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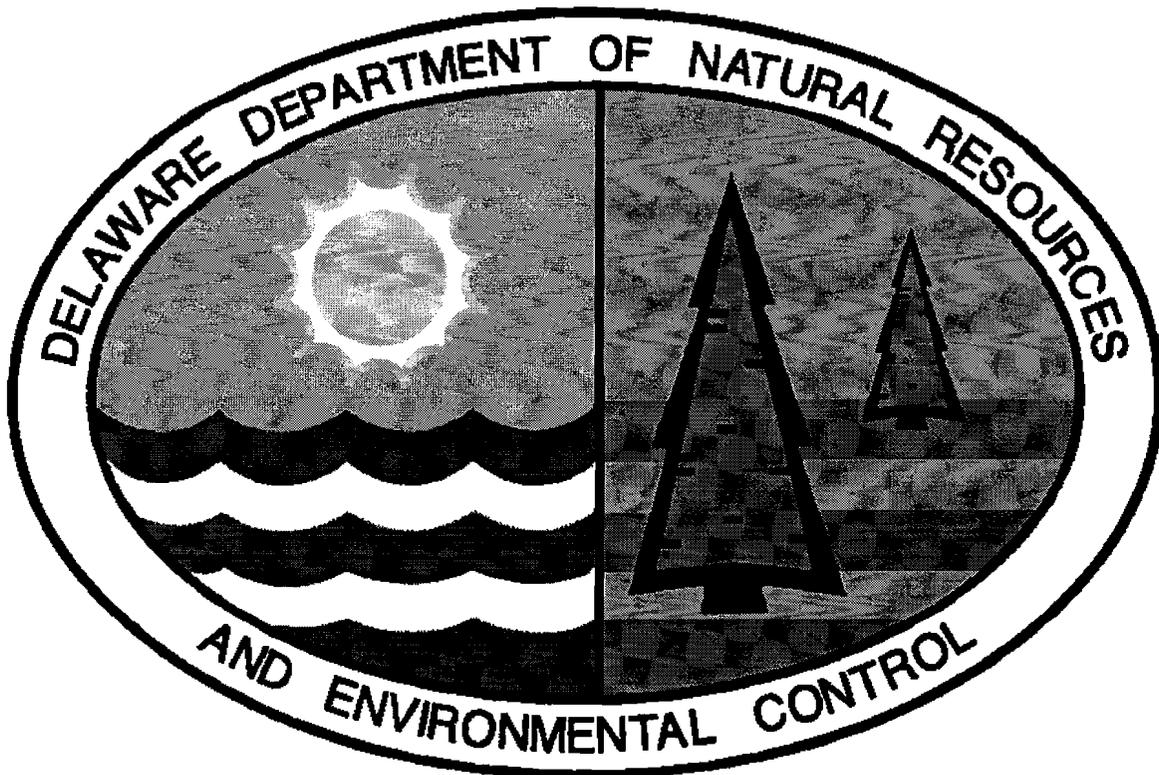
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BLACKWELL & SONS PROPERTY

PROPOSED PLAN OF REMEDIAL ACTION



JULY, 1996

**Department of Natural Resources and
Environmental Control
Site Investigation & Restoration Branch**

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BLACKWELL AND SONS PROPERTY PROPOSED PLAN OF REMEDIAL ACTION

1. INTRODUCTION

In July, 1996, the Department of Natural Resources and Environmental Control (“DNREC” or “Department”) under the authority granted by the Hazardous Substance Cleanup Act (7 Del. C., Ch. 91) reached an agreement with the Stephen Horgan, Movable Feasts, Inc., (the voluntary party) to perform a review of a Phase I Environmental Site Assessment and Limited Phase II Investigation performed at the Blackwell and Son, Inc. property, located at 2510 West 5th Street, Wilmington, Delaware. (see Figures 1 and 2).

The Limited Phase II was conducted consistent with the Delaware Regulations Governing Hazardous Substance Cleanup (“HSCA”), Delaware Standard Operating Procedures (“SOP”) for Chemical Analytical Program (“CAP”), the Guidance Document and other Departmental policies or procedures.

