NEWFIELDS

ELECTRONIC SUBMITTAL (NPDES.GeneralPermits@epa.gov)
AND
OVERNIGHT DELIVERY

October 24, 2005

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

RE: NPDES REMEDIATION GENERAL PERMIT – NOI Submittal
Shell-Branded Service Station
46 Central Avenue
Dover, Strafford County, NH

To Whom It May Concern:

On September 9, 2005, the USEPA published the NPDES Remediation General Permit ("RGP") in the Federal Register. It stated the deadline for submittal of Notice of Intents ("NOI") or individual NPDES applications for those facilities currently discharging under USEPA Permit Exclusions was October 10, 2005. On September 19, 2005, NewFields requested, in writing, a 60-day extension to the October 10, 2005 deadline. On October 6, 2005, George Papadopoulos granted an extension until October 24, 2005 via electronic mail. The electronic mail stated that in cases where the permittee was unable to submit all the required information by October 24, 2005, the application should be submitted with as much information as possible and supplemental data provided when it becomes available. Thus NewFields Princeton LLC, on behalf of Motiva Enterprises LLC, is submitting an incomplete NOI application package for the above referenced facility that will be certified by the operator, Motiva Enterprises LLC, upon its final submittal and completion.

Motiva Enterprises LLC is currently operating a Shell-branded gasoline service station at the above referenced location. Remediation of the facility is being conducted under the oversight of NH DES. A groundwater remediation system is currently operating under EPA Permit Exclusion #NH-03I-023. Pursuant to the NPDES RGP requirements, samples of the influent to the remediation system have been taken and analyzed by State of New Hampshire certified laboratories. The final data packages and associated quality control/ quality assurance ("QA/QC") documents are enclosed herein. The total silver data will be forwarded upon receipt.

The results of the influent sampling indicate the presence of metals above the Appendix III and Appendix IV (0-5 dilution) limitations for arsenic, cadmium, copper, lead, nickel, zinc and iron. It should be noted that these metals are naturally occurring in the groundwater and are not associated with the gasoline service station remediation project. Samples of arsenic, copper and iron were taken in the receiving stream upstream of the discharge point. The results were 1230 ug/l for iron and non-detect for the remaining parameters. The EPA should take the iron concentration in the receiving stream into account when issuing the permit conditions.

Since Jeff Andrews at NH DES only calculated the dilution factor of the receiving stream at 3.08, total hardness samples will be taken from the receiving stream and system effluent in order to calculate site-specific metal limitations. If the site specific metal limitations calculated are higher than the Appendix IV limitations, which were calculated using a NH statewide average hardness of 25 mg/l CaCO3, the permittee reserves the right to submit an individual NPDES application as specified in the *Response to Comments on the October 2004 Proposed*

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Remediation General Permit ("Response to Comments") document posted on the EPA website. The results will be provided to your office.

The NPDES Remediation General Permit and associated *Response to Comments* document, allow the permittee to request revisions to the permit conditions based upon site-specific conditions. The following is a list of the requested revisions for this facility.

TEMPERATURE
In the *Response to Comments* document, the EPA agreed that "temperature limits should only apply if the water treatment contains a heating process that can alter the temperature of the discharge and therefore impact the receiving water body"....Therefore the EPA will review each NOI and determine whether the discharge has the potential to affect the temperature sufficiently enough to require monitoring". Since the existing groundwater treatment system does not, and will not, alter the temperature of the receiving waterbody, we are requesting that the EPA not impose monitoring and sampling requirements for temperature at the above referenced location.

EXEMPTION FROM INITIAL START-UP SAMPLING REQUIREMENTS
In the *Response to Comments* document, the EPA agreed that "treatment systems operating under the EPA Permit Exclusion that have been discharging for several years, unless the system has been down for 45 days or more as of the date that the final RGP becomes effective, can be exempted from the initial start-up sampling requirements." Since the referenced remediation system has been discharging under an EPA Permit Exclusion, and has not been down for greater than 45 days as of the date the RGP became effective (September 9, 2005), we are requesting exemption from the initial start-up sampling requirements listed in the RGP.

COMPLIANCE PERIOD
In the *Response to Comments* document, the EPA stated they "will make every effort to provide existing dischargers with sufficient transition time to make any necessary changes to the treatment system in order to comply with the RGP." Based on the influent sampling results enclosed herein, the EPA may impose sampling for parameters not previously required (e.g. metals), or lower limitations on parameters currently required. In order to avoid ceasing operation of the groundwater remediation system due to the risk of Notice of Violations (NOVs) and monetary penalties, the EPA should permit a compliance period of 30 months. During this compliance period the EPA should waive the limitations on those parameters not previously required and maintain the existing limit on those parameters currently required to be sampled on a monthly basis under the EPA Permit Exclusion for a period of 30 months from the effective date of the permit. Regulation 40 CFR Part 122.47 allows a maximum compliance period of three years.

A compliance period of 30 months years is requested for the following reasons:

- The permittee needs to collect additional influent, midpoint and effluent data from the existing remediation system over a period of 12 months in order to determine if a system modification is warranted; one year is needed to account for the temperature changes and groundwater table fluctuations.
- If the sampling results indicate a system modification is warranted, an additional 18 months is needed in order for the following activities to be performed: redesign of the treatment system by a professional engineer, research of various treatment options, obtain local permits, obtain access agreements, obtain capital dollars for equipment purchase, purchase equipment, install equipment, power drop modifications, existing treatment shed expansions and pilot testing the new treatment equipment.

APPROVAL OF ALTERNATE METHODOLOGIES

HEXAVALENT CHROMIUM

In the *Response to Comments* document, the EPA agreed that "Method 7196A is a possible substitute" for the hexavalent chromium methods 218.6 and 1636. To use this method, permittees were instructed to request it individually as an alternative test procedure. The permittee was unable to locate any labs able to run hexavalent chromium by method 218.6 or 1636 since they are considered outdated methods. Method 7196A is currently utilized. The required ML of 10 ug/l is achievable by this method. Thus we are requesting the EPA approve method 7196A for hexavalent chromium for this facility.

TOTAL CHROMIUM

In the *Response to Comments* document, the EPA allowed methods 200.15, 200.7, 200.8, 200.9, 218.1 or 1620 to be utilized for the analysis of Total Chromium. Method 6010B is the SW846 approved equivalent method to 200.7. Therefore we are requesting approval of method 6010B for total chromium (see attached letter from Accutest Laboratories).

TOTAL CYANIDE

Appendix VI of the NPDES RGP specifies the test method for Total Cyanide is 335.4. This method has not been approved for use to date, therefore method 335.3 was utilized.

APPROVAL OF ALTERNATE MLs

TOTAL ZINC

The ML listed for Total Zinc using an ICP test method is 10 ug/l. A survey of laboratories showed that the lowest ML obtainable was 20 ug/l. Thus we are requesting the USEPA accept this alternate ML. The laboratory QA/QC data deliverable package has been enclosed for your convenience.

TOTAL COPPER

The ML listed for Total Copper using an ICP test method is 5 ug/l. A survey of laboratories showed that the lowest ML obtainable was 25 ug/l with an instrument detection level (IDL) of 5 ug/l. Thus we are requesting the USEPA accept this alternate ML. The laboratory QA/QC data deliverable package has been enclosed for your convenience.

ETHYLENE DIBROMIDE

The ML listed for Ethylene Dibromide using method 504.1 is 0.01 ug/l. A survey of laboratories showed that the lowest ML obtainable was 0.015 ug/l. Thus we are requesting the USEPA accept this alternate ML. The laboratory QA/QC data deliverable package has been enclosed for your convenience.

If you have any questions, or require any additional information, I may be contacted at (732) 224-7066 extension 17.

Respectfully,
NewFields Princeton LLC

Michelle L. Smith
Project Scientist

Enclosures: Notice of Intent Form
Figures
Dilution Factor Calculations
303(d) List and TMDLs
Laboratory Analytical (System Influent)

C: New Hampshire Department of Environmental Services
Water Division
Wastewater Engineering Bureau
P.O. Box 95
Concord, NH 03302-0095
(w/ enclosures)

City of Dover
288 Central Avenue
Dover, NH 03820
(w/ enclosures)

David Weeks, Shell OPUS
(w/ enclosures) via electronic mail

Benjamin Rieger, GSC|Kleinfelder
(w/ enclosures) via electronic mail

NewFields File
(w/ enclosures)

NOI FORM

I. Suggested Notice of Intent (NOI) Form

In order to be covered by the remediation general permit (RGP), applicants must submit a written Notice of Intent (NOI) to EPA Region I and the appropriate state agency. **All parties meeting the definition of "operator" must fill out, sign, and submit separate NOIs.**

The "operator" is defined in Part I.B.1. as the person[1] who has operational control over plans and specifications, or the person who has day-to-day supervision and control of activities occurring at the site. For purposes of this permit, the operator is either:

i. The owner[2] (e.g., title holder, developer, or easement holder of the property) if that entity is performing all work related to complying with this permit; **or**
ii. Both the owner[2] (e.g., title holder, developer, or easement holder of the property) and contractor(s) if a contractor(s) has been hired to perform work related to complying with this permit.

This means that each party meeting the definition of operator should apply for coverage under the RGP if it has operational control over either the project site plans and specifications, including the ability to make modifications to those plans and specifications (e.g., the property owner), **or** has day-to-day operational control of those activities at a project which are necessary to ensure compliance with permit conditions (e.g., the contractor). Where a party's activity is part of a larger common plan (e.g., for the development or sale of the property), that party is only responsible for applying for the portions of the project for which it meets the definition of "operator." In many instances, there may be more than one party at a site performing tasks related to "operational control" and hence, more than one operator must submit an NOI. Depending on the site and the relationship between the parties (e.g., owner, contractor, etc.), there could be either a single party acting as site operator and consequently responsible for obtaining permit coverage, or there could be two or more operators all needing permit coverage.

The following are three general **"operator"** scenarios (variations on any of these three are possible, especially as the number of owners and contractors increases):

- *"Owner" as "Operator" - sole permittee.* The property owner designs the structures and control systems for the site, develops and implements the BMPP, and serves as general contractor (or has an on-site representative with full authority to direct day-to-day operations). Under the definition of operator, in this case, the "Owner" would be considered the "operator" and therefore the only party that needs permit coverage. Everyone else working on the site may be considered subcontractors and do not need to apply for permit coverage.

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[1] Defined in 40 CFR 122.2.

[2] For purposes of this permit, the "owner" of a property is the person, as defined by 40 CFR 122.2, holding the title, deed, or legal document to the regulated property, facility, or activity, including a party working under an easement on the property.

- *"Contractor" as "Operator" - sole permittee.* The property owner hires a company (e.g., a contractor) to design the project and oversee all aspects, including preparation and implementation of the BMPP and compliance with the permit (e.g., a "turnkey" project). Here, the contractor would likely be the only party needing a permit. It is under this scenario that an individual having a personal residence built for his own use (e.g., not those to be sold for profit or used as rental property) would not be considered an operator. Similarly, EPA expects that property owners hiring a contractor or consultant to perform groundwater remediation work (e.g., due to a leaking fuel oil tank) would come under this type of scenario. EPA believes that the contractor, being a professional in the industry, should be the responsible entity rather than the individual. The contractor is better equipped to meet the requirements of both applying for permit coverage and developing and properly implementing the plans needed to comply with the permit. However, property owners would also meet the definition of "operator" and require permit coverage in instances where they perform any of the required tasks on their personal properties.

- *"Owner" and "Contractor" as "Operators" - co-permittees.* The owner retains control over any changes to site plans, BMPPs, or wastewater conveyance or control designs, but the contractor is responsible for conducting and overseeing the actual activities (e.g., excavation, installation and operation of treatment train, etc.) and daily implementation of BMPP and other permit conditions. In this case, **both** parties need to apply for coverage.

Generally, a person would not be considered an "operator," and subsequently would not need permit coverage, if: 1) that person is a subcontractor hired by, and under the supervision of, the owner or a general contractor (e.g., if the contractor directs the subcontractor's activities on-site, it is probably not an operator); or 2) the person's activities would otherwise result in the need for coverage under the RGP but another operator has legally assumed responsibility for the impacts of project activities.

A. Instructions for the Suggested Notice of Intent (NOI) - At a minimum, the Notice of Intent must include the following for each individual facility or site. Additional information may be attached as needed.

1. General facility/site information.

a) Provide the **facility/site** name, mailing address, and telephone and fax numbers. Provide the facility SIC code(s). Provide the site location, including longitude and latitude.
b) Provide the property **owner's** name, address, email address, telephone and fax numbers, if different from the site information. Indicate whether the owner is a Federal, State, Tribal, private, or other entity.
c) Provide the site **operator's** (e.g., contractor's) name, mailing address, telephone and fax numbers, and email address if different from the owner's information.
d) For the site for which the application is being submitted, indicate whether:
   1) a prior NPDES permit exclusion has been granted for the discharge (if so, provide the tracking number of the exclusion letter);

2) a prior NPDES application (Form 1 & 2C) has ever been filed for the discharge (if so, provide the tracking number and date that the application was submitted to EPA);
3) the discharge is a "new discharge" as defined by 40 CFR 122.2; and
4) for sites in Massachusetts, is the discharge covered under the MA Contingency Plan (MCP) and exempt from state permitting.

e) Indicate whether there is any ongoing state permitting, licensing, or other action regarding the facility or site which is generating the discharge. If "yes," provide any site identification number assigned by the state of NH or MA, any permit or license number assigned, and the state agency contact information (e.g. name, location, telephone no.).

f) Indicate whether or not the facility is covered by other EPA permits including: the multi-sector storm water general permit; the Phase I or II Construction Storm Water General Permit; an individual NPDES permit; or, any other water quality-related individual or general permit. If so, provide permit tracking number(s).

2. Discharge information.

a) Describe the discharge activities to be covered by the permit. Attach additional sheets as needed.

b) Provide the following information about each discharge:
1) the number of discharge points;
2) the **maximum** and **average flow rate** of the discharge in cubic feet per second. For the average flow magnitude, include the units and appropriate notation if this value is a calculated design value or estimate if technical/design information is not available;
3) the latitude and longitude of each discharge with an accuracy of 100 feet (see EPA's siting tool at: http://www.epa.gov/tri/report/siting_tool/);
4) the total volume of potential discharge (gal), only if hydrostatic testing;
5) indication whether the discharge(s) is intermittent or seasonal and if ongoing.

c) Provide the expected start and end dates of discharge (month/day/year)

d) Attach a line drawing or flow schematic showing water flow through the facility including:
1) sources of intake water;
2) contributing flow from the operation;
3) treatment units; and
4) discharge points and receiving waters(s).

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

a) Based on the analysis of the sample(s) of the untreated influent, the applicant must indicate which of the sub-categories (listed in Table V of Part I.C of the permit) that the potential discharge falls within.
b) Based on the analysis of the untreated influent, the applicant must indicate whether each listed chemical is **believed present** or **believed absent** in the potential discharge.

Based on the required sampling and analysis, the applicant must fill in the table, or provide a narrative description, with the following additional information for each chemical that is **believed present**:

1) the number of samples taken (minimum of one sample);
2) the type of sample (e.g. grab, composite, etc.);
3) the analytical method used, including the method number;
4) the minimum level (ML) of the method used (based on Appendix VI);
5) the maximum daily amount (concentration, ug/l, and mass, kg) of each pollutant, based on the sampling data (see Appendix VIII instructions for sample mass calculations); and
6) the average daily amount (concentration and mass) of each pollutant, based on the sampling data.

If the results of the required sampling indicate that pollutants exist in addition to those listed in Appendix III of the RGP of the permit, the applicant must also describe those contaminants on the NOI in boxes in section I.3.b) on the line marked "Other," or using additional sheets as needed. Subsequently, EPA will decide if the RGP can apply or if an individual permit is necessary.

c) Determination of Reasonable Potential and Allowable Dilution for Discharges of Metals:
If any ***metals*** are believed present in the potential discharge to freshwater[3], the applicant must follow the 2 step calculation procedures described below to determine the reasonable potential for exceedance of water quality standards and dilution factor for each metal.

Step 1: Initial Evaluation

1) The applicant must evaluate all metals believed present in the discharge subject to this permit, including "naturally occurring" metals such as dissolved and/or total Iron. Applicants must enter the highest detected concentration of the metal at zero dilution in the "Maximum value" column of the NOI.

2) Based on the maximum concentration of each metal, the applicant must perform an initial evaluation assuming zero dilution in the receiving water. The applicant must compare the metals concentrations in the untreated (intake) waters to the limits contained in Appendix III.

i. If potential discharges (untreated influent) with metals contain concentrations above the concentration limits listed in Appendix III , applicant must proceed to step 2.

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[3]Dilution factors may be available for discharges to saline waters but only with approval of the flow modeling information from the State prior to the submission of the NOI.

ii. If potential discharges (untreated influent) with metals contain concentrations below the concentrations listed in Appendix III, the applicant may skip step 2 and those metals will **not** be subject to permit limitations or monitoring requirements.

Step 2: Calculation of Dilution Factor

1) **For applicants in NH**: If a metal concentration in a potential discharge (untreated influent) to **freshwater**[3] exceeds the limits in Appendix III with zero dilution, the applicant shall evaluate the potential concentration considering a dilution factor (DF) using the formula below. **For sites in New Hampshire, the applicant must contact NH DES to determine the 7Q10 and dilution factor.**

DF = [(Qd + Qs)/Qd] X 0.9

Where:	**DF**	**= Dilution Factor**
	Qd	**= Maximum flow rate of the discharge in cubic feet per second (cfs) (1.0 gpm = .00223 cfs)**
	Qs	**= Receiving water 7Q10 flow, in cfs, where,**
	7Q10	**= The annual minimum flow for 7 consecutive days with a recurrence interval of 10 years**
	0.9	**= Allowance for reserving 10% of the assets in the receiving stream as per Chapter ENV-Ws 1700, Surface Water Quality Regulations**

i. Using the DF calculated from the formula above, the applicant must refer to the corresponding DF range column in Appendix IV. The applicant then compares the maximum concentration of the metal entered on the NOI to the corresponding total recoverable metals limits listed in Appendix IV.

