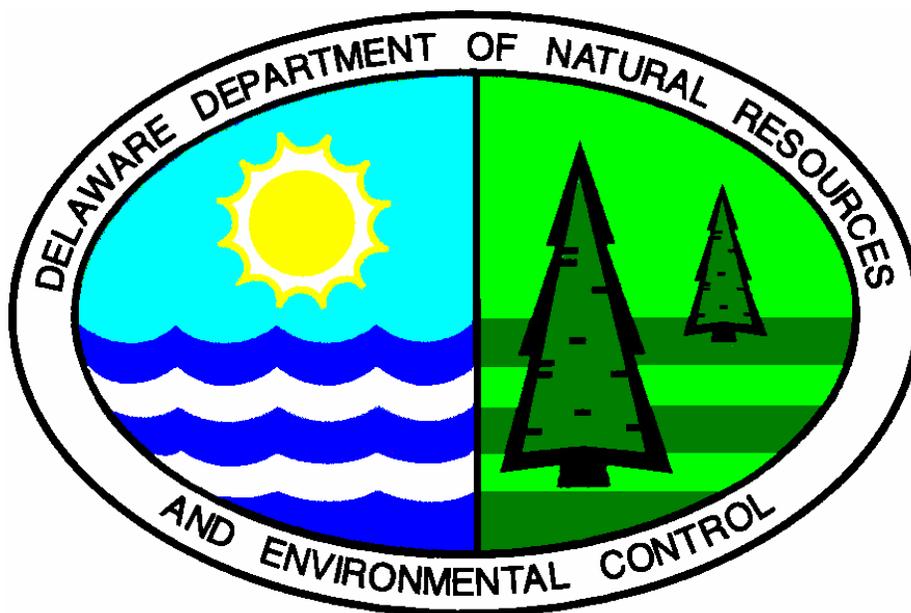


FINAL PLAN OF REMEDIAL ACTION
BAYSHORE CAR AND TRUCK RENTAL SITE
Bear, Delaware

DE - 1162



NOVEMBER 2002

Delaware Department of Natural Resources & Environmental Control
Division of Air and Waste Management
Site Investigation and Restoration Branch

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1.0 INTRODUCTION

The Bayshore Car and Truck Rental Site (site) is located at 1872 Pulaski Highway in Bear, New Castle County, Delaware (Figure 1). In order to determine the potential for environmental liability, the owner, LSMS3, LLC, entered into a Department of Natural Resources and Environmental Control (DNREC) Voluntary Cleanup Program (VCP) Agreement under the provisions of the Delaware Hazardous Substance Cleanup Act, 7 Del. C. Chapter 91 (HSCA). Through a VCP Agreement, LSMS3, agreed to investigate the potential risks the site posed to the public health, welfare and the environment. LSMS3, LLC contracted Clean Tech to perform a remedial investigation (RI) of the site. Clean Tech performed the sampling and initial report writing; however, DNREC completed the report and risk assessment section for LSMS3.

The purpose of the RI was to: 1) understand the nature and extent of any soil and/or groundwater contamination at the site, 2) evaluate risks to public health, welfare and the environment associated with any identified contamination, and 3) perform, if necessary, a feasibility study (FS) that would identify and recommend a remedial action, if required by DNREC. LSMS3, desired to obtain a certification of completion of remedy (COCR) from DNREC upon completion of all required tasks.

This document is the DNREC's final plan of remedial action (final plan) for the site. It is based on the results of the previous investigations performed at the site. This final plan is issued under the provisions of the HSCA and the Regulations Governing Hazardous Substance Cleanup (Regulations). It presents DNREC's assessment of the potential health and environmental risks posed by the site.

As described in Section 12 of the Regulations, DNREC provided notice to the public and an opportunity for the public to comment on the proposed plan of remedial action (proposed plan). No comments were received. Therefore, the proposed plan has been adopted as the final plan. All previous investigations of the site, the proposed plan, any comments received from the public, DNREC's responses to those comments, and the final plan constitute the remedial decision record for the site.

Section 2.0 presents a summary of the site description and history. Section 3.0 provides a description of the remedial investigation results. Section 4.0 presents a discussion of the remedial action objectives. Section 5.0 presents the final plan. Section 6.0 presents the Director's declaration.

