

COLD SPRING ENVIRONMENTAL CONSULTANTS INC.

- 21F Site Investigations
- Subsurface Investigations
- Pollution Remediation
- LSP on Staff
- Forensic Septic Investigations

- Percolation Tests
- Septic Designs
- Regulatory Compliance
- Recycling and Solid Waste
- Second Opinions

June 1, 2009

M Mr. David Dann, Administrator
 Town of Shutesbury
 P.O. Box 276
 Shutesbury, MA 01072

**RE: Release of Gasoline: Phase II Scope of Work, Tier IB
 Release at former Gasoline Storage Tank
 Shutesbury Fire Station, #42 Leverett Road
 CSEC Project#108-3015-0718, DEP Release #1-16996**

Dear Mr. Dann:

This Phase II Scope of Work is required to be submitted at the time of tier Classification. Should response actions result in a Response Action Outcome (closure) prior to the next two years than the Phase II may not be required.

Cold Spring Environmental Consultants, Inc. (CSEC) proposes the following Scope of Work to evaluate the source(s), extent and degree of Oil and Hazardous Materials contamination remaining at the above referenced site pursuant to the Massachusetts Contingency Plan, 310 CMR 40.0835. The purpose of the Phase II Comprehensive Site Assessment is to define the nature, horizontal extent and vertical extent of oil and hazardous material contamination and its environmental fate and transport. The types and quantities of hazardous materials and/or hydrocarbons comprising the on-site plume must also be assessed. The Phase II Assessment will also evaluate the risk of harm posed by the disposal site to public health, safety, welfare and the environment. Data from the Phase II report will be used to assess the need for an appropriate Response Action Outcome and/or Remediation (or RAM Plan) Recommendation.

The Phase II Comprehensive Site Assessment is to be conducted by performing the following concurrent tasks:

TASK I: INVESTIGATION OF PHYSICAL SITE CHARACTERISTICS

- a) Existing site maps showing the locations of all buildings, underground tanks and underground utilities (septic/water lines, oil/water separators, stormwater drains, catchbasins and easements) will be updated and will include geographic coordinates (UTM, Latitude and Longitude)). Surrounding land use and past, present and future site use will be shown on a separate figure and detailed in the Phase II report.
- b) Data regarding environmental site characteristics, (topography, surface drainage, vegetation, surface water bodies, flooding

potential, wetlands, critical habitats, water supplies), shall be reviewed to assess possible site impacts.

- c) Additional subsurface investigations will characterize overburden types, thicknesses, soil classification and permeabilities. Depth to bedrock and bedrock types will be determined using drilling results and geologic map interpretation techniques. On-site monitoring wells will be used to obtain depths to groundwater, elevations, gradients flow direction and rate.

TASK II: IDENTIFICATION OF SOURCE AND EXTENT OF RELEASE

- a) The **Six on-site groundwater monitoring wells** will be used in addition to **six additional borings as four new wells**, as noted on the attached plan. This strategy is employed to determine the extent of the groundwater contaminant plume and the extent of soil contamination since incomplete data currently exists. Well/boring locations are designed to delineate the contaminant plumes and provide soil data over the site. The soil borings spanning one up and the rest downgradient of the location of the former & current above and underground tanks will be drilled and soil samples obtained at two and five foot intervals. The samples exhibiting the highest PID screening levels (using an Hnu PID 10.2 ev., via the headspace method) from seven of each of the seven borings will be forwarded for **VPH, Volatile Petroleum Hydrocarbon and Extractable, testing.**

Two samples for TPH, Flash point, pH, Reactivity, 8240 (VOC's) and PCB's may be tested for waste characterization requirements.

- b) During installation of the **(4) new wells of whic (6) soil borings**, soil samples will be collected during drilling at five foot intervals in accordance with ASTM Standard D-1586, (Standard Penetration Test), using split spoon soil sampling methods. Soil samples will be analyzed using an HNU Photoionization Detector (10.2 eV Lamp). Soil analyses will conform to the DEP Recommended Jar Headspace Method.
- c) All monitoring wells will be surveyed and gauged for depth to groundwater and casing elevations to prepare groundwater contours and calculate a groundwater flow direction, rate and gradient. Bail down test data (to be performed on two monitoring wells) and permeability data will be reviewed.