1. If a metal concentration in the potential discharge (untreated influent) is less than the corresponding limit in Appendix IV, the metal will **not** be subject to permit limitations or monitoring requirements.
2. If a metal concentration in the potential discharge (untreated influent) is equal to or exceeds the corresponding limit in Appendix IV, the applicant must reduce it in the effluent to a concentration below the applicable total recoverable metals limit in Appendix IV prior to discharge.

ii. In either case, the applicant must submit the results of this calculation as part of the NOI. EPA and NH DES will review the proposed effluent limitations for each metal and approve or disapprove the limits in the notification of coverage letter to the applicant.

2) **For applicants in MA**: If a metal concentration in a in a potential discharge (untreated influent) to **freshwater**[3] exceeds the limits in Appendix III with zero dilution, the applicant must evaluate the potential concentration considering a dilution factor (DF) using the formula below.

DF = (Qd + Qs)/Qd

Where:	**DF**	**= Dilution Factor**
	Qd	**= Maximum flow rate of the discharge in cubic feet per second (cfs) (1.0 gpm = .00223 cfs)**
	Qs	**= Receiving water 7Q10 flow (cfs) where,**
	7Q10	**= The minimum flow (cfs) for 7 consecutive days with a recurrence interval of 10 years**

i. The applicant may estimate the 7Q10 for a receiving water by using available information such as nearby USGS stream gauging stations directly or by application of certain "flow factors," using historic streamflow publication information, calculations based on drainage area, information from state water quality offices, or other means. In many cases the states of MA have calculated 7Q10 information using "flow factors" for a number of streams in the state. The source of the low flow value(s) used by the applicant must be included on NOI application form. Flow data can also be obtained from web applications such as STREAMSTATS located at: http://ma.water.usgs.gov/streamstats/.

ii. Using the DF calculated from the formula above, the applicant must refer to the corresponding DF range column in Appendix IV. The applicant then compares the maximum concentration of each metal entered on the NOI to the corresponding total recoverable metals limit listed in Appendix IV.

1. If a metal concentration in the potential discharge (untreated influent) is less than the corresponding limit in Appendix IV, the metal will **not** be subject to permit limitations or monitoring requirements.
2. If a metal concentration in a potential discharge (untreated influent) is equal to or exceeds the corresponding limit in Appendix IV, the applicant must reduce it in the effluent to a concentration below the applicable total recoverable metals limit in Appendix IV prior to discharge.

iii. The applicant must submit the results of this calculation as part of the NOI. EPA (and MA DEP where the discharge not covered by 310 CMR 40.0000) will review the proposed effluent limitations for each metal and approve or disapprove the limits in the notification of coverage letter to the applicant.

4. Treatment system information.

a) Describe the treatment train for each discharge and attach a schematic of the proposed or existing treatment system.

b) Identify each major treatment unit (e.g. frac tanks, filters, air stripper, liquid phase/vapor phase activated carbon, oil/water separators, etc.) by checking all that apply and describing any additional equipment not listed. Provide a written description of how the system train will be set up. Attach additional sheets as needed.

c) Provide the proposed **average** and **maximum flow** rates (in gallons per minute, gpm) for the discharge and the **design flow** rates (in gpm) of the treatment system. Clearly identify the component of the treatment with the most limited flow, i.e., the part of the treatment train that establishes the **design flow**.
d) Describe any chemical additives being used, or planned to be used, and attach MSDS sheets for each. EPA may request further information regarding the chemical composition of the additive, potential toxic effects, or other information to insure that approval of the use of the additive will not cause or contribute to a violation of State water quality standards. Approval of coverage under the RGP will constitute approval of the use of the chemical additive(s). If coverage of the discharge under the RGP has already been granted and the use of a chemical additive becomes necessary, the permittee must submit a Notice of Change (NOC).

5. Receiving surface water(s) information.
a) Identify the discharge pathway by checking whether it is discharged: directly to the receiving water, within the facility (e.g., through a sewer drain), to a storm drain, to a river or brook, to a wetland, or other receiving body.
b) Provide a narrative description of the discharge pathway, including the name(s) of the receiving waters into which discharge will occur.
c) Provide a detailed map(s) indicating the location of the site and outfall to the receiving water:
1) For multiple discharges, the discharges should be numbered sequentially.
2) In the case of indirect dischargers (to municipal storm sewer, etc) the map(s) must be sufficient to indicate the location of the discharge to the indirect conveyance and the discharge to the state classified surface water. The map should also include the location and distance to the nearest sanitary sewer as well as the locus of nearby sensitive receptors (based on USGS topographical mapping), such as surface waters, drinking water supplies, and wetland areas.
d) Provide the state water quality classification of the receiving water and the basin;
e) Specify the reported seven day-ten year low flow (7Q10) of the receiving water (see Section I.A.3)c. above). In New Hampshire, the 7Q10 must be provided by to the applicant by the New Hampshire Department of Environmental Services.
f) Indicate whether the receiving water is a listed 303(d) water quality impaired or limited water and if so, for which pollutants (see Section VII.H. of the Fact Sheet for additional information). Also, indicate if there is a TMDL for any of the listed pollutants. For MA, the list of waters can be found at: http://www.mass.gov/dep/brp/wm/tmdls.htm and for NH: http://www.epa.gov/ne/eco/tmdl/impairedh2o.html. For more information, contact the states at: New Hampshire Department of Environmental Services, Watershed Management Bureau at 603-271-3503 or the Massachusetts Department of Environmental Protection at 508-767-2796 or 508-767-2873;

6. Consultation with Federal Services - As required in Part I.A.4 and Appendix VII the operator of a site/facility must ensure that the potential discharge will not affect adversely endangered species, designated critical habitat, or essential fish habitat, or national historic places that are in proximity to the potential discharge. If the potential discharge is to certain water bodies, the applicant must also submit a formal certification with the NOI that indicates the consultation, with the U.S. Fish and Wildlife Service and National Marine Fisheries Service (the Services), resulted in either a no jeopardy opinion or a written concurrence on a finding that the discharges are not likely to adversely affect any endangered species or critical habitat. Facilities should begin the

consultation as early in the process as possible.

a) Indicate whether any listed threatened or endangered species, designated critical habitat, or essential fish habitat, are in proximity to the discharge to be covered by this permit and whether any consultation with the Services is complete or underway.
b) Indicate whether or not there are any historic properties listed or eligible for listing on the National Register of Historic Places located on the facility or site or in proximity to the discharge (see http://www.cr.nps.gov/nr/research/nris.htm), and whether any state or tribal historic preservation officer (SHPO or THPO) was consulted in such a determination (for Massachusetts sites only).

7. Supplemental information. Applicants should provide any supplemental information needed to meet the requirements of the permit, including, any analytical data used to support the application, and any certification(s) required.

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

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

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

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

a) Name of **facility/site**: Shell-Branded Service Station		**Facility/site** address:		
Location of **facility/site**: longitude: 70° 52' 36.2" latitude: 43° 10' 56.6"	Facility SIC code (s): 5541	Street: 46 Central Avenue		
b) Name of facility/site **owner**: Motiva Enterprises LLC		Town: Dover		
Email address of owner: David.Weeks@Shell.com		State: NH	Zip: 03820	County: Strafford
Telephone no. of facility/site **owner**: 845-462-5225				
Fax no. of facility/site **owner**: 845-462-4999		**Owner** is (check one) 1. Federal ☐ 2. State/Tribal ☐ 3. Private ☐ 4. other, ☒ if so, describe: Corporation		
Address of **owner** (if different from site):				
Street: 1830 South Road, Unit 24, PMB 301				
Town: Wappingers Falls	State: NY	Zip: 12590	County: Dutchess	
c.) Legal name of **operator**: Motiva Enterprises LLC	**Operator** telephone no.: 845-462-5225			
	Operator fax no.: 845-462-4999		**Operator** email: David.Weeks@Shell.com	
Operator contact name and title: David Weeks, Senior Environmental Engineer				

Address of **operator** (if different from owner): Same as owner	Street: Same as owner		
Town: Same as owner	State: Same as owner	Zip: Same as owner	County: Same as owner

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

1. Has a prior NPDES permit exclusion been granted for the discharge? Yes ☒ No ☐, if "yes," number: NH-03I-023

2. Has a prior NPDES application (Form 1 & 2C) ever been filed for the discharge? Yes ☐ No ☒, if "yes," date and tracking #:

3. Is the discharge a "new discharge" as defined by 40 CFR 122.2? Yes ☐ No ☒

4. For sites in Massachusetts, is the discharge covered under the MA Contingency Plan (MCP) and exempt from state permitting? Yes ☐ No ☐

e) Is site/facility subject to any State permitting or other action which is causing the generation of discharge? Yes ☐ No ☒, If "yes," please list: 1. site identification # assigned by the state of NH or MA: 2. permit or license # assigned: 3. state agency contact information: name, location, and telephone number:	f) Is the site/facility covered by any other EP A permit, including: 1. multi-sector storm water general permit? Yes ☐ No ☒, if Y, number: 2. phase I or II construction storm water general permit? Yes ☐ No ☒, if Y, number: 3. individual NPDES permit? Yes ☐ No ☒, if Y, number: 4. any other water quality related permit? Yes ☐ No ☒, if Y, number:

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

a) Describe the discharge activities for which the owner/applicant is seeking coverage: Groundwater remediation project at retail gasoline service station.		
b) Provide the following information about each discharge:	1) Number of discharge points: One (1)	2) What is the **maximum** and **average flow rate** of discharge (in cubic feet per second, W/s)? Max. flow 0.62 ft^3/sec Average flow 0.24 ft^3/sec Is maximum flow a **design value**? Yes ☒ No ☐, For average flow, include the units and appropriate notation if this value is a design value or estimate if not available. Average flow 0.24 ft^3/sec (based on historical operations)
3) Latitude and longitude of each discharge within 100 feet: pt.1: long.70 °52' 40" lat. 43° 11' 48" ; pt.2: long. ___ lat. ___ ; pt.3: long. ___ lat. ___ ; pt.4:long. ___ lat. ___ ; pt.5: long. ___ lat. ___ ; pt.6: long. ___ lat. ___ ; pt.7: long. ___ lat. ___ ; pt.8:long. ___ lat. ___ ; etc.		

4) If hydrostatic testing, total volume of the discharge (gals): N/A	5) Is the discharge intermittent ☒ Or seasonal ☐ ? Is discharge ongoing Yes ☒ No ☐,?
c) Expected dates of discharge (mm/dd/yy): start 01/05/04 end unknown	
d) Please attach a line drawing or flow schematic showing water flow through the facility including: See attached. 1. sources of intake water, 2. contributing flow from the operation, 3. treatment units, and 4. discharge points and receiving waters(s).	

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

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

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

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

PARAMETER	**Believe Absent**	**Believe Present**	**#of Samples (1 min-imum)**	**Type of Sample (e.g., grab)**	**Analytical Method Used (method #)**	**Minimum Level (ML) of Test Method (ug/l)**	**Maximum daily value**		**Avg. daily value**	
							concentration (ug/l)	**mass ~~(kg)~~ (kg/day)**	**concentration (ug/l)**	**mass ~~(kg)~~ (kg/day)**
1. Total Suspended Solids		√	1	GRAB	160.2	4000	14000	0.382		
2. Total Residual Chlorine		√	1	GRAB	330.5	20	40	0.001		
3. Total Petroleum Hydrocarbons		√	1	GRAB	1664	4100	<4100	<0.112		
4. Cyanide	√		1	GRAB	335.3	10	<10	<0.00027		
5. Benzene		√	1	GRAB	8260B	0.5	<0.5	<1.4 E-5		
6. Toluene		√	1	GRAB	8260B	1.0	<1.0	<2.73 E-5		
7. Ethylbenzene		√	1	GRAB	8260B	1.0	<1.0	<2.73 E-5		
8. (m,p,o) Xylenes		√	1	GRAB	8260B	1.0	<1.0	<2.73 E-5		
9. Total BTEX[4]		√	1	GRAB	8260B	-----	<1.0	<2.73 E-5		

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

PARAMETER	Believe Absent	Believe Present	# of Samples (1 min-imum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method (ug/l)	Maximum daily value		Avg. daily value	
							concentration (ug/l)	mass ~~(kg)~~ (kg/day)	concentration (ug/l)	mass ~~(kg)~~ (kg/day)
10. Ethylene Dibromide (1,2- Dibromo-methane)	√		1	GRAB	504.1	0.015	<0.015	<4.09 E-7		
11. Methyl-tert-Butyl Ether (MtBE)		√	1	GRAB	8260B	1.0	67.6	0.001845		
12. tert-Butyl Alcohol (TBA)		√	1	GRAB	8260B	100	<100	<0.003		
13. tert-Amyl Methyl Ether (TAME)		√	1	GRAB	8260B	2.0	<2.0	<0.0001		
14. Naphthalene	√		1	GRAB	8270C SIM	5.0	<5.0	<0.00014		
15. Carbon Tetra-chloride	√		1	GRAB	8260B	1.0	<1.0	<2.73 E-5		
16. 1,4 Dichlorobenzene	√		1	GRAB	8260B	1.0	<1.0	<2.73 E-5		
17.1,2 Dichlorobenzene	√		1	GRAB	8260B	1.0	<1.0	<2.73 E-5		
18. 1,3 Dichlorobenzene	√		1	GRAB	8260B	1.0	<1.0	<2.73 E-5		
19. 1,1 Dichloroethane	√		1	GRAB	8260B	1.0	<1.0	<2.73 E-5		
20. 1,2 Dichloroethane	√		1	GRAB	8260B	1.0	<1.0	<2.73 E-5		
21. 1,1 Dichloroethylene	√		1	GRAB	8260B	1.0	<1.0	<2.73 E-5		
22. cis-l,2 Dichloro-ethylene	√		1	GRAB	8260B	1.0	<1.0	<2.73 E-5		
23. Dichloromethane (Methylene Chloride)	√		1	GRAB	8260B	2.0	<2.0	<0.0001		
24. Tetrachloroethylene	√		1	GRAB	8260B	1.0	<1.0	<2.73 E-5		

PARAMETER	Believe Absent	Believe Present	# of Samples (1 min-imum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method (ug/l)	Maximum daily value		Avg. daily Value	
							concentration (ug/l)	mass ~~(kg)~~ (kg/day)	concentration (ug/l)	mass ~~(kg)~~ (kg/day)
25. 1,1,1 Trichloroethane	√		1	GRAB	8260B	1.0	<1.0	<2.73 E-5		
26. 1,1,2 Trichloroethane	√		1	GRAB	8260B	1.0	<1.0	<2.73 E-5		
27. Trichloroethylene	√		1	GRAB	8260B	1.0	<1.0	<2.73 E-5		
28. Vinyl Chloride	√		1	GRAB	8260B	1.0	<1.0	<2.73 E-5		
29. Acetone	√		1	GRAB	8260B	5.0	<5.0	<0.00014		
30. 1,4 Dioxane	√		1	GRAB	8260B	25.0	<25.0	<6.82 E-4		
31. Total Phenols	√		1	GRAB	8270C	See lab data	See lab data (Not Detected)	-------		
32. Pentachlorophenol	√		1	GRAB	8270C SIM	1.0	<1.0	<2.73 E-5		
33. Total Phthalates [6] (phthalate esthers)	√		1	GRAB	8270C	10	<10	<2.73 E-4		
34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate]	√		1	GRAB	8270C	10	<10	<2.73 E-4		
35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)	√		1	GRAB	8270C	See lab data	See lab data (Not Detected)	--------		
a. Benzo(a) Anthracene	√		1	GRAB	8270C	0.051	<0.051	<1.39 E-6		
b. Benzo(a) Pyrene	√		1	GRAB	8270C	0.10	<0.10	<2.73 E-6		
c. Benzo(b)Fluoranthene	√		1	GRAB	8270C	0.051	<0.051	<1.39 E-6		
d. Benzo(k) Fluoranthene	√		1	GRAB	8270C	0.10	<0.10	<2.73 E-6		
e. Chrysene	√		1	GRAB	8270C	0.10	<0.10	<2.73 E-6		

[6] The sum of individual phthalate compounds.

