						Analyst: RP
	Prep Method:			Prep Date:		
Ammonia (as N)	0.396	0.200		mg/L	1	4/18/2011

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
	S	Spike Recovery outside recovery limits		

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

ANALYTICAL REPORT

Reported Date: 26-Apr-11

CLIENT:	Coneco Engineers & Scientists	Client Sample ID:	OF-263
Lab Order:	1104143	Tag Number:	
Project:	Concord	Collection Date:	4/13/2011 11:20:00 AM
Lab ID:	1104143-003A	Date Received:	4/13/2011
		Matrix:	OTHER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
AMMONIA (AS N) - SM18 4500-NH3-B,C						Analyst: RP
	Prep Method:			Prep Date:		
Ammonia (as N)	0.379	0.200		mg/L	1	4/18/2011

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
	S	Spike Recovery outside recovery limits		

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

ANALYTICAL REPORT

Reported Date: 26-Apr-11

CLIENT: Coneco Engineers & Scientists **Client Sample ID:** OF-263
Lab Order: 1104143 **Tag Number:**
Project: Concord **Collection Date:** 4/13/2011 11:20:00 AM
Lab ID: 1104143-003B **Date Received:** 4/13/2011 **Matrix:** OTHER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
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TOTAL METALS BY ICP - SW6010B

Analyst: QS

Prep Method: (SW3010A) **Prep Date:** 4/15/2011 1:39:30 PM

Potassium	0.610	0.100		mg/L	1	4/15/2011
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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
S Spike Recovery outside recovery limits

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

ANALYTICAL REPORT

Reported Date: 26-Apr-11

CLIENT: Coneco Engineers & Scientists **Client Sample ID:** OF-332
Lab Order: 1104143 **Tag Number:**
Project: Concord **Collection Date:** 4/13/2011 9:40:00 AM
Lab ID: 1104143-004A **Date Received:** 4/13/2011 **Matrix:** OTHER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
AMMONIA (AS N) - SM18 4500-NH3-B,C						Analyst: RP
	Prep Method:			Prep Date:		
Ammonia (as N)	0.267	0.200		mg/L	1	4/18/2011

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
 S Spike Recovery outside recovery limits

GeoLabs, Inc.
45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7344 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date: 26-Apr-11

CLIENT: Coneco Engineers & Scientists **Client Sample ID:** OF-332
Lab Order: 1104143 **Tag Number:**
Project: Concord **Collection Date:** 4/13/2011 9:40:00 AM
Lab ID: 1104143-004B **Date Received:** 4/13/2011 **Matrix:** OTHER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
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TOTAL METALS BY ICP - SW6010B

Analyst: QS

Prep Method: (SW3010A) **Prep Date:** 4/15/2011 1:39:30 PM

Potassium	1.84	0.100		mg/L	1	4/15/2011
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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
 S Spike Recovery outside recovery limits

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

ANALYTICAL REPORT

Reported Date: 26-Apr-11

CLIENT: Coneco Engineers & Scientists	Client Sample ID: OF-320
Lab Order: 1104143	Tag Number:
Project: Concord	Collection Date: 4/13/2011 10:40:00 AM
Lab ID: 1104143-005A	Date Received: 4/13/2011
	Matrix: OTHER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
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E-COLI - EPA 1603 Analyst: SUB

Prep Method:

Prep Date:

E. Coli	130	0		CFU/100ml	1	4/13/2011
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NOTES:

Analyzed by G&L Laboratories MA-1100

FECAL COLIFORM - SM9222D Analyst: SUB

Prep Method:

Prep Date:

Fecal Coliform	170	0		CFU/100ml	1	4/13/2011
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NOTES:

Analyzed by G&L Laboratories MA-1100

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
	S	Spike Recovery outside recovery limits		

GeoLabs, Inc.