The overall purpose of the Limited Phase II Investigation was determine the nature and extent of surface contamination at the site, evaluate risks to the public and environment associated with identified contamination, and recommend a remedial action, if required, that will be protective of public health and the environment.

This document is the Department’s Proposed Plan of Remedial Action for the Blackwell and Sons, Inc. property. It is based upon the results of Limited Phase II Investigation of the property. This Proposed Plan is issued under provisions of the HSCA and the Regulations Governing Hazardous Substance Cleanup (“Regulations”). It presents the Department’s assessment of the potential unacceptable health and environmental risks posed by the Blackwell and Sons, Inc. property and plans for further action.

The Proposed Plan of Remedial Action also includes a comparison of the remedial alternatives with respect to the following criteria: protection of public health; welfare; and the environment; compliance with applicable laws and regulations;

The Department will provide public notice and opportunity to comment on the Proposed Plan in accordance with Section 12 of the Regulations. At the conclusion of the comment period, the Department, after review and consideration of the comments received, shall issue a final plan of remedial action which shall designate the selected remedial action. The Proposed Plan, the comments received from the public, responses to the comments, the Final Plan, and the basis for the proposed and final plans will constitute the “Remedial Decision Record”.

2. SITE DESCRIPTION AND OPERATIONAL HISTORY

The Blackwell and Sons, Inc. property consists of a 0.5± acre parcel containing two buildings and an open garage/shed. The property is presently zoned commercial (M-1). The property was maintained as the warehouses and offices of Blackwell and Sons, Inc. a painting operation.

Prior to the purchase of the property by Blackwell and Sons, Inc. in 1949, the property was briefly owned by a coal yard. Historic directories show that Ayers Coal Co. owned the property from 1946-1947. It appears through the historic record that the main historic use of the property has been as a painting business warehouse and office.

3. PHASE I AND PHASE II INVESTIGATION

WIK Associates, Inc. (WIK) was retained by Mr. Stephen Horgan of Movable Feast, Inc. to perform a Phase I Environmental Site Assessment and Limited Phase II Investigation of the Blackwell and Sons, Inc. property, in order to evaluate the environmental issues prior to his purchase of the property.

The Phase I Investigation was conducted during March of 1996, and the Limited Phase II Investigation was completed on April 26, 1996 and during the periods of May and June, 1996. The investigation was conducted for the following purposes:

- To identify any potential environmental liabilities associated with the property;
- To evaluate whether remedial measures are necessary at the site;
- Based on the results of the investigation, to provide recommendations for preventative measures or restrictions regarding future use of the site.

WIK performed the following scope of work during the Limited Phase II Investigation:

- Collected one sludge sample from the floor drain in the warehouse and analyzed it for volatile organic compounds (VOCs) and the eight RCRA metals;
- Collected one soil sample at a depth of 3 feet below grade in the vicinity of the sanitary sewer and analyzed it for VOCs and eight RCRA metals;

- Collected one surficial soil sample from the drum storage area and analyzed it for total petroleum hydrocarbons (TPH), VOCs and semi-volatile organic compounds (SVOCs);
- Collected one composite soil sample from across the back of the property and analyze for TPH, SVOCs, and eight RCRA metals.

The locations of soil samples retrieved from the Blackwell and Sons, Inc. property are depicted in Figure 3.

Table 1 lists the sample locations and parameter analyzed.

Based on the soil investigation at the Blackwell and Son, Inc. property, the following has been determined.

- The sludge present in the floor drain exceeds reporting levels in accordance with the Interim Guidance on Screening Levels for Hazardous Substances Discovered During Site Assessments under the Delaware Hazardous Substance Cleanup Act (“Guidance”) for Ethylbenzene, Methylene Chloride, Toulene and total Xylenes;
- Barium was detected above reporting levels, in accordance with the Guidance, in the subsurface soil collected near the sanitary sewer line;
- Benzo(a)pyrene was detected above reporting levels, in accordance with the Guidance, in the two surficial soil samples collected from the property boundary.