PARAMETER	Believe Absent	Believe Present	#of Samples (1 min-imum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method (ug/l)	Maximum daily value		Average daily value	
							concentration (ug/l)	mass ~~(kg)~~ (kg/day)	concentration (ug/l)	mass ~~(kg)~~ (kg/day)
f. Dibenzo(a,h) anthracene	√		1	GRAB	8270C	0.10	<0.10	<2.73 E-6		
g. Indeno(1,2,3-cd) Pyrene	√		1	GRAB	8270C	0.10	<0.10	<2.73 E-6		
36. Total Group II Polycyclic Aromatic Hydrocarbons (pAR)	√		1	GRAB	8270C	0.10	<0.10	<2.73 E-6		
h. Acenaphthene	√		1	GRAB	8270C	0.10	<0.10	<2.73 E-6		
i. Acenaphthylene	√		1	GRAB	8270C	0.10	<0.10	<2.73 E-6		
j. Anthracene	√		1	GRAB	8270C	0.10	<0.10	<2.73 E-6		
k. Benzo(ghi) Perylene	√		1	GRAB	8270C	0.10	<0.10	<2.73 E-6		
I. Fluoranthene	√		1	GRAB	8270C	0.10	<0.10	<2.73 E-6		
m. Fluorene	√		1	GRAB	8270C	0.10	<0.10	<2.73 E-6		
n. Naphthalene-	√		1	GRAB	8270C	0.10	<0.10	<2.73 E-6		
o. Phenanthrene	√		1	GRAB	8270C	0.10	<0.10	<2.73 E-6		
p. Pyrene	√		1	GRAB	8270C	0.10	<0.10	<2.73 E-6		
37. Total Polychlorinated Biphenyls (PCBs)	√		1	GRAB	608	0.52	<0.52	<1.42 E-5		
38. Antimony	√		1	GRAB	3113B	5.0	<5.0	<0.00014		
39. Arsenic		√	1	GRAB	3010A-6010B	5.0	116	0.0032		
40. Cadmium		√	1	GRAB	3113B	0.5	1.5	0.00004		
41. Chromium III (1)	√		1	GRAB	Calculated	----	<10	<0.00027		
42. Chromium VI	√		1	GRAB	7196A	10	<10	<0.00027		

NOTES: (1) Chromium III = Total Chromium – Hexavalent Chromium

PARAMETER	Believe Absent	Believe Present	#of Samples (1 min-imum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method (ug/l)	Maximum daily value		Avg. daily value	
							concentration (ug/l)	mass ~~(kg)~~ (kg/day)	concentration (ug/l)	mass ~~(kg)~~ (kg/day)
43. Copper (2)		√	1	GRAB	3010A-6010B	25	61.4	0.0017		
44. Lead		√	1	GRAB	3113B	2	34	0.00093		
45. Mercury	√		1	GRAB	7470A	0.2	<0.2	<0.00001		
46. Nickel		√	1	GRAB	200.7	5.0	19	0.00052		
47. Selenium	√		1	GRAB	3113B	5.0	<5.0	<0.00014		
48. Silver										
49. Zinc		√	1	GRAB	200.7	20	70	0.00191		
50. Iron		√	1	GRAB	3010A-6010B	100	6960	0.190		
Other (describe):	----	----	----	----	----	----	----	----	----	----

NOTES: (2) Total Copper, Instrument Detection Level (IDL) = 5 ug/l

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

Step 1: Do any of the metals in the influent have a reasonable potential to exceed the effluent limits in Appendix III (i.e., the limits set at zero to five dilutions)? Y ☒ N ☐	If yes, which metals? As, Cd, Cu, Pb, Ni, Zn, Fe .
Step 2: For any metals which have **reasonable potential** to exceed the **Appendix III** limits, calculate the **dilution factor (DF)** using the formula in Part I.A.3.c) (step 2) of the NOI instructions or as determined by the State prior to the submission of this NOI. What is the dilution factor for applicable metals? Metals: As, Cd, Cu, Pb, Ni, Zn, Fe . DF: 3.0774 .	Look up the limit calculated at the corresponding dilution factor in **Appendix IV**. Do any of the metals in the **influent** have the potential to exceed the corresponding **effluent** limits in Appendix IV (i.e., is the influent concentration above the limit set at the calculated dilution factor)? Y ☒ N ☐ If "Yes," list which metals: As, Cd, Cu, Pb, Ni, Zn, Fe .

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

a) A description of the treatment system, including a schematic of the proposed or existing treatment system:
Groundwater is extracted from multiple recovery wells and treated by one holding tank, two bag filters and three granular activated carbon units.

b) Identify each applicable treatment unit (check all that apply):	Frac. tank ☐	Air stripper ☐	Oil/water separator ☐	Equalization tanks ☒	Bag filter ☒	GAC filter ☒
	Chlorination ☐	Dechlorination ☐	Other (please describe):			

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

Average flow rate of discharge 2 GPM Maximum flow rate of treatment system 5 GPM Design flow rate of treatment system 5 GPM

d) A description of chemical additives being used or planned to be used (attach MSDS sheets): Not Applicable

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

a) Identify the discharge pathway:	Direct ☐	Within facility ☐	Storm drain ☒	River/brook ☐	Wetlands ☐	Other (describe):

b) Provide a narrative description of the discharge pathway, including the name(s) of the receiving waters:
Discharge to City of Dover conveyance system which discharges to Bellamy River. Class B per Jeff Andrews at NHDES.
Piscataqua River Basin.

c) Attach a detailed map(s) indicating the site location and location of the outfall to the receiving water:
1. For multiple discharges, number the discharges sequentially.
2. For indirect dischargers, indicate the location of the discharge to the indirect conveyance and the discharge to surface water
The map should also include the location and distance to the nearest sanitary sewer as well as the locus of nearby sensitive receptors (based on USGS topographical mapping), such as surface waters, drinking water supplies, and wetland areas. See Figure 2, 3 and December 11, 2003 Map

d) Provide the state water quality classification of the receiving water Class B (freshwater) .

e) Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water 1.5 cfs

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

f) Is the receiving water a listed 303(d) water quality impaired or limited water? Yes ☒ No ☐ If yes, for which pollutant(s)? State Impairment - Mercury, pH

Is there a TMDL? Yes ☐ No ☒ If yes, for which pollutant(s)? There were no TMDLs reported to EPA by the State (see attached).

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

a) Are any listed threatened or endangered species, or designated critical habitat, in proximity to the discharge? Yes ☐ No ☒
Has any consultation with the federal services been completed? Yes ☐ No ☒ or is consultation underway? Yes ☐ No ☒

What were the results of the consultation with the U.S. Fish and Wildlife Service and/or National Marine Fisheries Service (check one): Not applicable

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

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

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

7. Supplemental information. :

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

See cover letter.

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

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

Facility/Site Name: Shell-Branded Service Station, 46 Central Avenue, Dover, NH .

Operator signature: _____ .

Title: David Weeks, Senior Environmental Engineer .

Date: _____ .

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

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

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

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

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

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

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

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

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

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

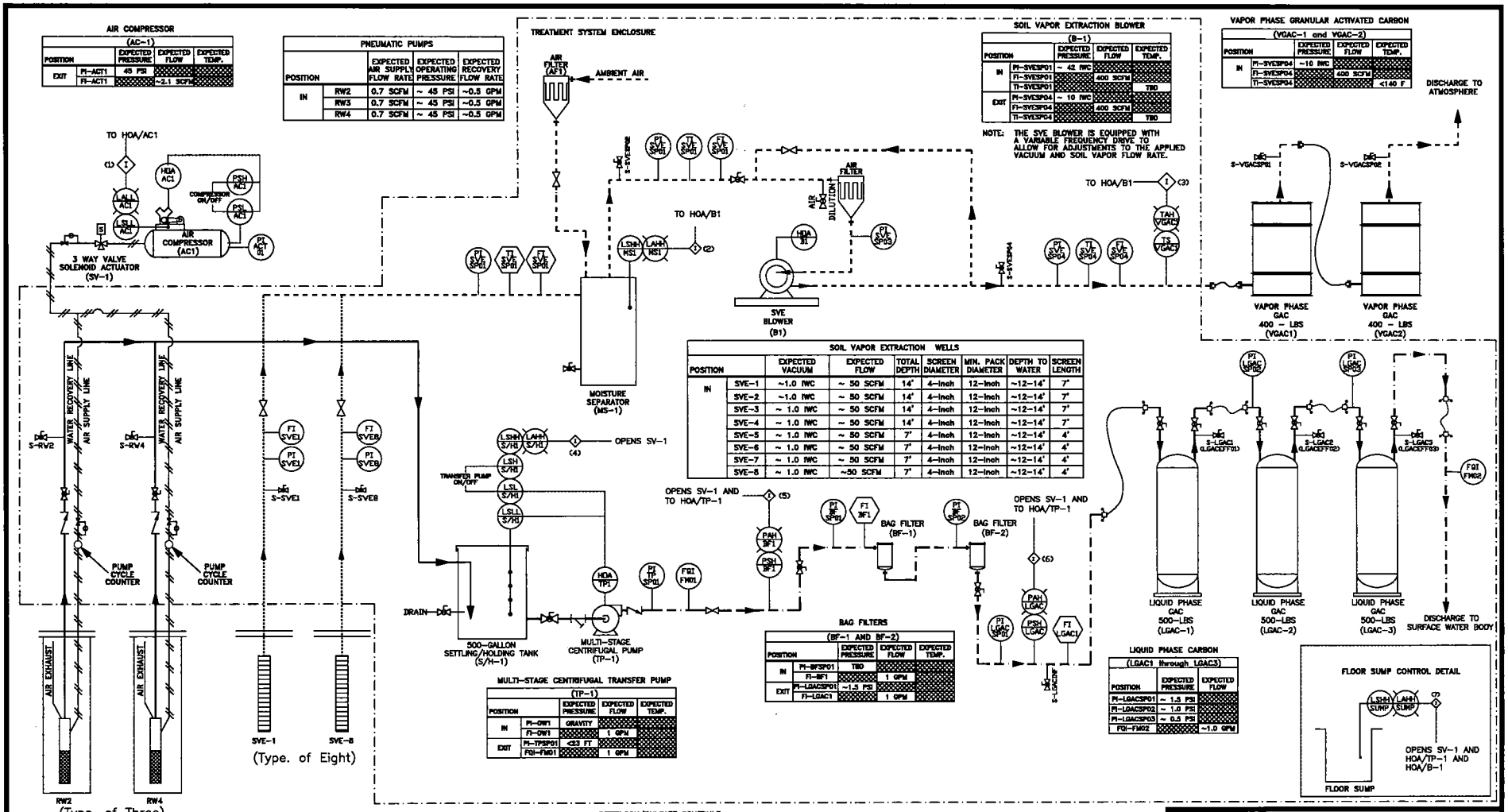
Please note: Applicants for discharges in Massachusetts should note that under 310 CMR 40.000, *as a matter of state law*, the general permit only applies to discharges that are **not** subject to the Massachusetts Contingency Plan (MCP) and 310 CMR 40.000. Therefore, discharges subject to the MCP are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

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

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

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

FIGURES



AIR COMPRESSOR (AC-1)				
POSITION		EXPECTED PRESSURE	EXPECTED FLOW	EXPECTED TEMP.
EXIT	PI-ACT1	45 PSI		
	FI-ACT1		~2.1 SCFM	

PNEUMATIC PUMPS				
POSITION		EXPECTED AIR SUPPLY FLOW RATE	EXPECTED OPERATING PRESSURE	EXPECTED RECOVERY FLOW RATE
IN	RW2	0.7 SCFM	~ 45 PSI	~0.5 GPM
	RW3	0.7 SCFM	~ 45 PSI	~0.5 GPM
	RW4	0.7 SCFM	~ 45 PSI	~0.5 GPM

SOIL VAPOR EXTRACTION BLOWER (B-1)				
POSITION		EXPECTED PRESSURE	EXPECTED FLOW	EXPECTED TEMP.
IN	PI-SVESP01	~ 42 IWC		
	FI-SVESP01		400 SCFM	
	TI-SVESP01			TBD
EXIT	PI-SVESP04	~ 10 IWC		
	FI-SVESP04		400 SCFM	
	TI-SVESP04			TBD

VAPOR PHASE GRANULAR ACTIVATED CARBON (VGAC-1 and VGAC-2)				
POSITION		EXPECTED PRESSURE	EXPECTED FLOW	EXPECTED TEMP.
IN	PI-SVESP04	~10 IWC		
	FI-SVESP04		400 SCFM	
	TI-SVESP04			<140 F

SOIL VAPOR EXTRACTION WELLS								
POSITION		EXPECTED VACUUM	EXPECTED FLOW	TOTAL DEPTH	SCREEN DIAMETER	MIN. PACK DIAMETER	DEPTH TO WATER	SCREEN LENGTH
IN	SVE-1	~1.0 IWC	~ 50 SCFM	14'	4-inch	12-inch	~12-14'	7'
	SVE-2	~1.0 IWC	~ 50 SCFM	14'	4-inch	12-inch	~12-14'	7'
	SVE-3	~ 1.0 IWC	~ 50 SCFM	14'	4-inch	12-inch	~12-14'	7'
	SVE-4	~ 1.0 IWC	~ 50 SCFM	14'	4-inch	12-inch	~12-14'	7'
	SVE-5	~ 1.0 IWC	~ 50 SCFM	7'	4-inch	12-inch	~12-14'	4'
	SVE-6	~ 1.0 IWC	~ 50 SCFM	7'	4-inch	12-inch	~12-14'	4'
	SVE-7	~ 1.0 IWC	~ 50 SCFM	7'	4-inch	12-inch	~12-14'	4'
	SVE-8	~ 1.0 IWC	~50 SCFM	7'	4-inch	12-inch	~12-14'	4'

BAG FILTERS (BF-1 AND BF-2)				
POSITION		EXPECTED PRESSURE	EXPECTED FLOW	EXPECTED TEMP.
IN	PI-BFSP01	TBD		
	FI-BF1		1 GPM	
EXIT	PI-LGACSP01	~1.5 PSI		
	FI-LGAC1		1 GPM	

MULTI-STAGE CENTRIFUGAL TRANSFER PUMP (TP-1)				
POSITION		EXPECTED PRESSURE	EXPECTED FLOW	EXPECTED TEMP.
IN	PI-OW1	GRAVITY		
	FI-OW1		1 GPM	
EXIT	PI-TPSP01	<33 FT		
	FQI-FM01		1 GPM	

LIQUID PHASE CARBON (LGAC1 through LGAC3)		
POSITION	EXPECTED PRESSURE	EXPECTED FLOW
PI-LGACSP01	~ 1.5 PSI	
PI-LGACSP02	~ 1.0 PSI	
PI-LGACSP03	~ 0.5 PSI	
FQI-FM02		~1.0 GPM

INTERLOCK/FAILSAFE SCHEDULE

NO	LOCATION	FUNCTION
1.	Air Compressor (AC-1) Low Low Oil Level Switch	If a low oil level is detected in AC-1, AC-1 will be shut off.
2.	Moisture Separator (MS-1) High High Level Switch	If a high liquid level is detected in MS-1, the soil vapor extraction blower (B-1) will be shut off.
3.	Vapor Phase GACs (VGAC-1 and VGAC-2) High Temperature Switch	If a high temperature is detected prior to the VGACs (VGAC-1 and VGAC-2), the soil vapor extraction blower (B-1) is shut off.
4.	Settling/Holding Tank (S/H-1) High High Level Switch	If a high liquid level is detected in S/H-1, the 3-way valve solenoid actuator (SV-1) is opened, and the multi-stage centrifugal pump (TP-1) is shut off.
5.	Bag Filters (BFs) High Pressure Switch	If a high pressure is detected in the bag filters (BF-1 through BF-4), the 3-way valve solenoid actuator (SV-1) is opened, and the multi-stage centrifugal pump (TP-1) is shut off.
6.	Liquid Phase GACs (LGAC-1 through LGAC-3) High Pressure Switch	If a high pressure is detected in the LGACs (LGAC-1 through LGAC-3), the 3-way valve solenoid actuator (SV-1) is opened, and the multi-stage centrifugal pump (TP-1) is shut off.
7.	Floor Sump High High Level Switch	If a high liquid level is detected in the Floor Sump, the 3-way valve solenoid actuator (SV-1) is opened, and all remediation equipment is shut off.

* ALL INTERLOCKS ARE LATCHING

FIGURE 4
PROCESS AND INSTRUMENTATION DIAGRAM
SHELL SERVICE STATION No. 167899
46 CENTRAL AVENUE
DOVER, NEW HAMPSHIRE

GSC REF:001106.02P&ID	CHECKED BY:
DRAFTED BY: DM	DATE: 10/31/03
REVISED BY: RJD	DATE: 10/20/05
SOURCE: GSC ENGINEERING DEPARTMENT	