TASK III: LABORATORY TESTING PROGRAM

- a) Groundwater samples will be taken from all on-site monitoring wells using dedicated PVC bailers to prevent cross-contamination. Samples will be poured directly from the bailers into 40 ml borosilicate vials and one liter amber glass bottles. All glassware will be prepared by the analytical

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laboratory. Sample I.D. numbers, Chain-of-Custody Forms and applicable QA/QC protocols will be in accordance with EPA Publication SW-846. A minimum of three times the volume of water in the well screen will be evacuated prior to sampling to ensure a representative laboratory sample.

b) Groundwater samples from all new monitoring wells will be analyzed using the **VEPH Volatile and Extractable Petroleum Hydrocarbons**, **EDB**, and **RCRA 8 heavy metals including lead will also be conducted on the sample points**. Existing wells will be tested using VPH methodology. The laboratory results will be used to define the horizontal and vertical extent of groundwater contamination.

TASK IV: PUBLIC HEALTH AND ENVIRONMENTAL RISK ASSESSMENT

- a) All on-site contaminants will be characterized regarding type, volume, composition, physical and chemical characteristics and environmental fate and transport, (mobility, stability, volatility, bioaccumulation and persistence).
- b) All existing and potential migration pathways, plume migration rates and the magnitude of potential air emissions will be identified to assess the impact of the site on surrounding properties and on-site activities. A soil vapor survey will likely be conducted as well as additional indoor air samples.
- c) Possible human and environmental receptors, both present and future, will be identified for the disposal site. Exposure points and exposure point concentrations will be estimated for the above mentioned receptors both currently and in the future. Background levels of contamination will be determined for comparison to on-site levels. A Method 3 Risk Assessment will be included.
- d) An evaluation of groundwater as potential source of vapors of gas and hazardous materials to indoor air structures pursuant to 310 CMR 40.0900 will be conducted.
- e) The nature and extent of on-site contamination including characterization of source(s), vertical and horizontal extent, characterization of any NAPL's, tabulation of testing data and background concentrations will be included. An exposure assessment will identify potential environmental receptors and resultant concentrations.

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f) Based on the analytical data, the risk of harm to human health, public welfare and the environment will be evaluated in accordance with DEP Method 3. A Method 1 Environmental Risk Characterization with Stage 1 screening is proposed as needed. Changes in appropriate Risk Assessment Method will be identified based on Phase II investigation results. The risk characterization will conform to current regulation standards and the Massachusetts Contingency Plan, 310 CMR 40.0900 (Subpart I).

A Phase II completion statement and a Response Action Outcome or recommendation for a Phase III Remedial Feasibility Study and/or Release Abatement Measure (RAM) as part of Comprehensive Response Actions will be recommended pursuant to the possible outcomes noted in 310 CMR 40.0840.

A Health and Safety Plan is available upon request. It is estimated that completion of the Phase II Comprehensive Site Assessment Report will take approximately ninety to one-hundred twenty days.

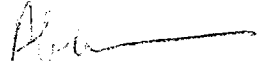
If you require additional technical information, please contact this office at (413) 323-5957.

Sincerely;

COLD SPRING ENVIRONMENTAL CONSULTANTS, INC.