2.0 SITE DESCRIPTION AND HISTORY

Bayshore Ford Truck Sales, Inc. (Bayshore Ford) currently operates a business of car and truck repair, washing, rental and leasing at the site located at 1872 Pulaski Highway, Bear, New Castle County, Delaware, and is described on the tax maps of New Castle County as Tax Parcel #11-023.00-032. The site encompasses 4.75 acres and is bounded generally by wooded areas to the south and west, Pulaski Highway to the north and a used furniture store to the east. At the present time, the site encompasses a single-story 6,000 square foot

building, paved parking areas, graded graveled areas, with few grassy areas, and a small wooded area.

2.1 Site and Project History

The site is located within a commercial area on Pulaski Highway in Bear, Delaware and is zoned industrial. The site was purchased by Jon M. Walther in 1907 and was farmed by him until the sale of the property in 1927. The site continued to be farmed by various owners until 1969, when Robert and Donna Folk purchased the site. It is believed that the Folks established a trucking company on the site. In 1985, George Transfer, Inc. purchased the property from the Folks and continued to operate a trucking company. In 1987, Parkton Realty, Inc. purchased the property from George Transfer, Inc. Finally, in 1990, Gerald and Sandra Turnauer purchased the property. From 1990 to the present, Bayshore Ford has operated a business of car and truck repair, washing, rental and leasing.

3.0 INVESTIGATION RESULTS

A number of environmental investigations have been carried out at the site and are summarized below.

3.1 Phase II Environmental Assessment; Duffield Associates; 1990.

A Phase II Environmental Site Assessment (Phase II) was completed for George Transfer, Inc. by Duffield Associates, Inc., in February 1990. Additional investigation activities, including water sampling and test pit excavations, were performed in March 1990. Five underground storage tanks (USTs) were identified (two-1,000 gallon fuel oil tanks, two-3,000 gallon steel diesel fuel tanks and one-10,000 gallon fiberglass diesel tank). All of the tanks passed the tightness test as performed by Hunter Environmental Services, Inc. on January 11, 1990. Stained soils were found surrounding these tanks and samples were subsequently collected and analyzed. Soil contamination did not extend more than a few feet below ground surface and was attributed to overfilling and other product handling practices. Groundwater samples collected from test pits near the former diesel tanks contained total petroleum hydrocarbons (TPH) and the following volatile organic compounds (VOCs): acetone, methylene chloride, carbon disulfide, 2-butanone, and toluene.

3.2 Remedial Work Exit Report; Duffield Associates; 1990

The Remedial Work Exit Report completed by Duffield Associates, dated December 1990, details the removal of the contaminated soils, two-3,000 gallon steel diesel fuel USTs, a fuel dispensing pump, and associated tank piping. The USTs were located above a stiff silt layer that appeared to act as a confining layer. Excavations were limited in order to not compromise this layer. All of the excavations were over-excavated until contamination was below the DNREC-UST TPH action level of 1,000 parts per million (ppm). A total of 15 dump truck loads of contaminated soil were transported to the Delaware Solid Waste Authority Facility, located in Sandtown, Kent County, Delaware. Clean borrow material was

used to backfill the excavations. The 10,000 gallon diesel UST was deactivated in 1991 and later removed. The DNREC-UST Branch sent out a No Further Action letter in May 1993 for the 3 diesel tanks.

3.3 Phase I Environmental Site Assessment; Dames and Moore; 1998

On October 14, 1998, Dames and Moore conducted a Phase I Environmental Site Assessment (Phase I). The assessment consisted of visual observations of site features and conditions during a site visit, review of information on historical site usage and facilities, and information supplied by individuals, public agencies and other sources. The Phase I identified the following potential environmental issues:

- The former floor drains in two of the bays were probably tied into the septic system, which has a drain field on the eastern edge of the property. Any possible spills in these bays would have been directed there.
- The data from the 1990 investigation and remediation performed by Duffield suggested that contamination from the former diesel USTs had likely impacted the shallow perched groundwater onsite; however, a silt layer found that appears to be continuous beneath the site was observed to be acting as a barrier to downward groundwater migration. Removal of the impacted soils in the vicinity of the former tank locations removed the source of the contaminant compounds.

3.4 Phase II Environmental Site Assessment; Dames and Moore; 1999

On April 7, 1999, Dames and Moore conducted a Phase II assessment at the site. The assessment consisted of collecting eight (8) soil samples using GeoProbe[®] soil borings and five (5) shallow groundwater samples from select boring locations. The Phase II identified the following:

- All soil samples were below the DNREC Uniform Risk-Based Standards (URS) values for restricted use.
- Groundwater exceeded the URS values for groundwater for vinyl chloride at one of the boring locations (SS-3). See the attached Table 1 of sampling results and Figure 1 of boring locations.