KLEINFELDER
Employee-owned
30 Porter Road • Littleton, MA 01460 • (978) 486-0060

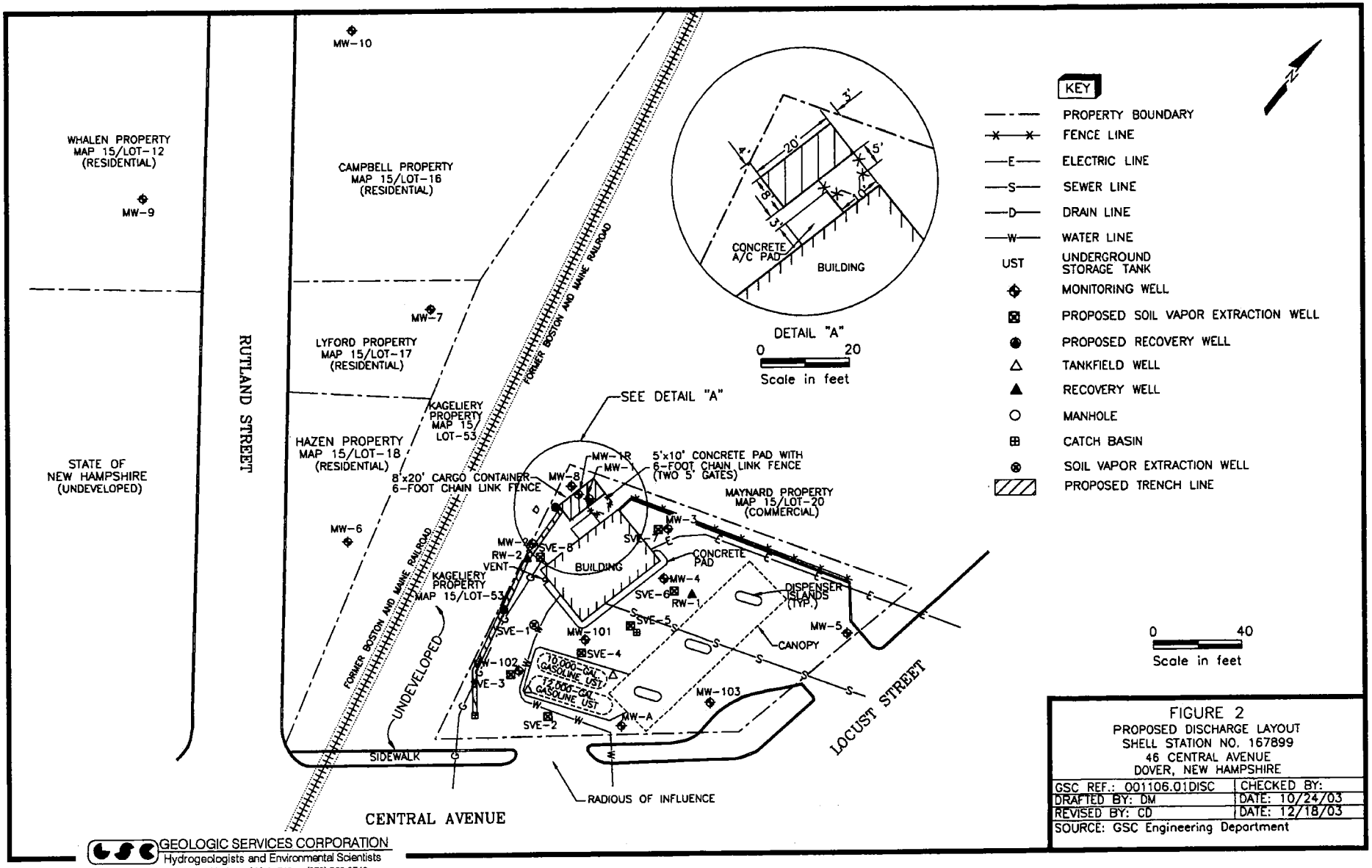
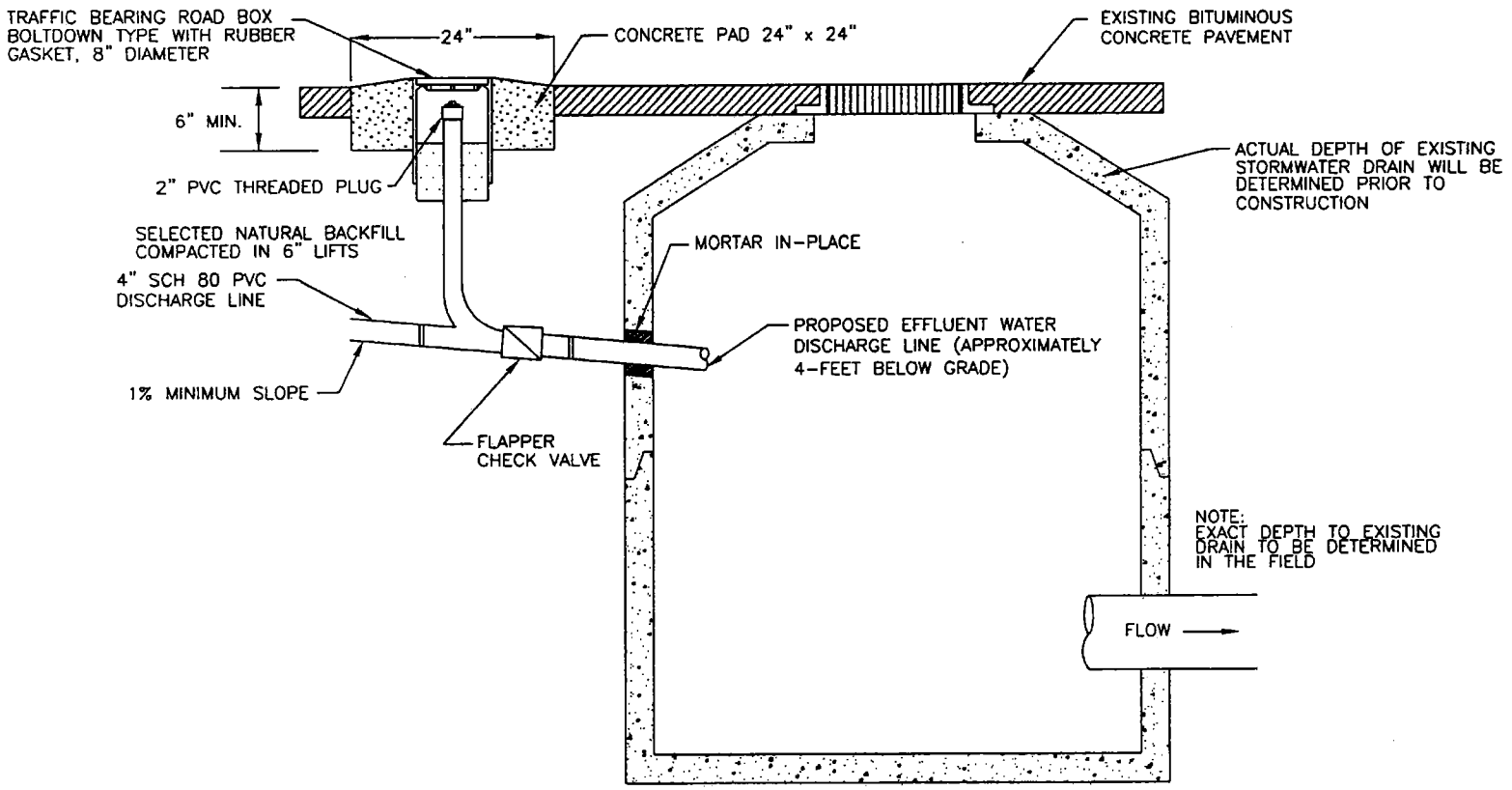


FIGURE 2
PROPOSED DISCHARGE LAYOUT
SHELL STATION NO. 167899
46 CENTRAL AVENUE
DOVER, NEW HAMPSHIRE

GSC REF.: 001106.01DISC	CHECKED BY:
DRAFTED BY: DM	DATE: 10/24/03
REVISED BY: CD	DATE: 12/18/03
SOURCE: GSC Engineering Department	

GEOLOGIC SERVICES CORPORATION
Hydrogeologists and Environmental Scientists
15 Bonazzoli Avenue • Hudson, MA 01749 • (978) 568-8740



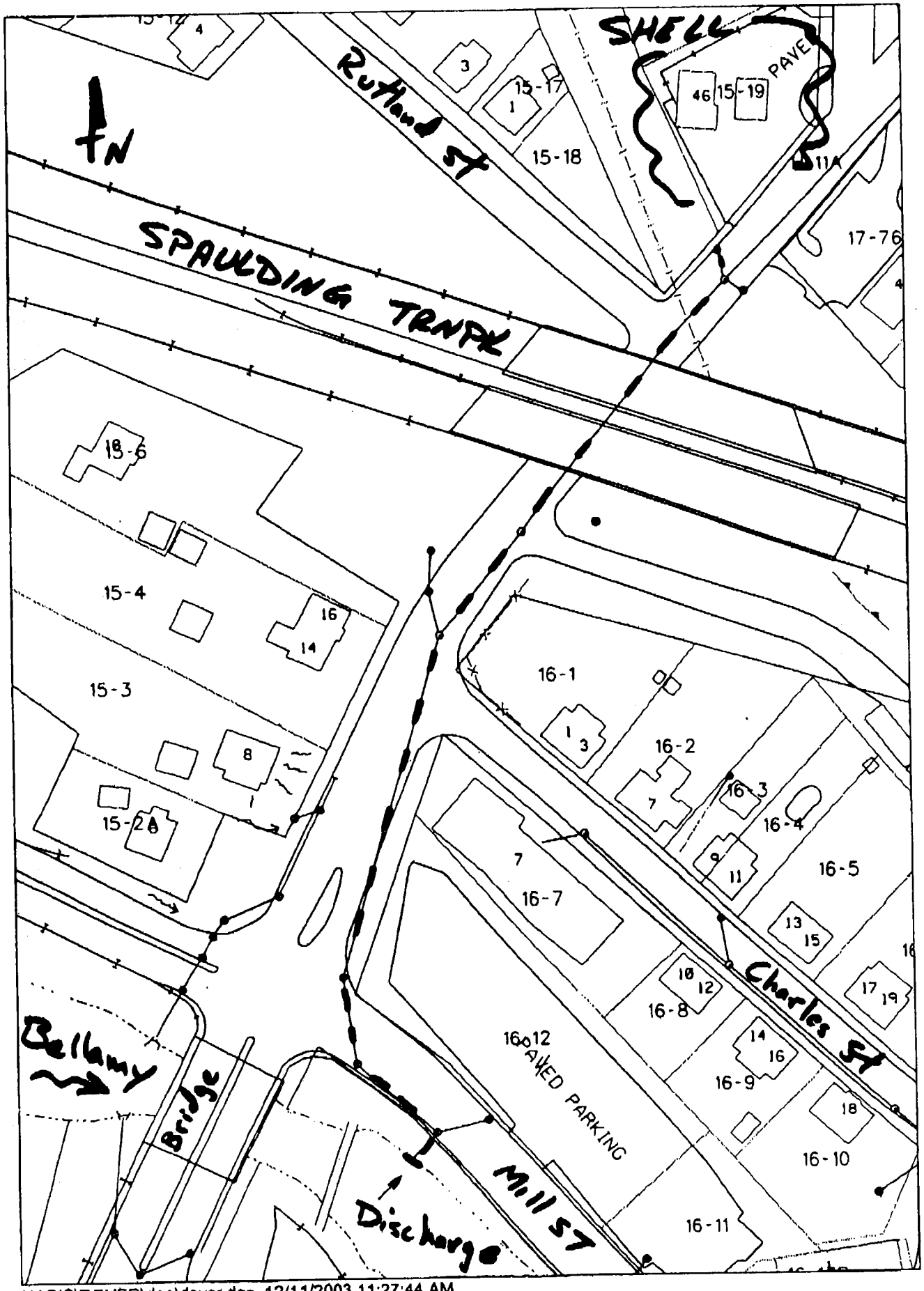
STORMWATER DRAIN CONNECTION DETAIL

NOT TO SCALE

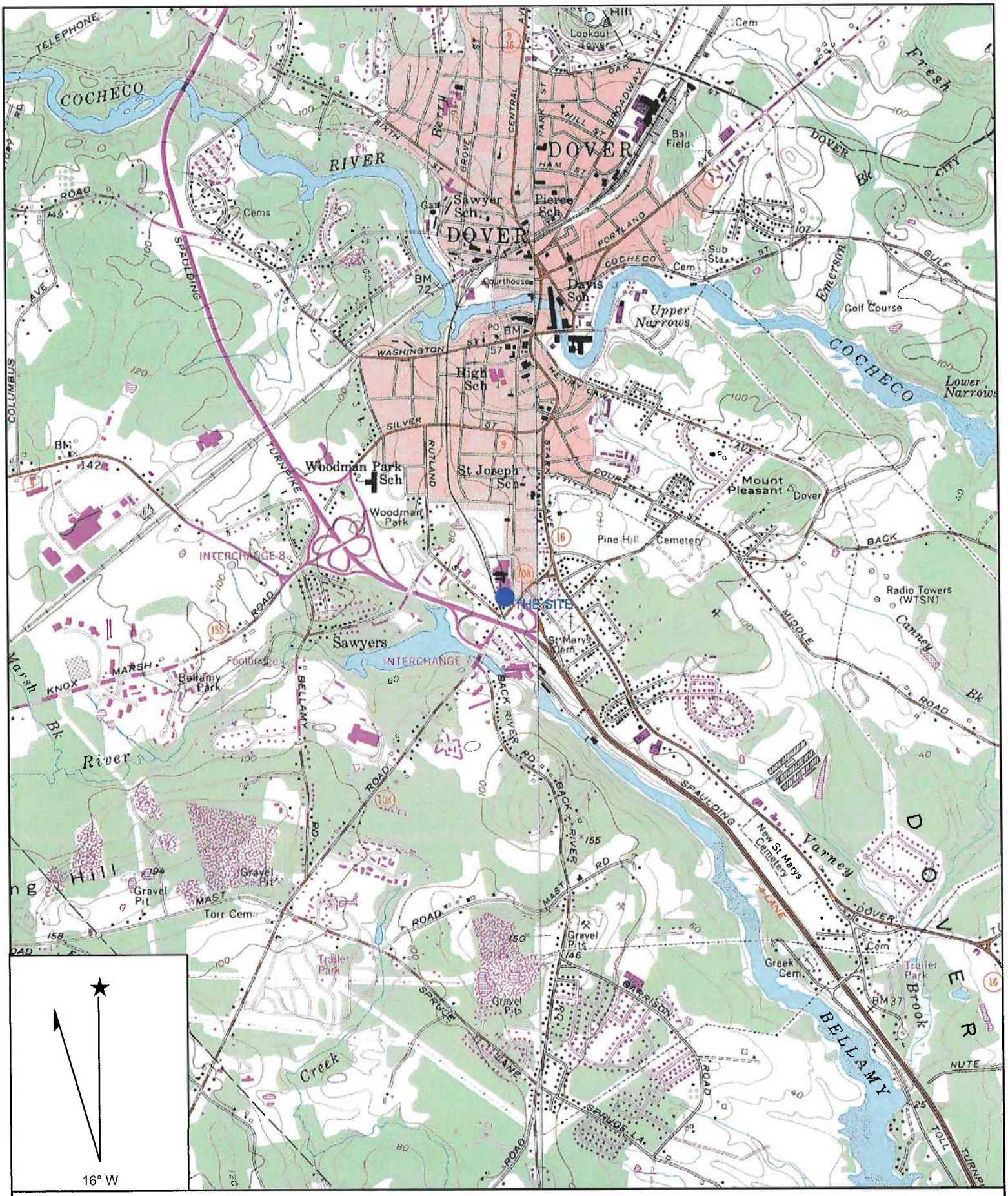
FIGURE 3
CATCH BASIN TIE-IN DETAILS
SHELL SERVICE STATION #167899
46 CENTRAL AVENUE
DOVER, NEW HAMPSHIRE

GSC REF.: 001106B.01CBTIE	CHECKED BY:
DRAFTED BY: DM	DATE: 11/24/03
REVISED BY:	DATE:
SOURCE: GSC ENGINEERING DEPARTMENT	

GEOLOGIC SERVICES CORPORATION
Hydrogeologists and Environmental Scientists
15 Bonazzoli Avenue • Hudson, MA 01749 • (978) 568-8740

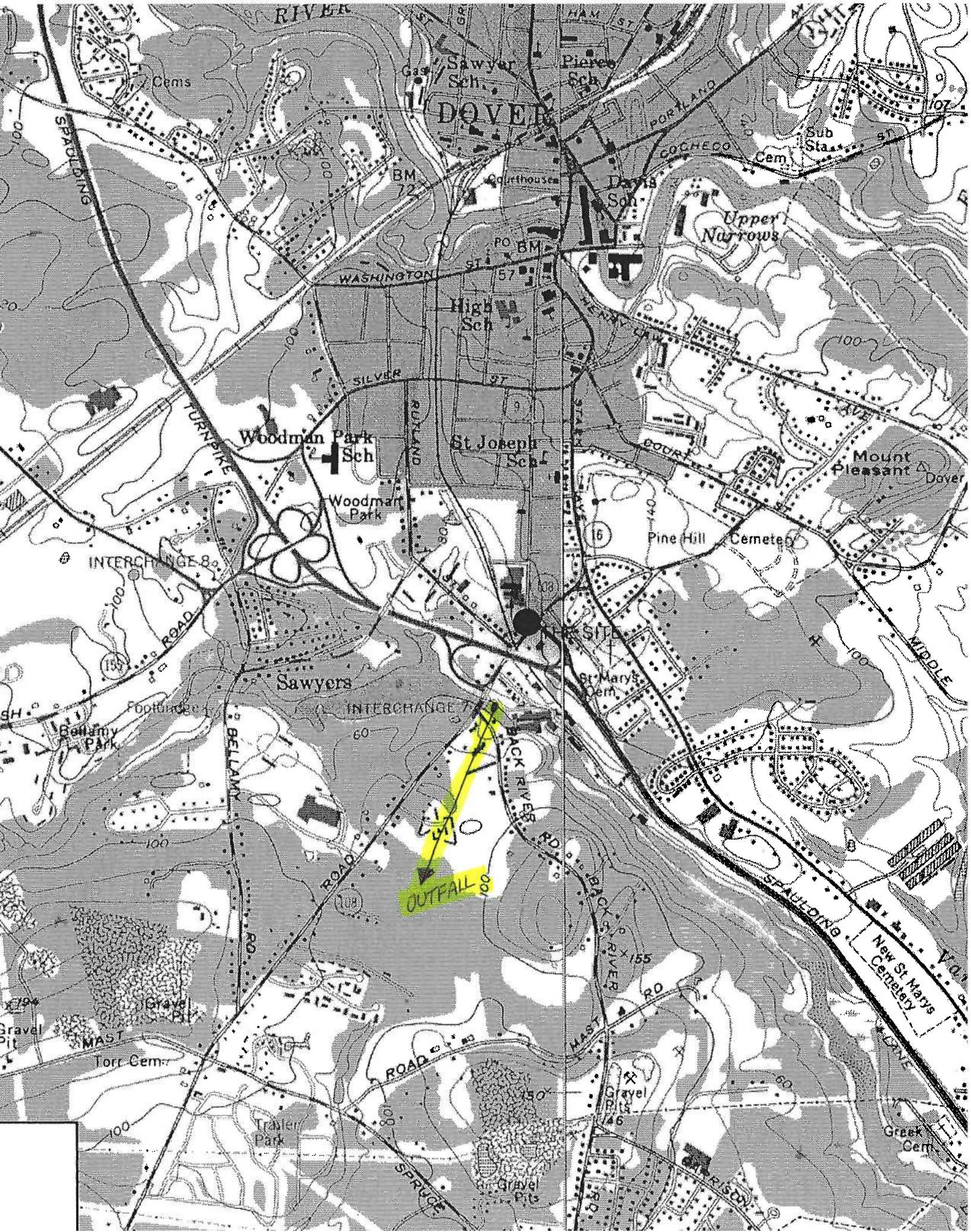


H:\GIS\DOVER\dgn\dover.dgn 12/11/2003 11:27:44 AM



Name: DOVER WEST
Date: 3/12/2004
Scale: 1 inch equals 2000 feet

Location: 043° 10' 57.0" N 070° 52' 37.2" W
Caption: Figure 1 - Locus Plan
Shell Station No. 167899
46 Central Avenue
Dover, New Hampshire


DOVER
Sawyer Sch
Pierce Sch
Davis Sch
High Sch
St Joseph Sch
Woodman Park Sch
Woodman Park
Courthouses
Upper Narrows
Mount Pleasant
Pine Hill Cemetery
St Marys Cem
New St Marys Cemetery
Torr Cem
Trailer Park
Gravel Pit
Gravel Pits
Sawyers
Footbridge
Bellamy Park
INTERCHANGE 8
INTERCHANGE 7
SPAULDING TURNPIKE
BELLAMY ROAD
BACK RIVER RD
MAST ROAD
WASHINGTON ST
SILVER ST
RUTLAND ST
HENRY LAW AVE
COURT ST
PORTLAND ST
COCHECO ST
MIDDLE ST
SPRUCE RD
RISON RD
OUTFALL