Barbara B. Weiss, B.S.,
Vice President
Principal Environmental Geologist

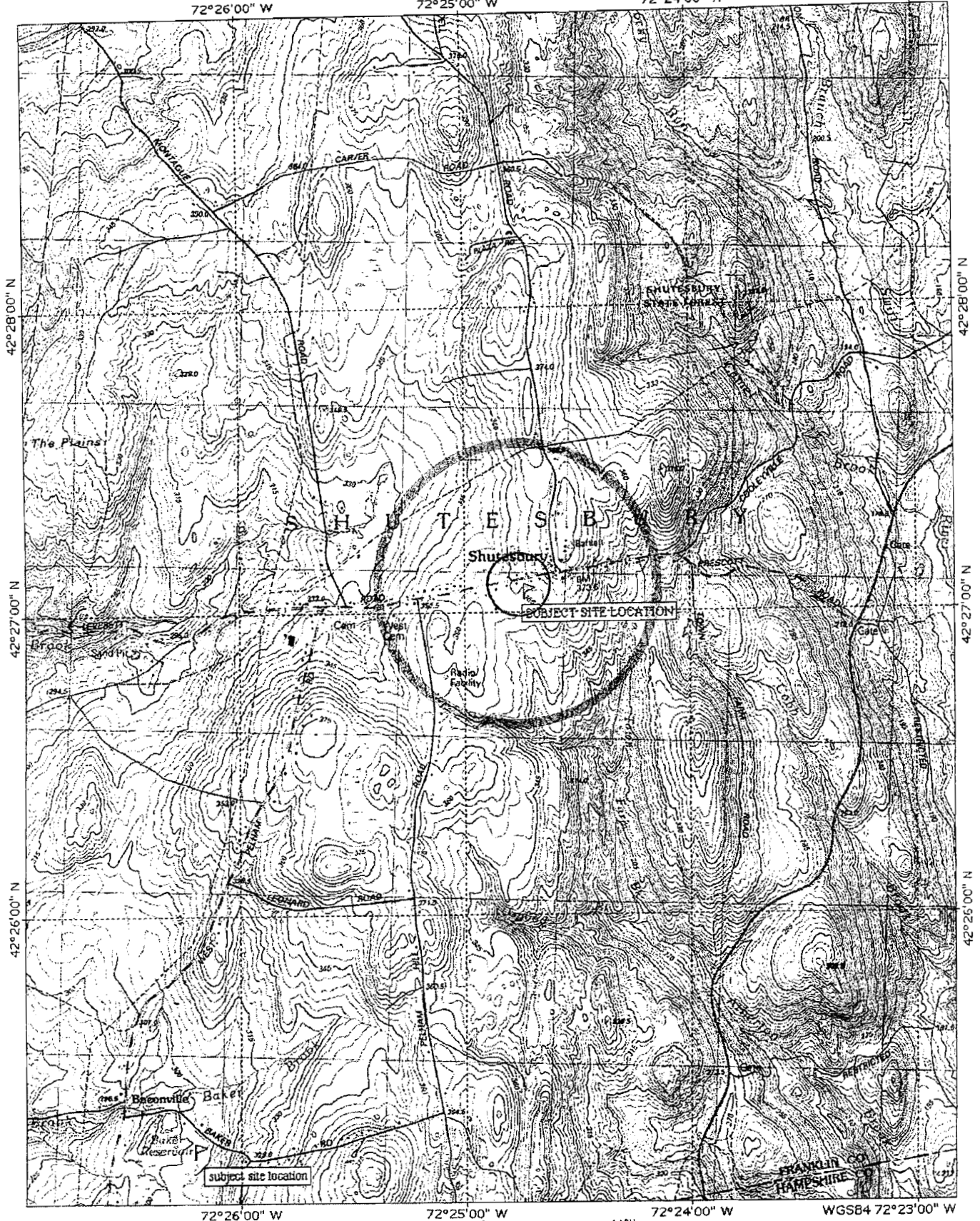


Alan E. Weiss, M.S., L.S.P. # 6442
President
Principal Hydrogeologist

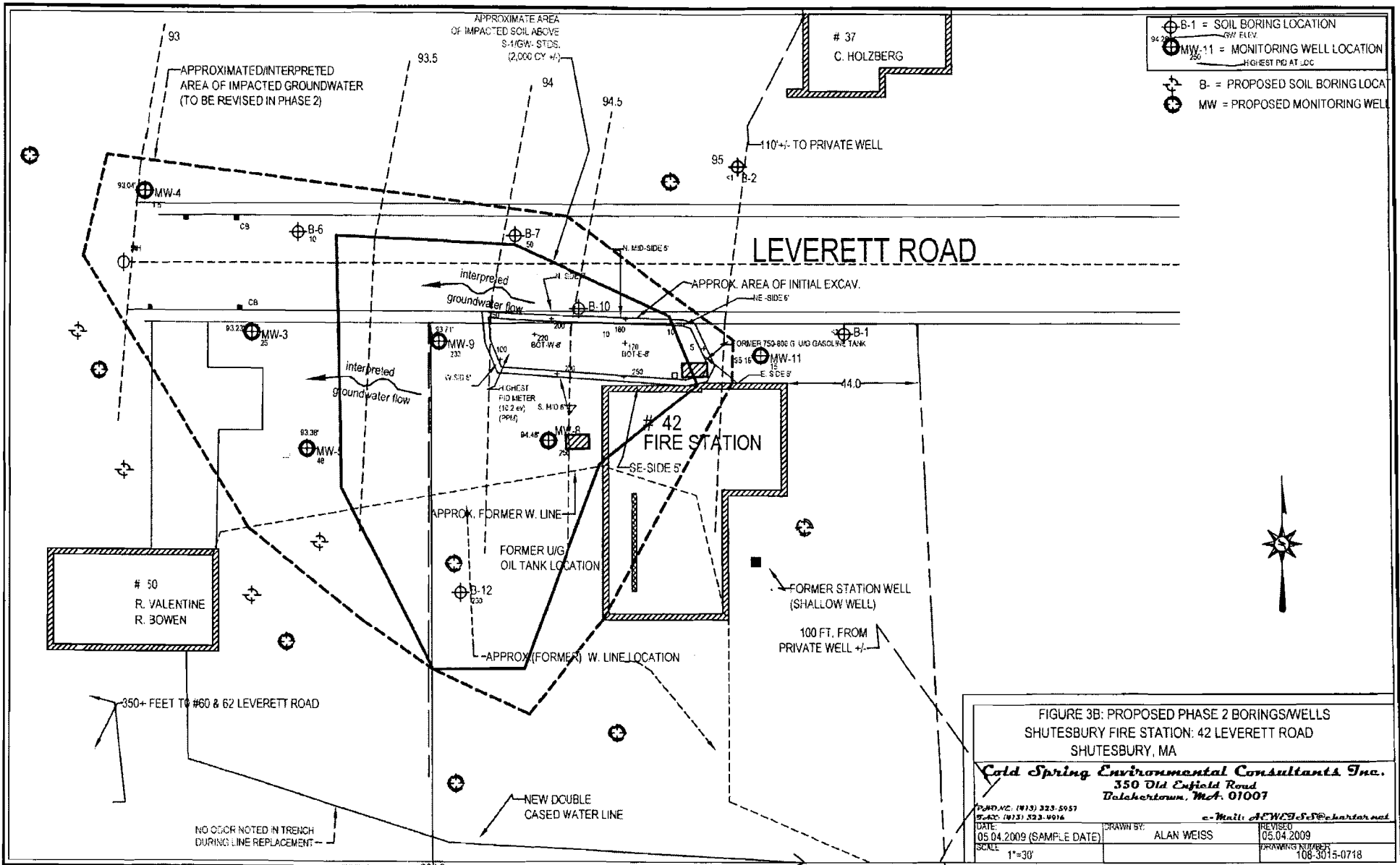
Attachments

cc: Phase II Scope of Work completion notif. to Town BOH and CEO
Phase II Scope of Work to DEP.

Attachments:



0 1000 2000 3000 4000 5000 6000 7000 8000 9000 1000 METERS
0 1 2 3 4 5 MILE
Printed from TOPO! ©2001 National Geographic Holdings (www.topo.com)



- ⊕ B-1 = SOIL BORING LOCATION
- ⊕ MW-11 = MONITORING WELL LOCATION
- ⊕ B- = PROPOSED SOIL BORING LOCATION
- ⊕ MW = PROPOSED MONITORING WELL

FIGURE 3B: PROPOSED PHASE 2 BORINGS/WELLS
SHUTESBURY FIRE STATION: 42 LEVERETT ROAD
SHUTESBURY, MA

Cold Spring Environmental Consultants, Inc.
 350 Old Enfield Road
 Dalton, MA 01007
 e-Mail: ACEC@csel.com

<small>PLANNING (913) 323-5957</small> <small>PHONE (913) 323-0016</small>		<small>e-Mail: ACEC@csel.com</small>	
DATE: 05.04.2009 (SAMPLE DATE)	DRAWN BY: ALAN WEISS	REVISED: 05.04.2009	DRAWING NUMBER: 108-3015-0718
SCALE: 1"=30'			