DNREC conducted an extensive review of past investigations prepared for the site. After review of the work conducted, DNREC worked with Clean Tech, the consultant for LSMS3 to develop a RI Work Plan to address the following:

- Determine the presence or absence of soil and groundwater contamination, and, if present, determine if the contaminated media pose any unacceptable risks to human health or the environment.

The RI Work Plan called for Clean Tech to perform the following tasks:

- Install eight (8) soil borings and collect both shallow and deep samples at each boring location.
- Collect five (5) groundwater samples from the temporary GeoProbe[®] wells.
- Determine the nature and extent of contamination at the site and evaluate the impact of contamination.
- Based on the analytical results, determine the need for remedial action.

The following is a brief summary of the results of the RI completed for the site:

3.5 *Soils*

Clean Tech performed sampling for the RI on December 15, 1999. Shallow and deep soil samples were collected from 8 soil boring locations at the site (Figure 2). Including duplicate and Quality Assurance/Quality Control (QA/QC) samples, a total of 20 soil samples were collected across the site. All soil samples were field screened in the DNREC mobile laboratory. Based upon field screening results, select samples were sent to the STL-Baltimore laboratory for confirmatory analysis. The soil data packages were validated by DNREC.

All soil analytical results were compared to the DNREC Uniform Risk-based Standards (URS) values for restricted use in a non-critical water resource area. Based upon the results, sample SB-8A exceeded the DNREC URS value for restricted use for benzo(a)pyrene. No other soil samples exceeded the DNREC URS value for restricted use for Target Analyte List (TAL) inorganics, Total Compound List (TCL) volatile organic compounds (VOCs), TCL semi-volatile organic compounds (SVOCs), TCL pesticides, or TCL polychlorinated biphenyls (PCBs). Please refer to the attached Table 2 for all results.

3.6 *Groundwater*

A total of six (6) groundwater samples were collected from (5) soil boring locations at the site (Figure 3 and 4). All groundwater samples, including QA/QC samples were submitted to STL-Baltimore for analysis. Data validation was completed by DNREC.

The consultant did not collect filtered metal samples at the site; therefore, all TAL metal samples represent “total metals.” The analytical results indicate that all of the samples contained iron and manganese concentrations above the DNREC URS values for groundwater. Samples SB-1, SB-2, SB-3 and SB-8 contained aluminum, iron and manganese concentrations above the DNREC URS values for groundwater. Sample SB-4 contained aluminum, beryllium, chromium, iron, lead, manganese and vanadium concentrations above the DNREC URS values for groundwater. Please refer to Table 3 for all results.

Sample location SB-4 was collected from a soil boring that went through an old buried railroad tie. As a result, all detected analytes in the groundwater, specifically metals, since

filtered metals were not collected, were biased high at sample location SB-4. Additionally, beryllium, chromium, lead and vanadium were detected in SB-4 but were not detected in the down gradient samples.

None of the groundwater samples exceeded the DNREC URS values for groundwater for TCL SVOCs, TCL VOCs, TCL pesticides, or TCL PCBs.

3.7 Summary

The result of the investigation indicated that the site contains benzo(a)pyrene in exceedance of the DNREC URS for restricted use in soil sample SB-8A. In addition, several TAL inorganics exceeded the DNREC URS values for groundwater.

4.0 REMEDIAL ACTION OBJECTIVES

According to Section 8.4(1) of the Regulations, site-specific remedial action objectives (RAOs) must be established for all plans of remedial action. The Regulations provide that DNREC will set objectives for land use, resource use, and cleanup levels that are protective of human health and the environment.

Qualitative objectives describe, in general terms, what the ultimate result of the remedial action, if necessary, should be. The following qualitative objectives are determined to be appropriate for the site:

- Prevent human exposure to soils and groundwater contaminated by SVOCs and inorganics that would result in a carcinogenic risk exceeding 1×10^{-5} .

These objectives are consistent with the current use of the site as a car and truck rental facility, New Castle County zoning policies, state regulations governing water supply, and worker health and safety.