DILUTION FACTOR CALCULATIONS

DILUTION FACTOR CALCULATION WORKSHEET
NPDES REMEDIATION GENERAL PERMIT - NOTICE OF INTENT FORM

Site: Shell Service Station
Address: 46 Central Avenue
Receiving Stream: Bellamy River (Class B Portion)

Qd = 0.62 = Maximum flow rate of the discharge in cubic feet per second (cfs), 1.0 gpm = 0.00223 cfs

Qs = 1.5 = Receiving water 7Q10 flow (cfs) where,

7Q10 = The minimum flow (cfs) for 7 consecutive days with a recurrence interval of 10 years

0.9 = Allowance for reserving 10% of the assests in the receiving stream as per Chapter ENV-Ws 1700, Surface Water Quality Regulations

Maximum DF = [(Qd + Qs) / Qd] * 0.9

Maximum DF = Dilution Factor = 3.0774

NOTE:
Source: Jeff Andrews, NHDES, Phone: 603-271-2984

303 (d) LIST AND TMDLs

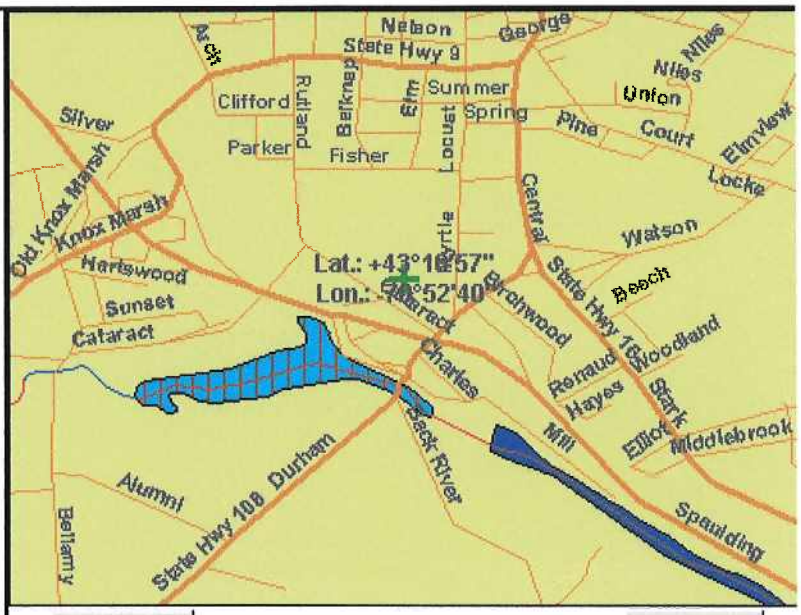
EPA United States Environmental Protection Agency **EnviroMapper for Water**

DISPLAY LABEL ALL ACTIVE

MAP FEATURES

- Facilities
- Clean Watersheds Needs
- Community Landmarks
- Nutrient Stations
- Water Quality Stations
- Streets
- Railroads
- ZIP Codes
- National Estuary Programs
- Congressional Districts
- Federal Lands
- Watersheds
- Tribal Lands
- Aggregate Ecoregions
- Level III Ecoregions
- Counties
- States
- Surface Waters
- Impaired Waters
- Water Quality Standards
- Assessed Waters
- Beaches
- Sewage No Discharge Zones
- Nonpoint Source Projects

Update Map



Update Map | 1 Mile Wide (Local) | Help

Multi-color Menu

Display in Multi-color Mode:

- ☐ Impaired Waters
- ☐ Water Quality Standards

Update Map

U.S. Environmental Protection Agency

Total Maximum Daily Loads

Listed Water Information

CYCLE : 2002

Click here to see metadata for this report.

Cycle: 2002 **State:** NH **List ID:** NHIMP600030903-02
Waterbody Name: BELLAMY RIVER, IMP
State Basin Name: SACO
Listed Water Map Link: MAP 303(d)

Comments:
PRIMARY CONTACT RECREATION - NHIMP600030903-02 IS CLASS-B, 5 GEO-MEANS FOR 2001 WERE ALL <= 20 CTS/100ML. FISH CONSUMPTION - GENERAL NHDHHS FISH CONSUMPTION ADVISORY (ALL SPECIES) FOR ALL INLAND FRESH WATEREBODIES DUE TO MERCURY IN FISH TISSUE.

State List IDs:

Cycle	State List ID
2002	NHIMP600030903-02

State Impairments:

State Impairment	Parent Impairment	Priority	Rank	Targeted Flag	Anticipated TMDL Submittal
MERCURY	METALS				OCT-01-2017
PH					DEC-31-2016

Potential Sources of Impairment:

There were no potential sources reported to EPA by the state.

Total Maximum Daily Load (TMDL) Information:

There were no TMDLs reported to EPA by the state.

Watershed Information:

Watershed Name	Watershed States
PISCATAQUA-SALMON FALLS	MAINE NEW HAMPSHIRE MASSACHUSETTS

LABORATORY ANALYTICAL

(SYSTEM INFLUENT)

REPORT OF ANALYTICAL RESULTS

NETLAB Case Number Q0922-20
REVISED

Prepared for:

Geologic Services Corp.
30 Porter Road
Littleton, MA 01460
Attn: Trish Eliasson

Report Date: October 4, 2005

Lab # RI010

ANALYTICAL METHOD REPORT CERTIFICATION FORM

Laboratory Name: New England Testing Laboratory, Inc.	Project #:
Project Location: Shell Dover	RTN[1]:
This form provides certifications for the following data set: Q0922-20	
Sample Matrices: Groundwater (X) Soil/Sediment ( ) Drinking Water ( ) Other:	

SW-846 Methods Used					
	8260B ( )	8151A ( )	8330 ( )	6010B (X)	7470A/1A ( )
	8270C ( )	8081A ( )	VPH ( )	6020 ( )	9014M[2] ( )
	8082 ( )	8021B ( )	EPH ( )	7000 S[3] (X)	Other: (X)

1 List Release Tracking Number (RTN), if known
2 M – SW-846 Method 9014 or MADEP Physiologically Available Cyanide (PAC) Method
3 S – SW-846 Methods 7000 Series List individual method and analyte

An affirmative response to questions A, B, and C is required for "Presumptive Certainty" status

A	Were all samples received by the laboratory in a condition consistent with that described on the Chain-of Custody documentation for the data set?	Yes (X) No[1] ( )
B	Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines?	Yes (X) No[1] ( )
C	Does the analytical data included in this report meet all the requirements for "Presumptive Certainty", as described in Section 2.0 of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (X) No[1] ( ) Not Applicable ( )
D	***VPH and EPH Methods only***: Was the VPH and EPH Method conducted without significant modifications (see Section 11.3 of respective Methods)	Yes ( ) No[1] ( )

A response to questions E and F below is required for "Presumptive Certainty" status

E	Were all QC performance standards and recommendations for the specified methods achieved?	Yes (X) No[1] ( )
F	Were results for all analyte-list compounds/elements for the specified method(s) reported?	Yes (X) No[1] ( )

[1]*All NO answers must be addressed in an attached Environmental Laboratory case narrative.*

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

Signature: Jodi Lyons Position: Director, Inorganics

Printed Name: Jodi Lyons Date: 10/4/2005

STATEMENTS/CERTIFICATIONS REQUIRED BY THE NATIONAL ENVIRONMENTAL LABORATORY APPROVAL CONFERENCE (NELAC)

New England Testing Laboratory is certified under the National Environmental Laboratory Approval Program (NELAP). This certification requires the following statements and certifications be included in our report.

This report shall not be reproduced, except in full, without written approval of the laboratory.

New England Testing certifies that the test results contained within this report meet all NELAC requirements except as detailed in the Case Narrative section of this report.

SAMPLES SUBMITTED and REQUEST FOR ANALYSIS:

The samples listed in Table I were submitted to New England Testing Laboratory on September 22, 2005. The group of samples appearing in this report was assigned an internal identification number (case number) for laboratory information management purposes. The client's designations for the individual samples, along with our case numbers, are used to identify the samples in this report. The case number for this sample submission is Q0922-20.

Custody records are included in this report.

Site: Shell Dover

TABLE I, Samples Submitted

Sample ID	Date Sampled	Matrix	Analysis Requested
GAC INFO1	9/22/05	Groundwater	Table II

TABLE II, Analysis and Methods

ANALYSIS	DETERMINATIVE METHOD
Total Residual Chlorine	330.5
Hexavalent Chromium	7196A
Total Metals	
Antimony	3113B
Cadmium	3113B
Lead	3113B
Nickel	200.7
Selenium	3113B
Zinc	200.7

These methods are documented in:

Standard Methods for the Examination of Water and Wastewater, 18th Edition, 1992, APHA, AWWA-WPCF.

Manual of Methods for Chemical Analysis of Water and Water Wastes, EPA-600/4-79-020 (Revised 1983), USEPA/EMSL.

CASE NARRATIVE:

Sample Receipt:

No sample for ms/msd/duplicate analysis was supplied. No field blank was supplied. (This does not qualify the analytical results but does prevent conducting these SW-846 {Chapter 1, Section 3.4} QA Audits.)

The samples were all appropriately cooled and preserved upon receipt.

The samples were received in the appropriate containers.

The chain of custody was adequately completed and corresponded to the samples submitted.

Metals:

All analyses were performed according to NETLAB's documented Standard Operating Procedures, within all required holding times, and with appropriate quality control measures. Additional sample for matrix spike sample analyses was not provided or requested by the client. All QC was within laboratory established acceptance criteria. The samples were received, processed, and reported with no anomalies.

General Chemistry:

Hexavalent Chromium: No anomalies or excursions from QC limits

Residual Chlorine: No anomalies or excursions from QC limits

Sample Results

GACINFO1

Parameter	Result, mg/l	Reporting Limit	Date Analyzed
Total Residual Chlorine	0.04	0.02	9/22/05
Hexavalent Chromium	N.D.	0.01	9/22/05 @ 17:45

N.D. = Not Detected

METALS RESULTS

The presence of the NETLAB LOGO in the top right corner of each page in this section indicates:

The Technical Manager of the Metals Analysis Department certifies that the results included in this section have been reviewed and approved. Any exceptions or qualifications of substance have been reported in the case narrative.

New England Testing Laboratory, Inc.

METALS RESULTS

Case Number: Q0922-20
Sample ID: GAC INFO1
Date collected: 09/22/05
Matrix WATER
Sample Type: Total

Analyst CC/RM

Parameter	CAS Number	Preparative Method	Analytical Method	Result	Reporting Limit	Detection Limit	Units	Date of Preparation	Date Analyzed
Antimony	7440-36-0	NA	3113B	ND	0.005	0.005	mg/l	9/27/05	9/29/05
Cadmium	7440-43-9	NA	3113B	0.0015	0.0005	0.0005	mg/l	9/27/05	9/28/05
Lead	7439-92-1	NA	3113B	0.034	0.002	0.002	mg/l	9/27/05	10/3/05
Nickel	7440-02-0	NA	200.7	0.019	0.005	0.005	mg/l	9/23/05	10/4/05
Selenium	7782-49-2	NA	3113B	ND	0.005	0.005	mg/l	9/27/05	10/4/05
Zinc	7440-66-6	NA	200.7	0.07	0.02	0.02	mg/l	9/23/05	10/4/05

ND indicates not Detected

METALS RESULTS

Sample ID: METHOD BLANK

Matrix WATER
Sample Type: Preparation Blank

Analyst CC/RM

Parameter	CAS Number	Preparative Method	Analytical Method	Result	Reporting Limit	Detection Limit	Units	Date of Preparation	Date Analyzed
Antimony	7440-36-0	NA	3113B	ND	0.005	0.005	mg/l	9/27/05	9/29/05
Cadmium	7440-43-9	NA	3113B	ND	0.0005	0.0005	mg/l	9/27/05	9/28/05
Lead	7439-92-1	NA	3113B	ND	0.002	0.002	mg/l	9/27/05	10/3/05
Nickel	7440-02-0	NA	200.7	ND	0.005	0.005	mg/l	9/30/05	10/4/05
Selenium	7782-49-2	NA	3113B	ND	0.005	0.005	mg/l	9/27/05	10/4/05
Zinc	7440-66-6	NA	200.7	ND	0.02	0.02	mg/l	9/30/05	10/4/05

ND indicates not Detected

LABORATORY CONTROL SAMPLE RECOVERY

Parameter	True Value	Result	Units	Recovery, %	LCL, %	UCL, %	Date Analyzed
Antimony	0.0200	0.02098	mg/l	105	89	108	9/29/05
Cadmium	0.00500	0.00428	mg/l	85.6	80	122	9/28/05
Lead	0.0200	0.01892	mg/l	94.6	87	112	10/3/05
Nickel	1.000	1.05	mg/l	105	89	109	10/4/05
Selenium	0.0200	0.0208	mg/l	104	83	113	10/4/05
Zinc	1.000	1.04	mg/l	104	91	110	10/4/05

New England Testing Laboratory, Inc.

Custody Records

ACCUTEST Q0922.20

CHAIN OF CUSTODY

495 TECHNOLOGY CENTER WEST • BUILDING ONE
MARLBOROUGH, MA 01752
TEL: 508-481-6200 • FAX: 508-481-7753

ACCUTEST JOB #:
ACCUTEST QUOTE #:

CLIENT INFORMATION

NAME: GSC / Kleinfelder
ADDRESS: 30 Porter Rd
CITY, STATE, ZIP: Littleton MA 01460
SEND REPORT TO:
PHONE #

FACILITY INFORMATION

PROJECT NAME: SHELL Dover
LOCATION: 46 Central Ave
PROJECT NO.: 001106
FAX #

ANALYTICAL INFORMATION: Hex Chrom 218; Total Sb, Cd, Pb; Zn, Se, 200.5 / 2; TRC 330.5

MATRIX CODES: DW - DRINKING WATER; GW - GROUND WATER; WW - WASTE WATER; SO - SOIL; SL - SLUDGE; OI - OIL; LIQ - OTHER LIQUID; SOL - OTHER SOLID

ACCUTEST SAMPLE #	FIELD ID / POINT OF COLLECTION	DATE	TIME	SAMPLED BY:	MATRIX	# OF BOTTLES	HCl	NaOH	HNO3	H2SO4	NONE	Hex Chrom 218	Total Sb, Cd, Pb	Zn, Se, 200.5 / 2	TRC 330.5	LAB USE ONLY
	GACINF01	9/22/04	10:15	JPS	GW	2			X			X	X		X	

DATA TURNAROUND INFORMATION

- [x] 14 DAYS STANDARD
- [ ] 7 DAYS *RUSH*
- [ ] 48 HOUR EMERGENCY
- [ ] OTHER

APPROVED BY:

14 DAY TURNAROUND HARDCOPY. EMERGENCY OR RUSH IS FAX DATA UNLESS PREVIOUSLY APPROVED

DATA DELIVERABLE INFORMATION

- [ ] STANDARD
- [ ] COMMERCIAL "B"
- [ ] DISK DELIVERABLE
- [ ] STATE FORMS
- [ ] OTHER (SPECIFY)

COMMENTS/REMARKS

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESION, INCLUDING COURIER DELIVERY

RELINQUISHED BY	DATE TIME	RECEIVED BY	RELINQUISHED BY	DATE TIME	RECEIVED BY
1. [signature] Stapleton	9/22/05 1100	1. [signature]	2. [signature]	9/22 1142	2. [signature]
3. [signature]	9/22/05 1337	3. [signature]	4.		4. S Sweeney 9/22/05 1522
5.		5.	SEAL #	PRESERVE WHERE APPLICABLE ☐	ON ICE ☒ TEMPERATURE 4 C

New England ACCUTEST Laboratories

10/19/05

Technical Report for

Shell Oil

GSCMA:97457373 (GSCRMBNH) 46 Central Ave., Dover, NH

GSC PO# MA02354

Accutest Job Number: M50988

Sampling Date: 09/21/05

Report to:

GSC-Kleinfelder

teliasson@kleinfelder.com

ATTN: Trish Eliasson

Total number of pages in report: 28

ACCREDITED IN ACCORDANCE WITH nelac

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

Reza Tand
Lab Director

Certifications: MA (M-MA136) CT (PH-0109) NH (250204) RI (00071) ME (MA136) FL (E87579) NY (23346) NJ (MA926) NAVY USACE

Sections: 1 2 3 4 5 6

Table of Contents

-1-

Accutest Laboratories

Sample Summary

Shell Oil

Job No: M50988

GSCMA:97457373 (GSCRMBNH) 46 Central Ave., Dover, NH
Project No: GSC PO# MA02354

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
M50988-1	09/21/05	10:15	JPS	09/22/05	AQ	Ground Water	GACINF01
M50988-1A	09/21/05	10:15	JPS	09/22/05	AQ	Ground Water	GACINF01

Accutest Laboratories

Report of Analysis

Client Sample ID:	GACINF01		
Lab Sample ID:	M50988-1	Date Sampled:	09/21/05
Matrix:	AQ - Ground Water	Date Received:	09/22/05
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	GSCMA:97457373 (GSCRMBNH) 46 Central Ave., Dover, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E24521.D	1	09/30/05	PN	09/27/05	OP9708	MSE1282
Run #2							

	Initial Volume	Final Volume
Run #1	980 ml	1.0 ml
Run #2		

ABN PPL List

CAS No.	Compound	Result	RL	Units	Q
95-57-8	2-Chlorophenol	ND	5.1	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	ug/l	
88-75-5	2-Nitrophenol	ND	10	ug/l	
100-02-7	4-Nitrophenol	ND	20	ug/l	
108-95-2	Phenol	ND	5.1	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	ug/l	
85-68-7	Butyl benzyl phthalate	ND	10	ug/l	
84-74-2	Di-n-butyl phthalate	ND	10	ug/l	
117-84-0	Di-n-octyl phthalate	ND	10	ug/l	
84-66-2	Diethyl phthalate	ND	10	ug/l	
131-11-3	Dimethyl phthalate	ND	10	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	10	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	0% [a]		10-120%
4165-62-2	Phenol-d5	0% [a]		10-120%
118-79-6	2,4,6-Tribromophenol	4% [a]		31-123%
4165-60-0	Nitrobenzene-d5	62%		32-120%
321-60-8	2-Fluorobiphenyl	64%		32-120%
1718-51-0	Terphenyl-d14	45%		33-123%