NO ODOUR NOTED IN TRENCH DURING LINE REPLACEMENT

**Notice of Initial Site Investigation and Waste Site Permit
Application**

**Town of Shutesbury Fire Station
42 Leverett Road
Shutesbury, MA. 01072
RTN # 1-16996**

Pursuant to the Massachusetts Contingency Plan (310 CMR 40.0480), an Initial Site Investigation has been performed at the above referenced location. A release of oil and/or hazardous materials has occurred at this location which is a disposal site (as defined by M.G.L. c. 21E, Section 2). This site has been classified as a **Tier 1B** (310 CMR 40.0500) and an **Initial Tier IB Permit Application** is being submitted on **June 3, 2009** to the Department of Environmental Protection pursuant to 310 CMR 40.0703. A permit is required to proceed with Comprehensive Remedial Responses at all Tier I sites.

Anyone interested in reviewing the Permit Application should notify the DEP in Writing to **(DEP-Bureau of Waste Site Clean-up, Permit Section, 436 Dwight St., Springfield, Ma. 01103) by June 24, 2009**. If anyone notifies the DEP of his or her interest in reviewing or submitting comment on the Tier I permit application, DEP will conduct a public comment review period of twenty (20) days which shall run concurrently with DEP's Technical Review of the application. Anyone who fails to notify DEP in writing of his/her interest in commenting on the application by the above date may be deemed to have waived his/her rights, if any, to appeal the DEP's permit decision or to intervene in an adjudicatory proceeding with respect to this application, pursuant to 310 CMR 40.0770 (2).

M.G.L. c. 21E and the Massachusetts Contingency Plan provide additional opportunities for public notice of and involvement in decisions regarding response actions at disposal sites: 1) The Chief Municipal Official and Board of Health of the community in which the site is located will be notified of major milestones and events, pursuant to 310 CMR 40.1403; and 2) Upon receipt of a petition from ten or more residents of the municipality in which the disposal site is located, or of a municipality potentially affected by a disposal site, a plan for involving the public in decisions regarding response actions at the site will be prepared and implemented, pursuant to 310 CMR 40.1405.

To obtain more information on this disposal site and the opportunities for public involvement during its remediation, please contact **Alan Weiss, LSP at Cold Spring Environmental Consultants Inc. 350 Old Enfield Road, Belchertown, Ma. 01007 at 413-323-5957**.

David Dann, Town of Shutesbury, MA 06/03/09



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- Subsurface Investigations
- Pollution Remediation
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June 1, 2009,

Mr. David Dann, Administrator
Town of Shutesbury
P.O. Box 276
Shutesbury, MA 01072

**RE: Release of Gasoline: Phase I Completion Report, Tier I
Release at former Gasoline Storage Tank
Shutesbury Fire Station, #42 Leverett Road
CSEC Project#108-3015-0718, DEP Release #1-16996**

Dear Mr. Dann:

Enclosed are two bound copies of the Phase I Initial Site Investigation Report prepared for the above referenced site with DEP Numerical Ranking System Forms appended. A copy of the Phase I Report has been submitted to the Massachusetts Department of Environmental Protection electronically by (EDEP) by the required date, June 3, 2009.

The enclosed Tier Classification Transmittal Form and Comprehensive Response Action Transmittal Form, Phase I Completion Statement and Tier I Permit Application forms must accompany the Phase I report. Please note that DEP requires the originals of all signed forms. We have included copies of the forms for your records. Please note that you must complete Section J of the Comprehensive Response Action Transmittal Form & Phase I Completion Statement. Sections G and L of the Tier Classification Transmittal Form were completed by you.

In addition, the attached **Legal Add** notice must be filed by you with the Daily Hampshire Gazette and the Environmental Monitor concurrent with your submittal for their publishing.

Please contact this office at (413) 323-5957 if you require additional information.

Sincerely;

COLD SPRING ENVIRONMENTAL CONSULTANT'S, INC.
Alan E. Weiss
President
Licensed Site Professional #6442

cc: Notice of Availability to Chief Municipal Officer (client),
affected abbutters and Health Board
Notice of Tier Classification to Daily Hampshire Gazette