3.1. SELECTION OF CONTAMINANTS OF CONCERN

In the previous section, all of the analytical results are compared to the reporting levels in accordance with the Guidance for both subsurface soil and surface soil and Region III Risk Based Concentration Tables. Chemicals exceeding the applicable criteria (EPA RBCs for industrial surface soil and HSCA soil screening levels for surface and subsurface soil) are Ethylbenzene, Methylene Chloride, Toulene, Total Xylenes, Barium and Benzo(a)pyrene. Benzo(a)pyrene was present in both surface soil samples at the site. Therefore, Benzo(a)pyrene was selected as the contaminant of concern at the Blackwell and Sons, Inc. property.

4. CHEMICAL FATE AND TRANSPORT

4.1. *PHYSICAL AND CHEMICAL PROPERTIES*

The chemical of concern for the Blackwell and Sons, Inc. property was Benzo(a)pyrene (a PAH). The PAHs are composed of fused benzene ring structures and are commonly found in fuels, tars and asphalt. The physical and chemical properties vary with the size and weight of the molecules. The PAHs found at the site tend to be relatively insoluble and immobile, indicating that transport to groundwater is highly unlikely. These compounds biodegrade very slowly.

5. REMEDIAL ACTION OBJECTIVES

According to Section 8.4(1), of the Regulations, during a remedial investigation, remedial action objectives must be established. For the Blackwell and Son, Inc. property, remedial action objectives were established based on the following factors:

- The future site use is commercial
- The site is in close proximity to human populations
- Surrounding land uses are mixed, including commercial and residential

Based on the above factors, the following qualitative remedial action objectives were developed:

- Prevent human contact (dermal, ingestion and inhalation) with contaminated soil

5.1. *QUANTITATIVE REMEDIAL ACTION OBJECTIVES*

Quantitative Objectives: Based on the qualitative objectives, quantitative objectives are developed that define specific levels of remedial action to achieve protection of public health, welfare, and the environment. The final quantitative remedial action objectives are established based upon the following criteria:

- a) Current and/or proposed uses selected for areas affected by the release or imminent threat of release of hazardous substances;
- b) Any applicable local, state and federal laws and regulations;
- c) Facility specific risk assessment; and
- d) Potential risk to public health, welfare, or the environment.

Soil cleanup levels and the depth to which the cleanup levels apply, are based on estimates of facility use and reasonable maximum exposure expected to occur under both current and future facility use conditions or reasonable levels determined by the Department to abate the threat to public health, welfare and the environment. According to Section 9.4(2)(b), of the regulations, soil cleanup levels are established as follows:

“When the natural background level is less than the 10E-06 cancer risk level or a level corresponding to hazard index value of one, for direct exposure or inadvertent ingestion, then the 10E-6 cancer risk level or a level corresponding to a hazard index value equal to one becomes the cleanup level”.

Based upon the analytical results from soil testing at the Blackwell and Son, Inc. property during the Limited Phase II Investigation, Benzo(a)pyrene is the chemical of concern. This chemical exceeds the risk based thresholds for adequate protection to human health. The Department has determined that remediation of soils in exceedence of risk based levels is appropriate for the Blackwell and Son, Inc. property. Accordingly, the quantitative remedial action objectives for the remediation of soils at the site have been established at the commercial/industrial risk based levels for and Benzo(a)pyrene.

These levels are:

<i>Constituent</i>	<i>Quantitative Remedial Action Objectives</i>
Benzo(a)pyrene	.78 mg/Kg

The quantitative remedial action objectives have been established based upon a commercial/industrial land use.

6. POTENTIAL REMEDIAL ALTERNATIVES

To accomplish the above remedial objectives, three remedial alternatives were reviewed: removal of all contaminated materials, capping the site, and no further action. These alternatives are discussed below.