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

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	GACINF01		
Lab Sample ID:	M50988-1	Date Sampled:	09/21/05
Matrix:	AQ - Ground Water	Date Received:	09/22/05
Method:	EPA 608 EPA 608	Percent Solids:	n/a
Project:	GSCMA:97457373 (GSCRMBNH) 46 Central Ave., Dover, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	YZ28641.D	1	09/26/05	CZ	09/23/05	OP9693	GYZ1191
Run #2							

	Initial Volume	Final Volume
Run #1	960 ml	5.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	0.52	ug/l	
11104-28-2	Aroclor 1221	ND	0.52	ug/l	
11141-16-5	Aroclor 1232	ND	0.52	ug/l	
53469-21-9	Aroclor 1242	ND	0.52	ug/l	
12672-29-6	Aroclor 1248	ND	0.52	ug/l	
11097-69-1	Aroclor 1254	ND	0.52	ug/l	
11096-82-5	Aroclor 1260	ND	0.52	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	88%		44-132%
877-09-8	Tetrachloro-m-xylene	71%		44-132%
2051-24-3	Decachlorobiphenyl	78%		12-151%
2051-24-3	Decachlorobiphenyl	72%		12-151%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	GACINF01		
Lab Sample ID:	M50988-1	Date Sampled:	09/21/05
Matrix:	AQ - Ground Water	Date Received:	09/22/05
		Percent Solids:	n/a
Project:	GSCMA:97457373 (GSCRMBNH) 46 Central Ave., Dover, NH		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Oil And Grease, Gravimetric	< 4.1	4.1	mg/l	1	09/26/05	BF	EPA 1664

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	GACINF01		
Lab Sample ID:	M50988-1A	Date Sampled:	09/21/05
Matrix:	AQ - Ground Water	Date Received:	09/22/05
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	GSCMA:97457373 (GSCRMBNH) 46 Central Ave., Dover, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F16086.D	1	10/03/05	PB	09/27/05	OP9710	MSF878
Run #2							

	Initial Volume	Final Volume
Run #1	980 ml	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	Units	Q
87-86-5	Pentachlorophenol	ND	1.0	ug/l	
83-32-9	Acenaphthene	ND	0.10	ug/l	
208-96-8	Acenaphthylene	ND	0.10	ug/l	
120-12-7	Anthracene	ND	0.10	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.051	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.051	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	ug/l	
218-01-9	Chrysene	ND	0.10	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	ug/l	
206-44-0	Fluoranthene	ND	0.10	ug/l	
86-73-7	Fluorene	ND	0.10	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.20	ug/l	
91-20-3	Naphthalene	ND	0.10	ug/l	
85-01-8	Phenanthrene	ND	0.10	ug/l	
129-00-0	Pyrene	ND	0.10	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	0% [a]		10-120%
4165-62-2	Phenol-d5	0% [a]		10-120%
118-79-6	2,4,6-Tribromophenol	4% [a]		23-135%
4165-60-0	Nitrobenzene-d5	58%		30-120%
321-60-8	2-Fluorobiphenyl	71%		25-120%
1718-51-0	Terphenyl-d14	47%		24-132%

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

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

CHAIN OF CUSTODY

ACCUTEST

495 Tech Center West, Bldg. 1, Marlboro, MA 01752
(508) 481-6200 Fax: (508) 481-7753

Accutest Job #: M50988

Client Information			Facility Information		
Consultants Name: Geologic Services Corporation			Project Name: Dover		
Address: 30 Porter Rd.			Street: 46 Central Avenue		
City: Littleton	State: MA	Zip: 01460	City: Dover	State: NH	
Project Contact: Trish Eliasson			Invoice Contact: Trish Eliasson		
Phone #: 978-486-0060			Invoice Phone #: 978-486-0060		
Fax #: 978-486-0530			Location ID#: 167899		
AFE#:			PO#: MA02354		

Field ID / Point of Collection	Collection: Date	Time	Sampled By	Matrix	# of bottles	Preservation: HCl	HONa	HNO3	H2SO4	MEOH	Other	None	6260C with prep by 5030 - ONLY volatiles on attached RGP list	8270D with prep by 3535 or 3520C - ONLY Semivolatiles on attached RGP list	Hex Chrome (218.6)	Total CN (335.4)	TPH (1664)	Metals + Hg (6010 b/200.7 with prep by 3010)	TSS (160.2)	TPH (8015)	PCBs (1668a)					
GACINF01	9/21/2005	1015	SPS	GW	10	2		1						X			X				X					

Turnaround Information		Data Deliverable Information		Accutest Log-in Information
[x] Std. 14 Day Turnaround	Approved By:	[ ] Commercial "A"	[ ] FULL CLP	NOTE: All minimum levels, test methods, and preparation methods must be in accordance with attached Appendix VI of the RGP Document.
[ ] 7 Day EMERGENCY		[ ] Commercial "B"	[ ] State Forms	
[ ] 4 Day EMERGENCY		[ ] Full Deliverables	[ ] Disk Deliverable Format	
[ ] 3 Day EMERGENCY		[ ] Other		
[ ] 2 Day EMERGENCY				
[ ] 1 Day EMERGENCY				
Emergency T/A is for FAX or Lablink Data		Commercial "A" = Results Only		

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

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
	9/22/05 1100	1	2	9-22-05	2 1415
Relinquished by Sampler:	Date Time: 10-22-05 1540	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by Sampler:	Date Time:	Received By: 5	Seal #	Preserve where applicable: [ ]	On Ice: [x] Temp: 4.0°C

M50988: Chain of Custody
Page 1 of 2

Betty Baer

From: Trish Eliasson [TEliasson@kleinfelder.com]
Sent: Friday, September 23, 2005 1:44 PM
To: Betty Baer
Subject: Re: Dover NH and Northwood NH (M50988) (M50988)

Betty,

The chain for 9/22 should not include total As. We do want you to analyze for total As, as was indicated on the chain from the 9/19 samples and my e-mail to Reza regarding metals analysis.

-Trish

Trish Eliasson
GSC|Kleinfelder
ph: 978.486.0060 x 308
fx: 978.486.0630
email: teliasson@kleinfelder.com

>>> "Betty Baer" <bettyb@accutest.com> 9/23/2005 12:24 PM >>>
We rec'd Chains for these sites 9/22/05 with requested analysis of As, no bottles were supplied, please advise.

Thanks,

Betty

Betty Baer
Accutest Laboratories
495 Technology Center West, Building #1
Marlboro, MA 01752

Phone (508) 481- 6200
Fax (508) 481-7753

KLEINFELDER
EXPECT MORE

3.1 3

M50988: Chain of Custody
Page 2 of 2

GC/MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Job Number: M50988
Account: SHELLWIC Shell Oil
Project: GSCMA:97457373 (GSCRMBNH) 46 Central Ave., Dover, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP9708-MB	F16045.D	1	09/29/05	PN	09/27/05	OP9708	MSF876

The QC reported here applies to the following samples: Method: SW846 8270C

M50988-1

CAS No.	Compound	Result	RL	Units	Q
95-57-8	2-Chlorophenol	ND	5.0	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	ug/l	
88-75-5	2-Nitrophenol	ND	10	ug/l	
100-02-7	4-Nitrophenol	ND	20	ug/l	
108-95-2	Phenol	ND	5.0	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	ug/l	
85-68-7	Butyl benzyl phthalate	ND	10	ug/l	
84-74-2	Di-n-butyl phthalate	ND	10	ug/l	
117-84-0	Di-n-octyl phthalate	ND	10	ug/l	
84-66-2	Diethyl phthalate	ND	10	ug/l	
131-11-3	Dimethyl phthalate	ND	10	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	10	ug/l	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	61%	10-120%
4165-62-2	Phenol-d5	41%	10-120%
118-79-6	2,4,6-Tribromophenol	107%	31-123%
4165-60-0	Nitrobenzene-d5	78%	32-120%
321-60-8	2-Fluorobiphenyl	87%	32-120%
1718-51-0	Terphenyl-d14	78%	33-123%

Method Blank Summary

Job Number: M50988
Account: SHELLWIC Shell Oil
Project: GSCMA:97457373 (GSCRMBNH) 46 Central Ave., Dover, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP9710-MB	F16080.D	1	10/03/05	PB	09/27/05	OP9710	MSF878

The QC reported here applies to the following samples: Method: SW846 8270C BY SIM

M50988-1A

CAS No.	Compound	Result	RL	Units	Q
87-86-5	Pentachlorophenol	ND	1.0	ug/l	
83-32-9	Acenaphthene	ND	0.10	ug/l	
208-96-8	Acenaphthylene	ND	0.10	ug/l	
120-12-7	Anthracene	ND	0.10	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.050	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.050	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	ug/l	
218-01-9	Chrysene	ND	0.10	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	ug/l	
206-44-0	Fluoranthene	ND	0.10	ug/l	
86-73-7	Fluorene	ND	0.10	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.20	ug/l	
91-20-3	Naphthalene	ND	0.10	ug/l	
85-01-8	Phenanthrene	ND	0.10	ug/l	
129-00-0	Pyrene	ND	0.10	ug/l	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	52%	10-120%
4165-62-2	Phenol-d5	37%	10-120%
118-79-6	2,4,6-Tribromophenol	76%	23-135%
4165-60-0	Nitrobenzene-d5	58%	30-120%
321-60-8	2-Fluorobiphenyl	70%	25-120%
1718-51-0	Terphenyl-d14	66%	24-132%

Blank Spike Summary

Job Number: M50988
Account: SHELLWIC Shell Oil
Project: GSCMA:97457373 (GSCRMBNH) 46 Central Ave., Dover, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP9708-BS	F16046.D	1	09/29/05	PN	09/27/05	OP9708	MSF876

The QC reported here applies to the following samples: Method: SW846 8270C

M50988-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
95-57-8	2-Chlorophenol	100	80.5	81	50-120
59-50-7	4-Chloro-3-methyl phenol	100	84.1	84	56-120
120-83-2	2,4-Dichlorophenol	100	82.5	83	56-120
105-67-9	2,4-Dimethylphenol	100	68.3	68	37-120
51-28-5	2,4-Dinitrophenol	100	62.9	63	27-120
534-52-1	4,6-Dinitro-o-cresol	100	74.5	75	36-125
88-75-5	2-Nitrophenol	100	82.7	83	54-120
100-02-7	4-Nitrophenol	100	46.1	46	7-120
108-95-2	Phenol	100	37.6	38	17-120
88-06-2	2,4,6-Trichlorophenol	100	88.1	88	53-120
85-68-7	Butyl benzyl phthalate	50	31.2	62	27-120
84-74-2	Di-n-butyl phthalate	50	40.9	82	47-120
117-84-0	Di-n-octyl phthalate	50	35.9	72	60-123
84-66-2	Diethyl phthalate	50	27.9	56	8-120
131-11-3	Dimethyl phthalate	50	11.0	22	1-120
117-81-7	bis(2-Ethylhexyl)phthalate	50	41.3	83	61-120

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	69%	10-120%
4165-62-2	Phenol-d5	48%	10-120%
118-79-6	2,4,6-Tribromophenol	117%	31-123%
4165-60-0	Nitrobenzene-d5	81%	32-120%
321-60-8	2-Fluorobiphenyl	92%	32-120%
1718-51-0	Terphenyl-d14	89%	33-123%

Blank Spike/Blank Spike Duplicate Summary

Job Number: M50988
Account: SHELLWIC Shell Oil
Project: GSCMA:97457373 (GSCRMBNH) 46 Central Ave., Dover, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP9710-BS	F16081.D	1	10/03/05	PB	09/27/05	OP9710	MSF878
OP9710-BSD	F16082.D	1	10/03/05	PB	09/27/05	OP9710	MSF878

The QC reported here applies to the following samples: Method: SW846 8270C BY SIM

M50988-1A

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
87-86-5	Pentachlorophenol	100	71.7	72	74.5	75	4	53-111/30
83-32-9	Acenaphthene	50	34.8	70	33.2	66	5	47-120/30
208-96-8	Acenaphthylene	50	28.3	57	27.2	54	4	49-120/30
120-12-7	Anthracene	50	37.6	75	35.3	71	6	55-120/30
56-55-3	Benzo(a)anthracene	50	39.8	80	37.9	76	5	50-129/30
50-32-8	Benzo(a)pyrene	50	34.0	68	33.5	67	1	57-120/30
205-99-2	Benzo(b)fluoranthene	50	35.8	72	33.9	68	5	62-120/30
191-24-2	Benzo(g,h,i)perylene	50	34.0	68	32.5	65	5	57-127/30
207-08-9	Benzo(k)fluoranthene	50	35.1	70	33.4	67	5	51-120/30
218-01-9	Chrysene	50	42.8	86	41.3	83	4	54-120/30
53-70-3	Dibenzo(a,h)anthracene	50	41.6	83	39.4	79	5	45-144/30
206-44-0	Fluoranthene	50	38.2	76	36.3	73	5	51-121/30
86-73-7	Fluorene	50	37.4	75	36.0	72	4	56-120/30
193-39-5	Indeno(1,2,3-cd)pyrene	50	35.1	70	33.5	67	5	54-121/30
91-57-6	2-Methylnaphthalene	50	35.8	72	34.1	68	5	40-120/30
91-20-3	Naphthalene	50	31.0	62	29.4	59	5	37-120/30
85-01-8	Phenanthrene	50	37.7	75	35.2	70	7	51-120/30
129-00-0	Pyrene	50	37.7	75	35.0	70	7	45-120/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
367-12-4	2-Fluorophenol	64%	62%	10-120%
4165-62-2	Phenol-d5	47%	44%	10-120%
118-79-6	2,4,6-Tribromophenol	93%	91%	23-135%
4165-60-0	Nitrobenzene-d5	67%	65%	30-120%
321-60-8	2-Fluorobiphenyl	82%	76%	25-120%
1718-51-0	Terphenyl-d14	81%	67%	24-132%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: M50988
Account: SHELLWIC Shell Oil
Project: GSCMA:97457373 (GSCRMBNH) 46 Central Ave., Dover, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP9708-MS	F16048.D	1	09/29/05	PN	09/27/05	OP9708	MSF876
OP9708-MSD	F16049.D	1	09/29/05	PN	09/27/05	OP9708	MSF876
M51127-1	F16066.D	1	09/30/05	PN	09/27/05	OP9708	MSF877

The QC reported here applies to the following samples: Method: SW846 8270C

M50988-1

CAS No.	Compound	M51127-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
95-57-8	2-Chlorophenol	ND		100	81.6	82	87.6	88	7	43-120/24
59-50-7	4-Chloro-3-methyl phenol	ND		100	87.6	88	91.6	92	4	52-120/20
120-83-2	2,4-Dichlorophenol	ND		100	86.8	87	91.4	91	5	49-120/23
105-67-9	2,4-Dimethylphenol	ND		100	34.5	35	52.8	53	42* [a]	1-120/33
51-28-5	2,4-Dinitrophenol	ND		100	66.9	67	73.7	74	10	29-124/50
534-52-1	4,6-Dinitro-o-cresol	ND		100	80.4	80	85.8	86	6	41-126/37
88-75-5	2-Nitrophenol	ND		100	88.2	88	93.2	93	6	48-120/31
100-02-7	4-Nitrophenol	ND		100	45.8	46	48.9	49	7	7-120/22
108-95-2	Phenol	ND		100	37.7	38	38.9	39	3	13-120/25
88-06-2	2,4,6-Trichlorophenol	ND		100	88.6	89	95.8	96	8	44-120/26
85-68-7	Butyl benzyl phthalate	ND		50	32.6	65	32.1	64	2	28-120/29
84-74-2	Di-n-butyl phthalate	ND		50	41.2	82	42.0	84	2	46-120/25
117-84-0	Di-n-octyl phthalate	ND		50	35.9	72	38.0	76	6	57-124/26
84-66-2	Diethyl phthalate	ND		50	29.5	59	29.5	59	0	12-120/39
131-11-3	Dimethyl phthalate	ND		50	12.8	26	12.1	24	6	1-120/50
117-81-7	bis(2-Ethylhexyl)phthalate	ND		50	43.2	86	43.9	88	2	53-125/25

CAS No.	Surrogate Recoveries	MS	MSD	M51127-1	Limits
367-12-4	2-Fluorophenol	68%	68%	59%	10-120%
4165-62-2	Phenol-d5	47%	46%	33%	10-120%
118-79-6	2,4,6-Tribromophenol	114%	117%	102%	31-123%
4165-60-0	Nitrobenzene-d5	81%	81%	75%	32-120%
321-60-8	2-Fluorobiphenyl	91%	90%	93%	32-120%
1718-51-0	Terphenyl-d14	79%	72%	80%	33-123%

(a) High RPD due to possible matrix interference and/or sample non-homogeneity.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: M50988
Account: SHELLWIC Shell Oil
Project: GSCMA:97457373 (GSCRMBNH) 46 Central Ave., Dover, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP9710-MS	F16083.D	1	10/03/05	PB	09/27/05	OP9710	MSF878
OP9710-MSD	F16084.D	1	10/03/05	PB	09/27/05	OP9710	MSF878
M51130-1	F16085.D	1	10/03/05	PB	09/27/05	OP9710	MSF878

The QC reported here applies to the following samples: Method: SW846 8270C BY SIM