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

ANALYTICAL REPORT

Reported Date: 26-Apr-11

CLIENT: Coneco Engineers & Scientists **Client Sample ID:** OF-320
Lab Order: 1104143 **Tag Number:**
Project: Concord **Collection Date:** 4/13/2011 10:40:00 AM
Lab ID: 1104143-005B **Date Received:** 4/13/2011 **Matrix:** OTHER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
SURFACTANTS (MBAS) - 8028						Analyst: RP
	Prep Method:			Prep Date:		
Surfactants	0.0540	0.0200		mg/L	1	4/13/2011 8:30:00 AM

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
S Spike Recovery outside recovery limits

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

ANALYTICAL REPORT

Reported Date: 26-Apr-11

CLIENT: Coneco Engineers & Scientists **Client Sample ID:** OF-320
Lab Order: 1104143 **Tag Number:**
Project: Concord **Collection Date:** 4/13/2011 10:40:00 AM
Lab ID: 1104143-005C **Date Received:** 4/13/2011 **Matrix:** OTHER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
AMMONIA (AS N) - SM18 4500-NH3-B,C						Analyst: RP
	Prep Method:			Prep Date:		
Ammonia (as N)	0.267	0.200		mg/L	1	4/18/2011

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
S Spike Recovery 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
 Done Not Needed
 Lab to do Lab to do Y/N

1107143 PAGE OF
 Special Instructions

Turnaround: circle one
 1-day 3-day 5/7-days

Data Delivery: circle choice (s)
 Fax Email PDF

MCP Methods
 DEP Other

Requirements: circle choice (s)
 CT RCP (Reasonable Confidence Protocols)
 State / Fed Program - Criteria

Client: Concord
 Address: 99 Market St Lowell, ma 01852
 Contact: Kevin McHugh

Phone: 617-640-7949
 Fax: 978-364-5106
 email: kmchugh@concord.com

Project: Concord
 Project PO:
 Invoice to: Kevin McHugh

DATE	TIME	COLLECTION	SAMPLE LOCATION / ID	CONTAINER		GRAAB	PRESERVATIVE	Analysis Requested							TEMPERATURE	LAB PR	
				TYPE	QUANTITY			MATRIX	COM P	7	7	7	7	7			7
4-13	12:10	KM	OF-143	P	3	OT	X	4143-001	X	X	X	X	X	X	X	7/5	
4-13	10:00	KM	OF-330	P	3	OT	X	-002	X	X	X	X	X	X	X		
4-13	11:20	KM	OF-263	P	2	OT	X	-003	X	X	X	X	X	X	X		
4-13	9:40	KM	OF-332	P	2	OT	X	-004	X	X	X	X	X	X	X		
4-13	10:40	KM	OF-320	P	3	OT	X	-005	X	X	X	X	X	X	X		

Matrix Codes: GW = Ground Water, WW = Waste Water, DW = Drinking Water, SL = Sludge, S = Soil, O = Oil, A = Air, OT = Other

Received on Ice

Preservatives: 1 = HCl, 2 = HNO3, 3 = H2SO4, 4 = Na2S2O3, 5 = NaOH, 6 = MEOH, 7 = Other

Containers: A = Amber, G = Glass, S = Summa, B = Bag, P = Plastic, V = Voa, O = Other

Relinquished by: Kevin McHugh Date / Time: 4-13/12:40

Received by: Sam Date / Time: 4/13/11 12:40

2010730, J&P.C of CR.09/22/10
 * Terms of agreement due within 30 days unless other arrangements are made. Past due balances subject to interest and collection cost.
 Note: Homeowners and Law Firms must key when dropping off samples. We accept cash, check and credit cards.

MA (MA - 015) PA (88-03417) NY (1796) CT (PH-0148) RI (LA000252) NH (2508) NJ (MA-009) ME (MA - 0015)

ANALYTICAL REPORT



Tuesday, April 26, 2011

Kevin McHugh
Coneco Engineers & Scientists
99 Market Street
Lowell, MA 08152

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

TEL: 617-640-7949

FAX:

Project: 6859.0
Location: Concord

Order No.: 1104142

Dear Kevin McHugh:

GeoLabs, Inc. received 5 sample(s) on 4/13/2011 for the analyses presented in the following report.

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", is written over a light-colored background.

David Mick
Laboratory Director

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

Certifications:

CT (PH-0148) - MA (M-MA015) - ME (MA0015) - NH (2508) - NJ (MA009) - PA (68-03417) - RI (LA000252)

Accredited in Accordance with NELAC

Date: 26-Apr-11

CLIENT: Coneco Engineers & Scientists
Project: 6859.0
Lab Order: 1104142

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.

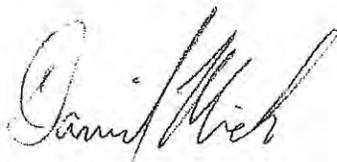
Project Documentation

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: 04/26/11

GeoLabs, Inc.