Quantitative objectives define specific levels of remedial action to achieve protection of human health and the environment. Based on the above qualitative objectives, the quantitative objectives will be to ensure that future site users such as site workers, construction workers, visitors, and trespassers do not come in contact with soils that contain contaminants which exceed 1×10^{-5} .

The results of the investigations indicated that the site contains benzo(a)pyrene in exceedance of the DNREC URS for restricted use in soil sample SB-8A. For the purposes of the human health risk evaluation, the 5 SVOCs detected in the surface soil benzo(a)pyrene, benzo(b)fluoranthene, benzo(a)anthracene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene that exceeded the DNREC URS values for unrestricted use were selected for comparison. The calculations were conducted using the DNREC Site-Specific Calculator for Multiple Analytes (DNREC May 2000 version). The 95% upper confidence level (UCL) of these compounds were entered into the DNREC Site Specific Risk Calculator. The results revealed a cancer risk of 1.54×10^{-5} , which exceeds the HSCA action level for unrestricted use of 1×10^{-5} . However, the planned future use of the site consists of continuing the car and

truck rental operation in a commercial/industrial setting. The completed exposure pathway consisted of incidental soil ingestion, dermal contact, and inhalation of contaminated soils by construction workers. When compared to the DNREC URS values for restricted use, benzo(a)pyrene was the only SVOC which exceeded the URS value. The 95% UCL of benzo(a)pyrene was entered into the DNREC Site Specific Calculator and revealed a cancer risk of 9.82×10^{-7} , which is less than the HSCA action level of 1×10^{-5} . Therefore, the onsite soils do not pose an unacceptable risk to human health in a restricted use setting.

Several TAL inorganics exceeded the DNREC URS values for groundwater. Additionally, when evaluating the potential risk from groundwater at the site, the median, rather than the 95% UCL, is a more accurate representation of the site conditions. The decision to use the median rather than the 95% UCL was made due to the small sample size (less than 10 samples) and the fact that the data is not normally or lognormally distributed. Data must be either normally or lognormally distributed in order to calculate the 95% UCL. Sample location SB-4 was collected from a soil boring that went through an old buried railroad tie. As a result, all detected analytes in the groundwater, specifically metals since filtered metals were not collected, were biased high at sample location SB-4. Additionally, beryllium, chromium, lead and vanadium were detected in SB-4 but were not detected in the downgradient samples. Sample SB-4 is an anomaly and is not indicative of representative site conditions and should be treated as an outlier. Therefore, it is appropriate to use the sample median when an outlier is present in a given data set.

When the sample median is compared to the URS values for each analyte, the only analytes that exceed the URS value for groundwater are aluminum, iron and manganese. Aluminum, iron and manganese are naturally occurring elements in Delaware's groundwater. Additionally, aluminum, iron and manganese URS values found in DNREC's remediation standards guidance documents are based on National Secondary Drinking Water Regulations (NSDWR). NSDWRs are non-enforceable guidelines regulating contaminants that may cause cosmetic effects (such as skin or tooth discoloration) or aesthetic effects (such as taste, odor, or color) in drinking water, and do not pose a human health risk. Therefore, the groundwater at the Bayshore Car and Truck Rental site does not pose a risk to human health.

5.0 FINAL PLAN OF REMEDIAL ACTION

Based on DNREC's evaluation of the site information and the above remedial action objectives, the recommended action for the site will include the following:

- Placement of a deed restriction on the site: a) limiting the site to non-residential uses; and b) prohibiting any land disturbing activities on the property without the prior written approval of DNREC.

The Department actively solicited public comments and suggestions on the proposed plan of remedial action. No comments were received. The comment period began on Monday, September 23, 2002, and ended at the close of business (4:30 p.m.) Tuesday, October 15, 2002.

6.0 DECLARATION

This final plan of remedial action for the Bayshore Car and Truck Rental Site is protective of human health, welfare and the environment, and is consistent with the requirements of the Delaware Hazardous Substance Cleanup Act.

John Blevins
Director, Division of Air and Waste

Date

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Figure 1: PREVIOUS SAMPLING LOCATIONS

Figure 2: LOCATIONS OF SOIL BORINGS

Figure 3: LOCATION OF TEMPORARY MONITORING WELLS

Figure 4: POTENTIOMETRIC SURFACE MAP

Table 1: RESULTS FROM DAMES AND MOORE INVESTIGATION APRIL 1999

Table 2: DETECTED COMPOUNDS IN SOIL

Table 3: DETECTED COMPOUNDS IN GROUNDWATER