



The State of New Hampshire
Department of Environmental Services



Robert R. Scott, Commissioner

EMAIL ONLY

May 18, 2023

Matthew Bigley (matthew.bigley@bd.com)
BD, Inc.
1 Becton Drive
Franklin Lakes, NJ 07417

Subject Site: **Fitzwilliam** – Former C.R. Bard Facility, 179 NH Route 12 North
DES Site #198905021, LUST Project #1095

GMP Annual Data Submittal, prepared by Wood Environmental and
Infrastructure Solutions, Inc., dated May 23, 2022 (Activity #302007)

Dear Mr. Bigley:

The New Hampshire Department of Environmental Services (NHDES) has reviewed the subject report and other information in our files regarding the petroleum discharge discovered on April 14, 1995 at the referenced site. The report substantially meets the requirements of Groundwater Management Permit (GMP) GWP-198905021-F-004. Based on our review of the existing information, NHDES has the following comments:

Groundwater Monitoring Results:

1. Exceedances of the ambient groundwater quality standard (AGQS) for naphthalene continue in samples from well T1-B. In addition, light non-aqueous phase liquid (LNAPL or petroleum product) continues to be observed intermittently in wells TDS-2 and FT-1.
2. The permittee C.R. Bard, Inc. (d.b.a. BD, Inc), is required to continue monitoring activities in accordance with the above-referenced permit. The next monitoring is to be completed in April 2023 with the associated data transmittal due within 45 days of the monitoring event and no later than June 15, 2023. An Application for Renewal of Groundwater Management Permit is due no later than the current permit's expiration date, November 30, 2023.

Soil and Groundwater Remediation:

3. The current owner of the subject property (Fitzwilliam, LLC) removed an inactive 10,000-gallon underground heating oil tank (UST) on February 23, 2022. As noted above, impacts from the petroleum release discovered on April 14, 1995 (i.e., the presence of LNAPL and AGQS exceedances) continue to be observed in site monitoring wells surrounding the UST. The UST removal provides an opportunity to pursue remedial measures to expedite site clean-up.

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4. To assess the feasibility of additional remediation, soil delineation sampling event is recommended: 1) to define the current vertical and horizontal extent of LNAPL present; and 2) to obtain samples for waste disposal characterization. This soil delineation sampling event may be completed via test pits or soil boring methods. Soil samples should be collected from depths approximating the seasonal variations of the water table and are to be screened for total volatile organic compounds (VOCs) with a photo-ionization detector (PID) using headspace methods. Samples with screening results above 50 parts per million (ppm by volume) are to be submitted to a NH-certified laboratory for analysis of VOCs and total petroleum hydrocarbons (TPH). Samples from each location are to be also assessed for the presence of LNAPL using a shake test or similar, where a clear-glass container is half filled with soil and water, shaken, then observed for evidence of separate-phase oil. The use of Oil-in-Soil screening kits is also a recommended option to assess LNAPL presence (see enclosure of product specifications).
5. A soil delineation sampling report is due within 60 days of event completion. The SDS report shall be completed by, or under the direction of, a professional engineer or professional geologist licensed under RSA 310-A, and the report shall bear the seal of the professional responsible for the work. The report shall contain the following:
 - a. A log for each soil boring or test pit with detailed observations of LNAPL (if present), site stratigraphy and the presence of lower or high permeability lenses.
 - b. Tabulated laboratory analytical results compared to the New Hampshire Soil Remediation (SRS) standards.
 - c. An updated plan view of areas with SRS exceedances and/or NAPL.
 - d. An updated estimated volume of petroleum impacted soil recommended for remediation, if applicable.
 - e. Recommendations for additional investigation and/or remediation if warranted.

The subject site and requested work may be eligible for reimbursement from the New Hampshire Petroleum Reimbursement Fund Program (Fund). For additional assistance on the Fund reimbursement process and compliance status of your facility, please contact Jennifer Marts, P.G., Petroleum Fund Management Section Supervisor, at (603) 271-2570 or by email at Jennifer.Marts@des.nh.gov.

Please do not hesitate to contact me if you have any questions regarding this letter.

Sincerely,



Renée S. Strondak, P.G.
Oil Remediation & Compliance Bureau
Tel: (603) 271-0652
Email: Renee.S.Strondak@des.nh.gov

Enclosures: Product Specifications for Oil-in-Soil Screening Kit

cc: Fitzwilliam Health Officer
John F. Rice, P.G., Wood Environment and Infrastructure, Inc. (john.rice@woodplc.com)
Mike Rossi, Fitzwilliam LLC (Turnkey Lumber) (Mike@turnkeylumber.com)

Route/cc: Margaret Bastien, P.E., ORCB
Jennifer A. Marts, P.G., Fund Manager



MENU

Home > Oil in Soil Screening Kit



Pine Environmental

Oil in Soil Screening Kit

\$8.10

Pine Item #74051

The OIL-IN-SOIL™ field screening test kit is an inexpensive, simple, and rapid qualitative sampling test for identifying the presence of hydrocarbons including LNAPLs and DNAPLs in soil. The OIL-IN-SOIL™ test kit is a visually enhanced version of the old Soil-Water Shake Test for the presence of oils and petroleum products. Users add soil to a line on the label, add water to another line on the label and shake the jar to release the dyes.

The Kit comes in 3 colors: One kit uses the original SUDAN IV which colors the hydrocarbon red. The OIL-IN-SOIL™ Kits also come in a Royal Blue color called OIL-IN-SOIL™RB . A colored ring or spot indicates the presence of oil or petroleum at above 2,500 ppm.TPH). A Styrofoam ball turning pink or light blue, depending on the dye used will indicate hydrocarbon down to 500 ppm. Many DNAPLs will give indications below 10 ppm because of their ability to penetrate the styrene used in the jar.

Application:

The OIL-IN-SOIL™ field screening test kits are useful tools for reducing the cost of Phase I and Phase II site assessments, by reducing the time and costs associated with delineating the perimeter, depth, and direction of spills in soil. They are also often used with core samples to identify organic substances.

Environmental Benefits:

Rapid delineation of hydrocarbons and DNAPL spill boundaries in soil results in more rapid removal of contaminants from the environment. The OIL-IN-SOIL™ kit uses a deminimus quantity of Sudan IV which is encapsulated in a soluble cube – thus decreasing the hazards to the test user from airborne particulate Sudan IV and overcoming the problems associated with the disposal of larger quantities of a mutagenic dye. We have recently switched to a new manufacturer whose dye is non-mutagenic.

Performance:

The OIL-IN-SOIL™ kits provide an inexpensive, consistent tool for the detection of hydrocarbons (+ - 500 ppm TPH) in soil. They are easy to use and require minimal training – thus reducing the need for ongoing expensive technical support on-site. The OIL-IN-SOIL™ kits have been sold commercially for several years and are used for Phase I and Phase II site assessments by most major environmental companies and several utility companies throughout the USA.

Simple as 1, 2, 3:

1. Add soil to the first line on the label.
2. Add water to the second line on the label.