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

ANALYTICAL REPORT

Reported Date: 26-Apr-11

CLIENT: Coneco Engineers & Scientists **Client Sample ID:** OF-305
Lab Order: 1104142 **Tag Number:**
Project: 6859.0 **Collection Date:** 4/13/2011 9:55:00 AM
Lab ID: 1104142-001A **Date Received:** 4/13/2011 **Matrix:** OTHER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
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E-COLI - EPA 1603 **Analyst:** SUB

Prep Method: **Prep Date:**

E. Coli	270	0		CFU/100ml	1	4/13/2011
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NOTES:

Analyzed by G&L Laboratories MA-1100

FECAL COLIFORM - SM9222D **Analyst:** SUB

Prep Method: **Prep Date:**

Fecal Coliform	310	0		CFU/100ml	1	4/13/2011
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NOTES:

Analyzed by G&L Laboratories MA-1100

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
	S	Spike Recovery outside recovery limits		

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ANALYTICAL REPORT

Reported Date: 26-Apr-11

CLIENT:	Coneco Engineers & Scientists	Client Sample ID:	OF-305
Lab Order:	1104142	Tag Number:	
Project:	6859.0	Collection Date:	4/13/2011 9:55:00 AM
Lab ID:	1104142-001B	Date Received:	4/13/2011
		Matrix:	OTHER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
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SURFACTANTS (MBAS) - 8028

Analyst: RP

Prep Method:

Prep Date:

Surfactants	0.0390	0.0200		mg/L	1	4/13/2011 8:30:00 AM
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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
	S	Spike Recovery outside recovery limits		

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ANALYTICAL REPORT

Reported Date: 26-Apr-11

CLIENT:	Coneco Engineers & Scientists	Client Sample ID:	OF-305
Lab Order:	1104142	Tag Number:	
Project:	6859.0	Collection Date:	4/13/2011 9:55:00 AM
Lab ID:	1104142-001C	Date Received:	4/13/2011
		Matrix:	OTHER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
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AMMONIA (AS N) - SM18 4500-NH3-B,C

Analyst: RP

Prep Method:

Prep Date:

Ammonia (as N)	0.469	0.200		mg/L	1	4/18/2011
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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
	S	Spike Recovery outside recovery limits		

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ANALYTICAL REPORT

Reported Date: 26-Apr-11

CLIENT: Coneco Engineers & Scientists **Client Sample ID:** OF-75
Lab Order: 1104142 **Tag Number:**
Project: 6859.0 **Collection Date:** 4/13/2011 10:50:00 AM
Lab ID: 1104142-002A **Date Received:** 4/13/2011 **Matrix:** OTHER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
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E-COLI - EPA 1603 **Analyst:** SUB

Prep Method:	Prep Date:				
E. Coli	430	0	CFU/100ml	1	4/13/2011

NOTES:
Analyzed by G&L Laboratories MA-1100

FECAL COLIFORM - SM9222D **Analyst:** SUB

Prep Method:	Prep Date:				
Fecal Coliform	550	0	CFU/100ml	1	4/13/2011

NOTES:
Analyzed by G&L Laboratories MA-1100

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
	S	Spike Recovery outside recovery limits		

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ANALYTICAL REPORT

Reported Date: 26-Apr-11

CLIENT: Coneco Engineers & Scientists **Client Sample ID:** OF-75
Lab Order: 1104142 **Tag Number:**
Project: 6859.0 **Collection Date:** 4/13/2011 10:50:00 AM
Lab ID: 1104142-002B **Date Received:** 4/13/2011 **Matrix:** OTHER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
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SURFACTANTS (MBAS) - 8028

Analyst: RP

Prep Method:

Prep Date:

Surfactants	0.0580	0.0200		mg/L	1	4/13/2011 8:30:00 AM
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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
S Spike Recovery outside recovery limits

GeoLabs, Inc.
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ANALYTICAL REPORT**Reported Date:** 26-Apr-11

CLIENT:	Coneco Engineers & Scientists	Client Sample ID:	OF-75
Lab Order:	1104142	Tag Number:	
Project:	6859.0	Collection Date:	4/13/2011 10:50:00 AM
Lab ID:	1104142-002C	Date Received:	4/13/2011
		Matrix:	OTHER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
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AMMONIA (AS N) - SM18 4500-NH3-B,C**Analyst:** RP**Prep Method:****Prep Date:**