Removal would involve scraping the upper three to four feet of the site and transporting the material to an appropriate disposal facility. Samples would then be collected at the site to ensure that all of the contaminated soil had been removed. If all of the contaminated soil had not been removed, another round of scraping and sampling would be implemented. Upon completion of removal, clean fill would be brought in to bring the site back to grade.

Capping would involve the installation of a maintained asphalt cap. This option would be consistent with the anticipated further use of the site.

No further action would leave the site in its current conditions. The contaminated soil would be left exposed at the surface with no remedial action conducted at the site.

6.1. *EVALUATION OF REMEDIAL ALTERNATIVES*

Based upon the criteria outlined in Section 6.0, the potential remedial alternatives discussed in Subsection 6.1 were evaluated to determine the most appropriate remedy for the Blackwell and Son, Inc. site.

Protection of public health, welfare and environment - Both the capping and removal options are protective of public health, welfare and the environment. The no action alternative does not offer these protections.

Compliance with all applicable local, state and federal laws - Both the capping and removal options comply with all applicable local, state and federal laws. The no action alternative is not.

Community acceptance - Both the capping and removal options are probably acceptable to the community. The “no action” alternative may not be acceptable.

Monitoring required - The removal option does not require any additional monitoring. The capping alternative would require some long term maintenance of the asphalt, although no more than any other developed property. The “no action” alternative would require subsequent sampling to determine if any of the concentration of contaminants of concern were decreasing with time.

Use of a permanent remedy - The removal option is essentially a permanent remedy. It is not, however, practicable (see below) and therefore does not pass this test. The capping alternative, although not permanent, does eliminate the threat of direct contact. The “no action” alternative is not permanent and does not eliminate the threat.

Technical practicability - All three options are technically feasible. However, the removal option is not technically practicable because of the high cost for a minimal improvement in protectiveness offered for a site where the future use will be nonresidential (see HSCA Regulation 8.5 (3)(b)(vi)(B)).

Restoration time frame - The removal option will require the longest time to implement. The capping alternative is already being designed and will be the most timely solution. The no action alternative is the longest term solution.

Reduction in toxicity, mobility and volume - Both the capping and removal options are protective of public health, welfare and the environment. The no action alternative does not offer these protections.

Long term effectiveness - Both the capping and removal options are effective in long term in protecting public health, welfare and the environment. The no action alternative does not offer these protections.

Short term effectiveness - Both the capping and removal options are effective in short term in protecting public health, welfare and the environment. The no action alternative does not offer these protections.

6.2. SELECTION OF A REMEDIAL OPTION

Based on evaluation criteria in the HSCA regulations (see Table 9), removal and no further action are not viable options. The most appropriate remedial alternative is capping the site, placing a restriction on the deed of the property limiting its use to nonresidential purposes, and clearing the sludge out of the drain and the pipe which leads to the sanitary sewer. If the future use of the property should change to residential, the remedy may no longer be protective and appropriate remedy should be considered at that time. Capping will provide a cost effective means of meeting all remedial objectives while satisfying a majority of the evaluation criteria. In addition to capping the site, DNREC will require three further actions, removal of the sludge from the drain pipe which leads to the sanitary sewer, the placing of a commercial deed restriction, and instituting an appropriate Operational & Maintenance Plan for the remedy. The commercial deed restriction will be placed on the property to ensure that no residential construction occurs on the site in the future.

7. PUBLIC PARTICIPATION

The Department actively solicits public comments or suggestions on the Proposed Plan and welcomes opportunities to answer questions. Please direct written comments to:

DNREC Site Investigation & Restoration Branch
ATTN: Karl F. Kalbacher
715 Grantham Lane
New Castle, DE 19720

or call (302) 323-4540. The public comment period begins on August 3, 1996 and closes on August 23, 1996. Requests for a public meeting must be received by the close of business at 4:30 pm. on August 23, 1996. Requests should be addressed to Ann Breslin, DNREC, Site Investigation & Restoration Branch, located at 715 Grantham Lane, New Castle, Delaware.

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