

APR 04 1995

Environmental Services of America, Inc.

ENSA Environmental, Inc.

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March 30, 1995

Mr. Richard Spiese
VT DEC HMMMD UST
103 South Main Street/West Building
Waterbury, VT 05671-0404

RE: Harmonyville Store
Route 30, Townshend
Follow up soil screening to UST closure
SMS # 94-1672

Dear Mr. Spiese:

On August 24, 1994, ENSA Environmental, Inc. (ENSA) observed the removal of two 2000 gallon gasoline underground storage tanks (USTs) that was performed by Derrig Excavation of Putney, VT at the above referenced site. Both tanks were in good condition but approximately 1 gallon of gasoline was spilled into the tank pit during the removal of the feedlines to the pump island. Approximately 5 cubic yards of tank pit soil consisting of coarse grained sand and medium gravel with cobbles were polyencapsulated on site. Head space screening of tank pit soil samples for volatile organic compounds (VOCs) was conducted with a Thermo Environmental Instruments Model 580B organic vapor meter (OVM). Levels ranged from 4.0 ppm to 196 ppm. Soil samples collected at the limit of excavation (approximately 12 feet below the ground surface) indicated the presence of low level VOCs ranging from 4 ppm to 9 ppm; no groundwater was encountered at this depth range, and a composite sample was collected for laboratory analysis of aromatic volatile organic compounds by EPA Method 8020.

Due to the substantial porosity of the tank pit soils, it was not certain if the VOCs detected were from the small amount of gasoline spilled from the feedlines or from a more substantial historic release from the UST system. As a precautionary measure, the basement air was screened for VOCs to assess the potential for gasoline vapors migrating into the site building. Concentrations of 2 ppm of VOCs were detected by the OVM. Fuel oil-stained soils beneath an in-line filter prior to the oil burner were considered to be the cause of the VOCs detected. A 275 gallon above ground fuel oil storage tank is located outside of the site building and as such kerosene is most likely blended with #2 heating oil as an anti-gelling agent during cold periods. Due to the porous soil conditions and sensitive human and environmental receptors located in the immediate vicinity of the USTs, the installation of a monitoring well to assess the potential for groundwater impact was recommended in the tank closure report.

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On September 26, 1994, the VT DEC Sites Management Section (SMS) submitted a letter to Barrows Coal Company requesting that additional work be conducted at the site in order to determine the severity of contamination present. The installation of groundwater monitoring wells, development of a plan to treat and/or dispose of the stockpiled soils, delineation of the extent of oil contaminated soils in the basement, sensitive receptor check including drinking water sampling of nearby wells for laboratory analysis via EPA Method 8020 were requested in the state letter. A work plan was submitted by ENSA on behalf of Barrows Coal Company in response to the SMS's request.

On December 12, 1994, a second letter was prepared by the SMS in response to the laboratory results that were submitted by ENSA/TRI-S which indicated the absence of contamination in the confirmatory sample analyzed. The letter stated that the SMS no longer believes that the work associated with the gasoline USTs is warranted (as it pertains to PCF reimbursement). The SMS did request that the plan to treat and/or dispose of the stockpiled soils be prepared and that soil assessment in the basement of the site building be conducted.

Barrows Coal Company agreed to undertake the above noted work regarding the above ground fuel oil related soil contamination as well as that associated with the soil pile. In concert with this work, ENSA conducted a Phase I Site Assessment on the subject property for the Vermont National Bank, the mortgage lender who is in the process of site foreclosure.

On March 17, 1995, soil samples were collected during the advancement of hand borings within the oil-stained soils located in the site's basement. The samples were screened for VOCs using an OVM. Ambient VOCs in the basement air were 2 ppm with 10 ppm detected directly above the spill area. The presence of cobbles limited the borings to a depth of approximately 8 inches. Maximum VOCs of 127 ppm were detected approximately 4 inches below the ground surface (beneath the in-line oil filter) with lesser amounts (30-40 ppm) detected in surface soil and soil collected at the limit of the hand borings.

Four soil samples were collected from the 5 cubic yards of soil stockpiled from the former UST removals. Due to the presence of cobbles and stones, the collection of soil samples was limited to one foot into the pile. Based on the screening of the above noted samples, no VOCs or gasoline like odors were detected.

On March 21, 1995, limited soil excavation was conducted by hand in the basement of the site building as part of the Phase I site assessment. During this work a plumber hired by the property managers was also on-site to replace the in-line oil filter and feed line. A total of approximately 0.5 cubic yards of oil contaminated soils were removed and stockpiled on-site on plastic. The level of VOCs detected with the OVM ranged from 83 ppm at the surface to 41 ppm at the limit of excavation which was approximately 1.5 feet below the ground surface. The level of contamination at this depth was similar to that detected at the 0.5 and 1.0 foot

depth ranges. Excavation was halted so not to adversely affect the structural stability of the stone foundation.

Based on the work conducted at the site, the following conclusions have been drawn:

- The fuel oil contamination observed in the basement of the site building appears to have been the result of slow leakage from an in-line oil filter. No dripping of oil was observed during this work but the outside of the filter was heavily coated with oil and the main area of soil contamination was located directly beneath the filter. The horizontal extent of this contamination was approximately 12 square feet, with migration occurring in the vertical plane to at least 1-2 feet below the ground surface. While the majority of contamination was found approximately 2-4 inches below the ground surface, the vertical extent of the contamination could not be completely delineated. The oil filter has since been replaced and the majority of the fuel oil contaminated soils has been excavated and stockpiled on site.
- The 5 cubic yards of stockpiled UST pit soils were screened using an OVM. Based on the collection of four soil samples to a depth of approximately 1 foot into the pile, no VOCs were detected. The stockpile remains polyencapsulated on site.

Due to the very porous nature of the stockpiled UST pit soils and the limited amount of gasoline that was apparently released to these soils during the tank removals in August of 1994, ENSA recommends that the soils be spread on site via backhoe. Screening of the soils with an OVM should be done during this process to ensure that soils at the center of the pile are free from VOCs. In the event contamination is detected, such soils should be polyencapsulated on site for screening with an OVM at a later date.

ENSA recommends that the fuel oil contaminated soils remain stockpiled on site due to the small amount of material. Periodic screening and turning of the pile could be performed to encourage biodegradation of the fuel oil. If future site owners require the removal of these soils from the site, an alternate storage site must be approved by the VT DEC prior to transportation or a sample must be collected for submittal to a state approved disposal facility if a more finite disposal of the soils is desired.

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Mr. Spiese
March 30, 1995

If you have any questions or require further information, please feel free to contact me at 1-800-359-3677.

Sincerely,
ENSA Environmental Inc.

A handwritten signature in cursive script that reads "Bruce Tease". The signature is written in dark ink and has a long, sweeping horizontal line extending to the right.

Bruce Tease, Ph.D.
Senior Environmental Scientist

cc: Lee Merrill, Barrows Coal Company