Ammonia (as N)	0.340	0.200		mg/L	1	4/18/2011
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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
	S	Spike Recovery outside recovery limits		

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ANALYTICAL REPORT

Reported Date: 26-Apr-11

CLIENT:	Coneco Engineers & Scientists	Client Sample ID:	OF-245
Lab Order:	1104142	Tag Number:	
Project:	6859.0	Collection Date:	4/13/2011 11:20:00 AM
Lab ID:	1104142-003A	Date Received:	4/13/2011
		Matrix:	OTHER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
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E-COLI - EPA 1603 Analyst: SUB

Prep Method:	Prep Date:					
E. Coli		20.0	0	CFU/100ml	1	4/13/2011
NOTES: Analyzed by G&L Laboratories MA-1100						

FECAL COLIFORM - SM9222D Analyst: SUB

Prep Method:	Prep Date:					
Fecal Coliform		10.0	0	CFU/100ml	1	4/13/2011
NOTES: Analyzed by G&L Laboratories MA-1100						

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
	S	Spike Recovery outside recovery limits		

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ANALYTICAL REPORT

Reported Date: 26-Apr-11

CLIENT: Coneco Engineers & Scientists **Client Sample ID:** OF-245
Lab Order: 1104142 **Tag Number:**
Project: 6859.0 **Collection Date:** 4/13/2011 11:20:00 AM
Lab ID: 1104142-003B **Date Received:** 4/13/2011 **Matrix:** OTHER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
SURFACTANTS (MBAS) - 8028						Analyst: RP
	Prep Method:			Prep Date:		
Surfactants	0.0490	0.0200		mg/L	1	4/13/2011 8:30:00 AM

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
S Spike Recovery outside recovery limits

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

ANALYTICAL REPORT

Reported Date: 26-Apr-11

CLIENT: Coneco Engineers & Scientists **Client Sample ID:** OF-245
Lab Order: 1104142 **Tag Number:**
Project: 6859.0 **Collection Date:** 4/13/2011 11:20:00 AM
Lab ID: 1104142-003C **Date Received:** 4/13/2011 **Matrix:** OTHER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
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AMMONIA (AS N) - SM18 4500-NH3-B,C **Analyst: RP**

Prep Method: **Prep Date:**

Ammonia (as N)	0.391	0.200		mg/L	1	4/18/2011
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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
 S Spike Recovery outside recovery limits

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ANALYTICAL REPORT

Reported Date: 26-Apr-11

CLIENT: Coneco Engineers & Scientists **Client Sample ID:** OF-26
Lab Order: 1104142 **Tag Number:**
Project: 6859.0 **Collection Date:** 4/13/2011 11:50:00 AM
Lab ID: 1104142-004A **Date Received:** 4/13/2011 **Matrix:** OTHER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
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E-COLI - EPA 1603 **Analyst: SUB**

Prep Method: **Prep Date:**

E. Coli	1500	0		CFU/100ml	1	4/13/2011
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NOTES:
Analyzed by G&L Laboratories MA-1100

FECAL COLIFORM - SM9222D **Analyst: SUB**

Prep Method: **Prep Date:**

Fecal Coliform	1700	0		CFU/100ml	1	4/13/2011
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NOTES:
Analyzed by G&L Laboratories MA-1100

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
	S	Spike Recovery outside recovery limits		

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ANALYTICAL REPORT

Reported Date: 26-Apr-11

CLIENT:	Coneco Engineers & Scientists	Client Sample ID:	OF-26
Lab Order:	1104142	Tag Number:	
Project:	6859.0	Collection Date:	4/13/2011 11:50:00 AM
Lab ID:	1104142-004B	Date Received:	4/13/2011
		Matrix:	OTHER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
SURFACTANTS (MBAS) - 8028						Analyst: RP
	Prep Method:			Prep Date:		
Surfactants	0.0290	0.0200		mg/L	1	4/13/2011 8:30:00 AM

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
	S	Spike Recovery outside recovery limits		

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ANALYTICAL REPORT

Reported Date: 26-Apr-11

CLIENT: Coneco Engineers & Scientists **Client Sample ID:** OF-26
Lab Order: 1104142 **Tag Number:**
Project: 6859.0 **Collection Date:** 4/13/2011 11:50:00 AM
Lab ID: 1104142-004C **Date Received:** 4/13/2011 **Matrix:** OTHER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
AMMONIA (AS N) - SM18 4500-NH3-B,C						Analyst: RP
	Prep Method:			Prep Date:		
Ammonia (as N)	0.250	0.200		mg/L	1	4/18/2011