M50988-1A

CAS No.	Compound	M51130-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
87-86-5	Pentachlorophenol	ND		100	74.4	74	80.3	80	8	5-137/52
83-32-9	Acenaphthene	ND		50	33.2	66	35.6	71	7	49-120/20
208-96-8	Acenaphthylene	ND		50	27.3	55	29.5	59	8	50-120/22
120-12-7	Anthracene	ND		50	36.9	74	38.6	77	5	58-120/20
56-55-3	Benzo(a)anthracene	ND		50	39.4	79	42.0	84	6	50-132/20
50-32-8	Benzo(a)pyrene	ND		50	35.2	70	37.2	74	6	51-120/22
205-99-2	Benzo(b)fluoranthene	ND		50	33.4	67	37.4	75	11	67-120/20
191-24-2	Benzo(g,h,i)perylene	ND		50	36.1	72	36.1	72	0	63-121/20
207-08-9	Benzo(k)fluoranthene	ND		50	35.8	72	36.2	72	1	54-120/25
218-01-9	Chrysene	ND		50	42.7	85	44.8	90	5	59-120/20
53-70-3	Dibenzo(a,h)anthracene	ND		50	43.6	87	43.7	87	0	46-146/20
206-44-0	Fluoranthene	ND		50	38.5	77	40.1	80	4	58-120/20
86-73-7	Fluorene	ND		50	36.5	73	39.3	79	7	62-120/20
193-39-5	Indeno(1,2,3-cd)pyrene	ND		50	36.9	74	37.2	74	1	52-124/20
91-57-6	2-Methylnaphthalene	ND		50	32.9	66	35.7	71	8	44-120/20
91-20-3	Naphthalene	ND		50	28.9	58	31.0	62	7	41-120/20
85-01-8	Phenanthrene	ND		50	36.7	73	39.1	78	6	51-120/21
129-00-0	Pyrene	ND		50	35.5	71	39.0	78	9	48-121/20

CAS No.	Surrogate Recoveries	MS	MSD	M51130-1	Limits
367-12-4	2-Fluorophenol	62%	62%	51%	10-120%
4165-62-2	Phenol-d5	44%	45%	19%	10-120%
118-79-6	2,4,6-Tribromophenol	92%	96%	80%	23-135%
4165-60-0	Nitrobenzene-d5	67%	67%	57%	30-120%
321-60-8	2-Fluorobiphenyl	75%	76%	68%	25-120%
1718-51-0	Terphenyl-d14	65%	64%	68%	24-132%

Semivolatile Surrogate Recovery Summary

Job Number: M50988
Account: SHELLWIC Shell Oil
Project: GSCMA:97457373 (GSCRMBNH) 46 Central Ave., Dover, NH

Method: SW846 8270C Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4	S5	S6
M50988-1	E24521.D	0.0* [a]	0.0* [a]	4.0* [a]	62.0	64.0	45.0
OP9708-BS	F16046.D	69.0	48.0	117.0	81.0	92.0	89.0
OP9708-MB	F16045.D	61.0	41.0	107.0	78.0	87.0	78.0
OP9708-MS	F16048.D	68.0	47.0	114.0	81.0	91.0	79.0
OP9708-MSD	F16049.D	68.0	46.0	117.0	81.0	90.0	72.0

Surrogate Compounds	Recovery Limits
S1 = 2-Fluorophenol	10-120%
S2 = Phenol-d5	10-120%
S3 = 2,4,6-Tribromophenol	31-123%
S4 = Nitrobenzene-d5	32-120%
S5 = 2-Fluorobiphenyl	32-120%
S6 = Terphenyl-d14	33-123%

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

Semivolatile Surrogate Recovery Summary

Job Number: M50988
Account: SHELLWIC Shell Oil
Project: GSCMA:97457373 (GSCRMBNH) 46 Central Ave., Dover, NH

Method: SW846 8270C BY SIM Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4	S5	S6
M50988-1A	F16086.D	0.0* [a]	0.0* [a]	4.0* [a]	58.0	71.0	47.0
OP9710-BS	F16081.D	64.0	47.0	93.0	67.0	82.0	81.0
OP9710-BSD	F16082.D	62.0	44.0	91.0	65.0	76.0	67.0
OP9710-MB	F16080.D	52.0	37.0	76.0	58.0	70.0	66.0
OP9710-MS	F16083.D	62.0	44.0	92.0	67.0	75.0	65.0
OP9710-MSD	F16084.D	62.0	45.0	96.0	67.0	76.0	64.0

Surrogate Compounds	Recovery Limits
S1 = 2-Fluorophenol	10-120%
S2 = Phenol-d5	10-120%
S3 = 2,4,6-Tribromophenol	23-135%
S4 = Nitrobenzene-d5	30-120%
S5 = 2-Fluorobiphenyl	25-120%
S6 = Terphenyl-d14	24-132%

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

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Job Number: M50988
Account: SHELLWIC Shell Oil
Project: GSCMA:97457373 (GSCRMBNH) 46 Central Ave., Dover, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP9693-MB	YZ28634.D	1	09/26/05	CZ	09/23/05	OP9693	GYZ1191

The QC reported here applies to the following samples: Method: EPA 608

M50988-1

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	0.50	ug/l	
11104-28-2	Aroclor 1221	ND	0.50	ug/l	
11141-16-5	Aroclor 1232	ND	0.50	ug/l	
53469-21-9	Aroclor 1242	ND	0.50	ug/l	
12672-29-6	Aroclor 1248	ND	0.50	ug/l	
11097-69-1	Aroclor 1254	ND	0.50	ug/l	
11096-82-5	Aroclor 1260	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries		Limits
877-09-8	Tetrachloro-m-xylene	99%	44-132%
877-09-8	Tetrachloro-m-xylene	101%	44-132%
2051-24-3	Decachlorobiphenyl	69%	12-151%
2051-24-3	Decachlorobiphenyl	72%	12-151%

Blank Spike Summary

Job Number: M50988
Account: SHELLWIC Shell Oil
Project: GSCMA:97457373 (GSCRMBNH) 46 Central Ave., Dover, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP9693-BS	YZ28635.D	1	09/26/05	CZ	09/23/05	OP9693	GYZ1191

The QC reported here applies to the following samples: Method: EPA 608

M50988-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
12674-11-2	Aroclor 1016	2	2.0	100	50-114
11104-28-2	Aroclor 1221		ND		15-178
11141-16-5	Aroclor 1232		ND		10-215
53469-21-9	Aroclor 1242		ND		39-150
12672-29-6	Aroclor 1248		ND		38-158
11097-69-1	Aroclor 1254		ND		29-131
11096-82-5	Aroclor 1260	2	1.8	90	8-127

CAS No.	Surrogate Recoveries	BSP	Limits
877-09-8	Tetrachloro-m-xylene	89%	44-132%
877-09-8	Tetrachloro-m-xylene	75%	44-132%
2051-24-3	Decachlorobiphenyl	62%	12-151%
2051-24-3	Decachlorobiphenyl	62%	12-151%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: M50988
Account: SHELLWIC Shell Oil
Project: GSCMA:97457373 (GSCRMBNH) 46 Central Ave., Dover, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP9693-MS	YZ28636.D	1	09/26/05	CZ	09/23/05	OP9693	GYZ1191
OP9693-MSD	YZ28637.D	1	09/26/05	CZ	09/23/05	OP9693	GYZ1191
M51024-1	YZ28638.D	1	09/26/05	CZ	09/23/05	OP9693	GYZ1191

The QC reported here applies to the following samples: Method: EPA 608

M50988-1

CAS No.	Compound	M51024-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
12674-11-2	Aroclor 1016	ND		2	1.8	90	1.9	95	5	50-114/30
11104-28-2	Aroclor 1221	ND			ND		ND		nc	15-178/30
11141-16-5	Aroclor 1232	ND			ND		ND		nc	10-215/30
53469-21-9	Aroclor 1242	ND			ND		ND		nc	39-150/30
12672-29-6	Aroclor 1248	ND			ND		ND		nc	38-158/30
11097-69-1	Aroclor 1254	ND			ND		ND		nc	29-131/30
11096-82-5	Aroclor 1260	ND		2	1.9	95	2.0	100	5	8-127/30

CAS No.	Surrogate Recoveries	MS	MSD	M51024-1	Limits
877-09-8	Tetrachloro-m-xylene	88%	92%	87%	44-132%
877-09-8	Tetrachloro-m-xylene	71%	75%	71%	44-132%
2051-24-3	Decachlorobiphenyl	98%	104%	93%	12-151%
2051-24-3	Decachlorobiphenyl	96%	99%	88%	12-151%

Semivolatile Surrogate Recovery Summary

Job Number: M50988
Account: SHELLWIC Shell Oil
Project: GSCMA:97457373 (GSCRMBNH) 46 Central Ave., Dover, NH

Method: EPA 608 Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]	S1 [b]	S2 [a]	S2 [b]
M50988-1	YZ28641.D	88.0	71.0	78.0	72.0
OP9693-BS	YZ28635.D	89.0	75.0	62.0	62.0
OP9693-MB	YZ28634.D	99.0	101.0	69.0	72.0
OP9693-MS	YZ28636.D	88.0	71.0	98.0	96.0
OP9693-MSD	YZ28637.D	92.0	75.0	104.0	99.0

Surrogate Compounds	Recovery Limits
S1 = Tetrachloro-m-xylene	44-132%
S2 = Decachlorobiphenyl	12-151%

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

5.4

5

General Chemistry

QC Data Summaries

Includes the following where applicable:

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

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: M50988
Account: SHELLWIC - Shell Oil
Project: GSCMA:97457373 (GSCRMBNH) 46 Central Ave., Dover, NH

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Oil And Grease, Gravimetric	GP5991/GN17925	4.0	<4.0	mg/l	40	38.9	97.0	80-120%

Associated Samples:
Batch GP5991: M50988-1

6.1

6

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: M50988
Account: SHELLWIC - Shell Oil
Project: GSCMA:97457373 (GSCRMBNH) 46 Central Ave., Dover, NH

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Oil And Grease, Gravimetric	GP5991/GN17925	M51082-1	mg/l	<5.0	40	38.5	96.0	75-125%

Associated Samples:
Batch GP5991: M50988-1

6.2
6

MATRIX SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: M50988
Account: SHELLWIC - Shell Oil
Project: GSCMA:97457373 (GSCRMBNH) 46 Central Ave., Dover, NH

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MSD Result	RPD	QC Limit
Oil And Grease, Gravimetric	GP5991/GN17925	M51082-1	mg/l	<5.0	40	38.7	0.5	

Associated Samples:
Batch GP5991: M50988-1

New England ACCUTEST Laboratories

10/19/05

Technical Report for

Shell Oil

GSCMA:97457373 (GSCRMBNH) 46 Central Ave., Dover, NH

GSC PO# MA02354

Accutest Job Number: M50896

Sampling Date: 09/19/05

Report to:

msmith@newfields.com

Total number of pages in report: 34

ACCREDITED IN ACCORDANCE WITH nelac

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

Reza Tand
Lab Director

Certifications: MA (M-MA136) CT (PH-0109) NH (250204) RI (00071) ME (MA136) FL (E87579) NY (23346) NJ (MA926) NAVY USACE

Sections: 1 2 3 4 5 6 7

Table of Contents

Sample Summary

Shell Oil

Job No: M50896

GSCMA:97457373 (GSCRMBNH) 46 Central Ave., Dover, NH
Project No: GSC PO# MA02354

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
M50896-1	09/19/05	16:30	JPS	09/20/05	AQ	Influent	LGACINF01
M50896-2	09/19/05	16:20	JPS	09/20/05	AQ	Effluent	LGACEFF04

Accutest Laboratories

Report of Analysis

Client Sample ID:	LGACINF01		
Lab Sample ID:	M50896-1	Date Sampled:	09/19/05
Matrix:	AQ - Influent	Date Received:	09/20/05
Method:	SW846 8260B	Percent Solids:	n/a
Project:	GSCMA:97457373 (GSCRMBNH) 46 Central Ave., Dover, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G53244.D	1	09/30/05	AA	n/a	n/a	MSG2124
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA NH Full List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	5.0	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
123-91-1	1,4-Dioxane	ND	25	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	67.6	1.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
994-05-8	tert-Amyl Methyl Ether	ND	2.0	ug/l	
75-65-0	Tert Butyl Alcohol	ND	100	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	108%		84-121%
2037-26-5	Toluene-D8	100%		88-110%
460-00-4	4-Bromofluorobenzene	98%		83-114%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	LGACINF01		
Lab Sample ID:	M50896-1	Date Sampled:	09/19/05
Matrix:	AQ - Influent	Date Received:	09/20/05
Method:	EPA 504 EPA 504	Percent Solids:	n/a
Project:	GSCMA:97457373 (GSCRMBNH) 46 Central Ave., Dover, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BB2419.D	1	09/23/05	CZ	09/21/05	OP9679	GBB117
Run #2							

	Initial Volume	Final Volume
Run #1	34.7 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.015	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	107%		26-158%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	LGACINF01		
Lab Sample ID:	M50896-1	Date Sampled:	09/19/05
Matrix:	AQ - Influent	Date Received:	09/20/05
		Percent Solids:	n/a
Project:	GSCMA:97457373 (GSCRMBNH) 46 Central Ave., Dover, NH		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	116	5.0	ug/l	1	09/22/05	09/23/05	AC	SW846 6010B [1]	SW846 3010A [3]
Chromium	< 10	10	ug/l	1	09/22/05	09/23/05	AC	SW846 6010B [1]	SW846 3010A [3]
Copper	61.4	25	ug/l	1	09/22/05	09/23/05	AC	SW846 6010B [1]	SW846 3010A [3]
Iron	6960	100	ug/l	1	09/22/05	09/23/05	AC	SW846 6010B [1]	SW846 3010A [3]
Mercury	< 0.20	0.20	ug/l	1	09/23/05	09/26/05	LMN	SW846 7470A [2]	SW846 7470A [4]

(1) Instrument QC Batch: MA6281
(2) Instrument QC Batch: MA6284
(3) Prep QC Batch: MP7663
(4) Prep QC Batch: MP7664

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	LGACINF01		
Lab Sample ID:	M50896-1	Date Sampled:	09/19/05
Matrix:	AQ - Influent	Date Received:	09/20/05
		Percent Solids:	n/a
Project:	GSCMA:97457373 (GSCRMBNH) 46 Central Ave., Dover, NH		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	< 0.010	0.010	mg/l	1	09/20/05 13:51	MA	SW846 7196A
Cyanide	< 0.010	0.010	mg/l	1	09/26/05 15:34	MA	EPA 335.3
Solids, Total Suspended	14.0	4.0	mg/l	1	09/22/05	BF	EPA 160.2
Total Residual Chlorine	< 0.050	0.050	mg/l	1	09/20/05 13:35	MA	EPA 330.4

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	LGACEFF04		
Lab Sample ID:	M50896-2	Date Sampled:	09/19/05
Matrix:	AQ - Effluent	Date Received:	09/20/05
		Percent Solids:	n/a
Project:	GSCMA:97457373 (GSCRMBNH) 46 Central Ave., Dover, NH		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Iron	< 100	100	ug/l	1	09/22/05	09/23/05	AC	SW846 6010B [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA6281
(2) Prep QC Batch: MP7663

RL = Reporting Limit

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

CHAIN OF CUSTODY

ACCUTEST.
495 Tech Center West, Bldg. 1, Marlboro, MA 01752
(508) 481-6200 Fax: (508) 481-7753

Accutest Job #: M50896

Client Information			Facility Information		
Consultants Name: Geologic Services Corporation			Project Name: Dover		
Address: 30 Porter Rd.			Street: 46 Central Avenue		
City: Littleton	State: MA	Zip: 01460	City: Dover	State: NH	
Project Contact: Trish Eliasson			Invoice Contact: Trish Eliasson		
Phone #: 978-486-0060			Invoice Phone #: 978-486-0060		
Fax #: 978-486-0630			Location ID#: 167899		
AFE#:			PO#: MA02354		

Field ID / Point of Collection	Collection: Date	Time	Sampled By	Matrix	# of bottles	Preservation: HCL	NaOH	HNO3	H2SO4	MEOH	Other	None	8260C with prep by 5030 - ONLY volatiles on attached RGP list	8270D with prep by 3535 or 3520C - ONLY Semivolatiles on attached RGP list	Hex Chrome (218.6)	Total CN (335.4)	TPH (1664)	Metals + Hg (6010 &/200.7 with prep by 3010)	TSS (160.2)	TRC (330.5)	PCBs (1668a)	Total Iron				
LGACINF01 -1	9/19/2005	1630	JPS	GW	9	X	X	X			X	X	X	X	X	X	X	X	X	X	X					
LGACEFF04 -2	9/19/2005	1620	JPS	GW	1			X														X				

Turnaround Information

- [x] Std. 14 Day Turnaround
- [ ] 7 Day *EMERGENCY*
- [ ] 4 Day *EMERGENCY*
- [ ] 3 Day *EMERGENCY*
- [ ] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*

Approved By: _____

Emergency T/A fs for FAX or Lablink Data

Data Deliverable Information

- [ ] Commercial "A"
- [x] Commercial "B"
- [ ] Full Deliverables
- [ ] Other
- [ ] FULL CLP
- [ ] State Forms
- [ ] Disk Deliverable Format____

Commercial "A" = Results Only

Accutest Log-in Information

NOTE: All minimum levels, test methods, and preparation methods must be in accordance with attached Appendix VI of the RGP Document.

Loc. 305, 110, 5C

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

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 Jamie Stapleton	9/20/05 830	1	2	9/20/05 830	2
Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
3		3	4		4
Relinquished by Sampler:	Date Time:	Received By:	Seal #	Preserve where applicable	On Ice / Temp.
5		5			4.2°C

M50896: Chain of Custody
Page 1 of 3

INTERNAL MEMO
SAMPLE MANAGEMENT

Client: GSC Point of contact: Nate Time of contact: 1420

Tel #_____ Fax #_____ Job #: M50896

****

Sample status: Cancel: ☐ Add: ☑ Change: ☐

Turn Around: ☐

****

Supply status: Bottles: ☐ COC: ☐ Preservative: ☐

Sample #	Detailed comments/request
-1	Please add EDB by 504.1 per Nate on Sep. 20, 2005 @ 1420 9/20/05 JB

3.1 3

M50896: Chain of Custody
Page 2 of 3

Reza Tand M50896

From: Trish Eliasson [TEliasson@kleinfelder.com]
Sent: Wednesday, September 21, 2005 4:54 PM
To: Reza Tand
Subject: RGP samples - Northwood & Dover

Reza,

As we just discussed on the phone, we understand that not enough sample volume was submitted for TPH, 8270, and PCB analysis, which were marked on the COC. These samples are being collected and will be submitted to your lab on Thursday.