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
S Spike Recovery outside recovery limits

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ANALYTICAL REPORT

Reported Date: 26-Apr-11

CLIENT:	Coneco Engineers & Scientists	Client Sample ID:	OF-25
Lab Order:	1104142	Tag Number:	
Project:	6859.0	Collection Date:	4/13/2011 12:05:00 PM
Lab ID:	1104142-005A	Date Received:	4/13/2011
		Matrix:	OTHER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
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E-COLI - EPA 1603 Analyst: SUB

Prep Method:	Prep Date:
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E. Coll	350	0		CFU/100ml	1	4/13/2011
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NOTES:
Analyzed by G&L Laboratories MA-1100

FECAL COLIFORM - SM9222D Analyst: SUB

Prep Method:	Prep Date:
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Fecal Coliform	300	0		CFU/100ml	1	4/13/2011
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NOTES:
Analyzed by G&L Laboratories MA-1100

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
	S	Spike Recovery outside recovery limits		

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ANALYTICAL REPORT

Reported Date: 26-Apr-11

CLIENT: Coneco Engineers & Scientists **Client Sample ID:** OF-25
Lab Order: 1104142 **Tag Number:**
Project: 6859.0 **Collection Date:** 4/13/2011 12:05:00 PM
Lab ID: 1104142-005B **Date Received:** 4/13/2011 **Matrix:** OTHER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
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SURFACTANTS (MBAS) - 8028 **Analyst:** RP

Prep Method:	Prep Date:
Surfactants	0.0270 0.0200 mg/L 1 4/13/2011 8:30:00 AM

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
 S Spike Recovery outside recovery limits

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

ANALYTICAL REPORT

Reported Date: 26-Apr-11

CLIENT: Coneco Engineers & Scientists **Client Sample ID:** OF-25
Lab Order: 1104142 **Tag Number:**
Project: 6859.0 **Collection Date:** 4/13/2011 12:05:00 PM
Lab ID: 1104142-005C **Date Received:** 4/13/2011 **Matrix:** OTHER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
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AMMONIA (AS N) - SM18 4500-NH3-B,C **Analyst: RP**

Prep Method:

Prep Date:

Ammonia (as N)	0.346	0.200		mg/L	1	4/18/2011
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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
S Spike Recovery outside recovery limits

GeoLabs, Inc.
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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 Y/N
 Preservation Lab to do Y/N

Turnaround: circle one
 1-day 3-day 5-7 days
 Data Delivery: circle choice(s)
 Fax Format: Excel PDF email

Requirements: circle choice (s)
 CT RCP (Reasonable Confidence Protocols)
 State / Fed Program - Criteria

Client: Conoco Engineers + Scientists
 Address: 99 Marshall St Lowell, MA 01852
 Contact: Kevin McHugh
 Phone: 617-640-7949
 Fax: 978-364-5106
 email: kmchugh@conoco.com

Project: Concord
 Project PO: 6859.0
 Invoice to: Kevin McHugh

DATE	COLLECTION	SAMPLE LOCATION / ID	CONTAINER TYPE	QUANTITY	MATRIX	COMP	GRAB	GeoLabs SAMPLE NUMBER	Preservative:	Analysis Requested	LAB PH	TEMPERATURE
4/13/11	9:55A AK	OF-805	P 3 OT				X	4142-001		Fe, Coli		
	10:50A AK	OF-75						-002				7.5
	11:20A AK	OF-245						-003				
	11:50A AK	OF-26						-004				
	12:05P AK	OF-25						-005				

Matrix Codes:
 GW = Ground Water DW = Drinking Water S = Soil A = Air
 WW = Waste Water SL = Sludge O = Oil OT = Other

Received by: [Signature] Date / Time: 4/13/11 12:45 PM
 Relinquished by: [Signature] Date / Time: 4/13/11 3:10

Containers: A = Amber B = Bag 0 = Other
 G = Glass P = Plastic
 S = Summa V = Voa

Preservatives: 1 = HCl 3 = H2SO4 5 = NaOH 7 = Other
 2 = HNO3 4 = Na2S2O3 6 = MEOH

Received by: [Signature] Date / Time: 4/13/11 3:10

Relinquished by: [Signature] Date / Time: 4/13/11 3:10