Also, please do NOT analyze for the following metals (ONLY the following metals):
Total Sb
Total Cd
Total Pb
Total Ni
Total Se
Total Ag
Total Zn

Thanks,

Trish Eliasson, PE
GSC|Kleinfelder
ph: 978.486.0060 x 308
fx: 978.486.0630
email: teliasson@kleinfelder.com
KLEINFELDER
EXPECT MORE

M50896: Chain of Custody
Page 3 of 3

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Job Number: M50896
Account: SHELLWIC Shell Oil
Project: GSCMA:97457373 (GSCRMBNH) 46 Central Ave., Dover, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG2124-MB	G53242.D	1	09/30/05	AA	n/a	n/a	MSG2124

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

M50896-1

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	5.0	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
123-91-1	1,4-Dioxane	ND	25	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
994-05-8	tert-Amyl Methyl Ether	ND	2.0	ug/l	
75-65-0	Tert Butyl Alcohol	ND	100	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	106%	84-121%
2037-26-5	Toluene-D8	100%	88-110%
460-00-4	4-Bromofluorobenzene	97%	83-114%

Blank Spike/Blank Spike Duplicate Summary

Job Number: M50896
Account: SHELLWIC Shell Oil
Project: GSCMA:97457373 (GSCRMBNH) 46 Central Ave., Dover, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG2124-BS	G53239.D	1	09/30/05	AA	n/a	n/a	MSG2124
MSG2124-BSD	G53240.D	1	09/30/05	AA	n/a	n/a	MSG2124

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

M50896-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	50	50.4	101	50.4	101	0	31-150/25
71-43-2	Benzene	50	55.9	112	54.0	108	3	73-127/25
56-23-5	Carbon tetrachloride	50	59.8	120	58.4	117	2	70-141/25
95-50-1	1,2-Dichlorobenzene	50	50.8	102	51.5	103	1	75-125/25
541-73-1	1,3-Dichlorobenzene	50	50.3	101	50.6	101	1	76-124/25
106-46-7	1,4-Dichlorobenzene	50	49.2	98	49.3	99	0	76-127/25
75-34-3	1,1-Dichloroethane	50	54.4	109	53.1	106	2	70-136/25
107-06-2	1,2-Dichloroethane	50	52.3	105	51.8	104	1	68-137/25
75-35-4	1,1-Dichloroethene	50	58.6	117	57.4	115	2	65-142/25
156-59-2	cis-1,2-Dichloroethene	50	51.9	104	51.5	103	1	72-130/25
123-91-1	1,4-Dioxane	250	220	88	251	100	13	50-140/25
100-41-4	Ethylbenzene	50	52.9	106	52.1	104	2	77-126/25
1634-04-4	Methyl Tert Butyl Ether	50	54.7	109	55.2	110	1	65-135/25
75-09-2	Methylene chloride	50	51.9	104	51.6	103	1	67-136/25
994-05-8	tert-Amyl Methyl Ether	50	55.6	111	55.2	110	1	61-139/25
75-65-0	Tert Butyl Alcohol	500	467	93	542	108	15	42-161/25
127-18-4	Tetrachloroethene	50	56.6	113	55.2	110	3	66-142/25
108-88-3	Toluene	50	51.2	102	50.6	101	1	76-124/25
71-55-6	1,1,1-Trichloroethane	50	57.7	115	56.6	113	2	71-137/25
79-00-5	1,1,2-Trichloroethane	50	51.6	103	51.4	103	0	68-134/25
79-01-6	Trichloroethene	50	54.4	109	53.5	107	2	71-130/25
75-01-4	Vinyl chloride	50	63.5	127	57.3	115	10	46-151/25
1330-20-7	Xylene (total)	150	159	106	157	105	1	78-129/25

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	102%	103%	84-121%
2037-26-5	Toluene-D8	100%	99%	88-110%
460-00-4	4-Bromofluorobenzene	98%	99%	83-114%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: M50896
Account: SHELLWIC Shell Oil
Project: GSCMA:97457373 (GSCRMBNH) 46 Central Ave., Dover, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
M51197-6MS	G53260.D	1	09/30/05	AA	n/a	n/a	MSG2124
M51197-6MSD	G53261.D	1	09/30/05	AA	n/a	n/a	MSG2124
M51197-6	G53259.D	1	09/30/05	AA	n/a	n/a	MSG2124

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

M50896-1

CAS No.	Compound	M51197-6 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		50	55.1	110	54.3	109	1	30-150/35
71-43-2	Benzene	ND		50	57.9	116	54.8	110	6	67-132/20
56-23-5	Carbon tetrachloride	ND		50	64.5	129	60.9	122	6	63-144/20
95-50-1	1,2-Dichlorobenzene	ND		50	53.9	108	52.7	105	2	75-123/20
541-73-1	1,3-Dichlorobenzene	ND		50	51.3	103	50.6	101	1	75-122/20
106-46-7	1,4-Dichlorobenzene	ND		50	50.5	101	49.6	99	2	77-125/20
75-34-3	1,1-Dichloroethane	ND		50	57.5	115	54.5	109	5	66-141/20
107-06-2	1,2-Dichloroethane	ND		50	59.8	120	57.0	114	5	61-144/20
75-35-4	1,1-Dichloroethene	ND		50	58.8	118	56.8	114	3	57-150/20
156-59-2	cis-1,2-Dichloroethene	2.7		50	57.1	109	55.0	105	4	69-133/20
123-91-1	1,4-Dioxane	ND		250	249	100	343	137	32	43-141/32
100-41-4	Ethylbenzene	ND		50	54.3	109	52.5	105	3	72-129/20
1634-04-4	Methyl Tert Butyl Ether	1.5		50	65.3	128	64.3	126	2	61-137/20
75-09-2	Methylene chloride	ND		50	55.8	112	53.7	107	4	64-143/20
994-05-8	tert-Amyl Methyl Ether	ND		50	61.0	122	59.9	120	2	54-144/20
75-65-0	Tert Butyl Alcohol	ND		500	522	104	501	100	4	31-170/29
127-18-4	Tetrachloroethene	ND		50	56.4	113	55.1	110	2	57-145/20
108-88-3	Toluene	0.53	J	50	54.1	107	52.0	103	4	69-129/20
71-55-6	1,1,1-Trichloroethane	ND		50	63.7	127	59.0	118	8	65-144/20
79-00-5	1,1,2-Trichloroethane	ND		50	58.0	116	57.2	114	1	63-138/20
79-01-6	Trichloroethene	1.7		50	58.4	113	56.1	109	4	67-132/20
75-01-4	Vinyl chloride	1.4		50	67.9	133	62.8	123	8	39-150/23
1330-20-7	Xylene (total)	ND		150	162	108	157	105	3	72-133/20

CAS No.	Surrogate Recoveries	MS	MSD	M51197-6	Limits
1868-53-7	Dibromofluoromethane	108%	106%	113%	82-127%
2037-26-5	Toluene-D8	100%	99%	102%	88-112%
460-00-4	4-Bromofluorobenzene	96%	98%	97%	80-118%

Volatile Surrogate Recovery Summary

Job Number: M50896
Account: SHELLWIC Shell Oil
Project: GSCMA:97457373 (GSCRMBNH) 46 Central Ave., Dover, NH

Method: SW846 8260B Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
M50896-1	G53244.D	108.0	100.0	98.0
M51197-6MS	G53260.D	108.0	100.0	96.0
M51197-6MSD	G53261.D	106.0	99.0	98.0
MSG2124-BS	G53239.D	102.0	100.0	98.0
MSG2124-BSD	G53240.D	103.0	99.0	99.0
MSG2124-MB	G53242.D	106.0	100.0	97.0

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	84-121%
S2 = Toluene-D8	88-110%
S3 = 4-Bromofluorobenzene	83-114%

GC Volatiles

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Job Number: M50896
Account: SHELLWIC Shell Oil
Project: GSCMA:97457373 (GSCRMBNH) 46 Central Ave., Dover, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP9679-MB	BB2413.D	1	09/22/05	CZ	09/21/05	OP9679	GBB117

The QC reported here applies to the following samples: Method: EPA 504

M50896-1

CAS No.	Compound	Result	RL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.015	ug/l	

CAS No.	Surrogate Recoveries		Limits
460-00-4	Bromofluorobenzene (S)	125%	26-158%

Blank Spike Summary

Job Number: M50896
Account: SHELLWIC Shell Oil
Project: GSCMA:97457373 (GSCRMBNH) 46 Central Ave., Dover, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP9679-BS	BB2414.D	1	09/22/05	CZ	09/21/05	OP9679	GBB117

The QC reported here applies to the following samples: Method: EPA 504

M50896-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
106-93-4	1,2-Dibromoethane	0.071	0.055	77	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	Bromofluorobenzene (S)	78%	26-158%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: M50896
Account: SHELLWIC Shell Oil
Project: GSCMA:97457373 (GSCRMBNH) 46 Central Ave., Dover, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP9679-MS	BB2415.D	1	09/22/05	CZ	09/21/05	OP9679	GBB117
OP9679-MSD	BB2416.D	1	09/23/05	CZ	09/21/05	OP9679	GBB117
M50945-1	BB2417.D	1	09/23/05	CZ	09/21/05	OP9679	GBB117

The QC reported here applies to the following samples: Method: EPA 504

M50896-1

CAS No.	Compound	M50945-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
106-93-4	1,2-Dibromoethane	ND		0.071	0.087	123	0.086	121	1	65-135/30

CAS No.	Surrogate Recoveries	MS	MSD	M50945-1	Limits
460-00-4	Bromofluorobenzene (S)	88%	75%	112%	26-158%

Volatile Surrogate Recovery Summary

Job Number: M50896
Account: SHELLWIC Shell Oil
Project: GSCMA:97457373 (GSCRMBNH) 46 Central Ave., Dover, NH

Method: EPA 504	Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]
M50896-1	BB2419.D	107.0
OP9679-BS	BB2414.D	78.0
OP9679-MB	BB2413.D	125.0
OP9679-MS	BB2415.D	88.0
OP9679-MSD	BB2416.D	75.0

Surrogate Compounds	Recovery Limits
S1 = Bromofluorobenzene (S)	26-158%

(a) Recovery from GC signal #1

Metals Analysis

QC Data Summaries

Includes the following where applicable:

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

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: M50896
Account: SHELLWIC - Shell Oil
Project: GSCMA:97457373 (GSCRMBNH) 46 Central Ave., Dover, NH

QC Batch ID: MP7663
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 09/22/05

Metal	RL	IDL	MB raw	final
Aluminum	200	22		
Antimony	6.0	2.4		
Arsenic	5.0	3.3	1.2	<5.0
Barium	200	.64	anr	
Beryllium	4.0	.18		
Boron	100	1.8		
Cadmium	4.0	.22	anr	
Calcium	5000	5.9		
Chromium	10	.72	0.15	<10
Cobalt	50	.69		
Copper	25	1.2	-3.1	<25
Iron	100	20	-1.8	<100
Lead	5.0	1.2	anr	
Magnesium	5000	7.7		
Manganese	15	.36		
Molybdenum	100	.48		
Nickel	40	.49		
Potassium	5000	19		
Selenium	10	1.7	anr	
Silicon	100	11		
Silver	5.0	.12	anr	
Sodium	5000	94		
Strontium	10	.12		
Thallium	10	3.1		
Tin	100	1.7		
Titanium	50	1.6		
Tungsten	100			
Vanadium	50	1.3		
Zinc	20	3.8		

Associated samples MP7663: M50896-1, M50896-2

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

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: M50896
Account: SHELLWIC - Shell Oil
Project: GSCMA:97457373 (GSCRMBNH) 46 Central Ave., Dover, NH

QC Batch ID: MP7663
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date:			09/22/05					09/22/05	
Metal	M50779-1 Original	MS	Spikelot MPIRWS2	% Rec	QC Limits	M50779-1 Original	DUP	RPD	QC Limits
Aluminum									
Antimony									
Arsenic	6.1	509	500	100.6	75-125	6.1	7.7	23.2 (a)	0-20
Barium	anr								
Beryllium									
Boron									
Cadmium	anr								
Calcium									
Chromium	1.1	487	500	97.2	75-125	1.1	1.1	0.0	0-20
Cobalt									
Copper	0.0	479	500	95.8	75-125	0.0	0.0	NC	0-20
Iron	17600	19800	2000	110.0	75-125	17600	17100	2.9	0-20
Lead	anr								
Magnesium									
Manganese									
Molybdenum									
Nickel									
Potassium									
Selenium	anr								
Silicon									
Silver	anr								
Sodium									
Strontium									
Thallium									
Tin									
Titanium									
Tungsten									
Vanadium									
Zinc									

Associated samples MP7663: M50896-1, M50896-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) RPD acceptable due to low duplicate and sample concentrations.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: M50896
Account: SHELLWIC - Shell Oil
Project: GSCMA:97457373 (GSCRMBNH) 46 Central Ave., Dover, NH

QC Batch ID: MP7663
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 09/22/05

Metal	BSP Result	Spikelot MPIRWS2	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	508	500	101.6	80-120
Barium	anr			
Beryllium				
Boron				
Cadmium	anr			
Calcium				
Chromium	485	500	97.0	80-120
Cobalt				
Copper	461	500	92.2	80-120
Iron	1890	2000	94.5	80-120
Lead	anr			
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium	anr			
Silicon				
Silver	anr			
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Tungsten				
Vanadium				
Zinc				

Associated samples MP7663: M50896-1, M50896-2

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

SERIAL DILUTION RESULTS SUMMARY

Login Number: M50896
Account: SHELLWIC - Shell Oil
Project: GSCMA:97457373 (GSCRMBNH) 46 Central Ave., Dover, NH

QC Batch ID: MP7663
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 09/22/05

Metal	M50779-1 Original	SDL 1:5	RPD	QC Limits
Aluminum				
Antimony				
Arsenic	6.05	18.7	209.6(a)	0-10
Barium	anr			
Beryllium				
Boron				
Cadmium	anr			
Calcium				
Chromium	1.13	0.00	100.0(a)	0-10
Cobalt				
Copper	0.00	0.00	NC	0-10
Iron	17600	17200	2.1	0-10
Lead	anr			
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium	anr			
Silicon				
Silver	anr			
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Tungsten				
Vanadium				
Zinc				

Associated samples MP7663: M50896-1, M50896-2

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

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: M50896
Account: SHELLWIC - Shell Oil
Project: GSCMA:97457373 (GSCRMBNH) 46 Central Ave., Dover, NH

QC Batch ID: MP7664
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 09/23/05

Metal	RL	IDL	MB raw	final
Mercury	0.20	.067	0.098	<0.20

Associated samples MP7664: M50896-1

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

6.2.1

6

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: M50896
Account: SHELLWIC - Shell Oil
Project: GSCMA:97457373 (GSCRMBNH) 46 Central Ave., Dover, NH

QC Batch ID: MP7664
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date:				09/23/05				09/23/05	
Metal	M50971-2 Original	MS	Spikelot HGRWS1	% Rec	QC Limits	M50971-2 Original	DUP	RPD	QC Limits
Mercury	0.0	3.6	3	120.0	75-125	0.0	0.0	NC	0-20

Associated samples MP7664: M50896-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

6.2.2

6

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: M50896
Account: SHELLWIC - Shell Oil
Project: GSCMA:97457373 (GSCRMBNH) 46 Central Ave., Dover, NH

QC Batch ID: MP7664
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 09/23/05 09/23/05

Metal	BSP Result	Spikelot HGRWS1	% Rec	QC Limits	BSD Result	Spikelot HGRWS1	% Rec	BSD RPD	QC Limit
Mercury	3.3	3	110.0	80-120	3.2	3	106.7	3.1	20

Associated samples MP7664: M50896-1

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

6.2.3

6

General Chemistry

QC Data Summaries

Includes the following where applicable:

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

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: M50896
Account: SHELLWIC - Shell Oil
Project: GSCMA:97457373 (GSCRMBNH) 46 Central Ave., Dover, NH

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Chromium, Hexavalent	GN17869	0.010	<0.010	mg/l	.1	0.10	100.0	80-120%
Cyanide	GP5989/GN17929	0.010	<0.010	mg/l	0.1	0.0989	98.9	90-110%
Cyanide	GP5989/GN17929			mg/l	0.2	0.202	101.0	90-110%
Solids, Total Suspended	GN17889	4.0	<4.0	mg/l				
Total Residual Chlorine	GN17873	0.050	<0.050	mg/l	.50	0.45	90.0	-%

Associated Samples:
Batch GN17869: M50896-1
Batch GN17873: M50896-1
Batch GN17889: M50896-1
Batch GP5989: M50896-1

7.1

7

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: M50896
Account: SHELLWIC - Shell Oil
Project: GSCMA:97457373 (GSCRMBNH) 46 Central Ave., Dover, NH

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Chromium, Hexavalent	GN17869	M50896-1	mg/l	<0.010	<0.010	0.0	0-20%
Cyanide	GP5989/GN17929	M51014-3	mg/l	0.052	0.052	0.0	0-20%
Solids, Total Suspended	GN17889	M50936-2	mg/l	<4.0	<4.0	0.0	0-20%
Total Residual Chlorine	GN17873	M50895-1	mg/l	<0.050	<0.050	0.0	0-20%

Associated Samples:
Batch GN17869: M50896-1
Batch GN17873: M50896-1
Batch GN17889: M50896-1
Batch GP5989: M50896-1

7.2
7

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: M50896
Account: SHELLWIC - Shell Oil
Project: GSCMA:97457373 (GSCRMBNH) 46 Central Ave., Dover, NH

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chromium, Hexavalent	GN17869	M50896-1	mg/l	<0.010	.1	0.10	100.2	75-125%
Cyanide	GP5989/GN17929	M51014-3	mg/l	0.052	0.1	0.13	78.0	75-125%
Total Residual Chlorine	GN17873	M50895-1	mg/l	<0.050	.50	0.55	110.0	-%

Associated Samples:
Batch GN17869: M50896-1
Batch GN17873: M50896-1
Batch GP5989: M50896-1

7.3
7