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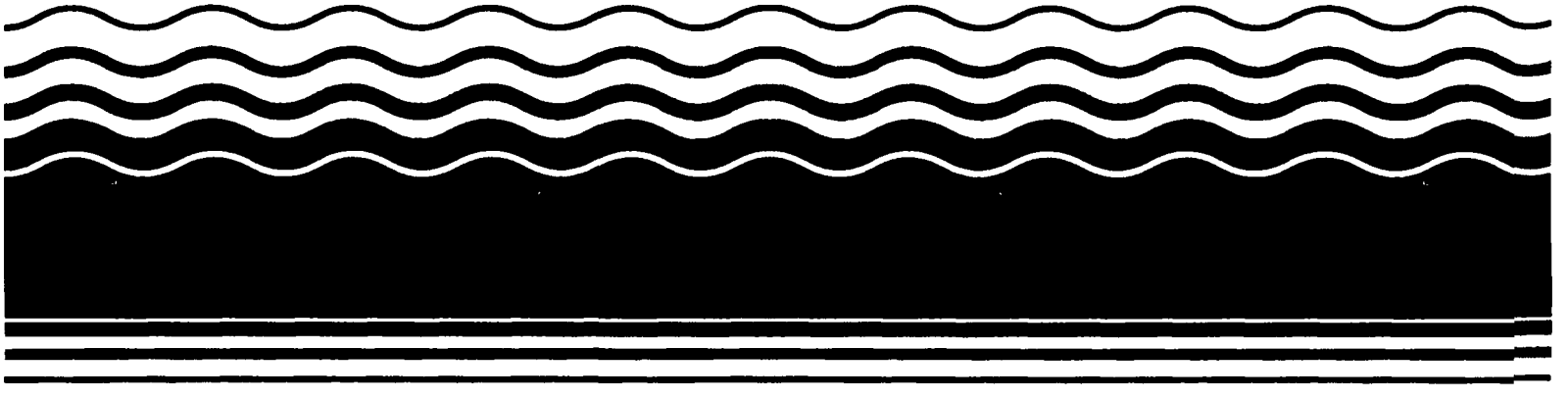
May 1996

EPA Superfund Record of Decision:

King of Prussia Technical Corporation, Camden County, Winslow Township, NJ 9/27/95



SEP 27

Issuance of a Record of Decision for a No Further Action Remedy for Residually Contaminated Soils at the King of Prussia Superfund Site

Kathleen C. Callahan, Director
Emergency & Remedial Response Division

Jeanne M. Fox,
Regional Administrator

Attached for your review and concurrence, please find a Record of Decision (ROD) for the King of Prussia Site's second operable unit (OU2). The OU2 remedy is intended to address residually contaminated soils around a Former Buried Drum Area on the Site. This area was the source of volatile organic chemical contamination of the ground water underlying the site. The buried drums were removed from the area in 1991. In late 1992 the soil in the Former Buried Drum Area was analyzed and in 1993 the EPA completed an assessment of the human health risks from the soil. During the risk assessment the EPA also derived cleanup goals for the soil.

In 1993 the PRPs requested permission from the EPA to excavate and remove soil in the Former Buried Drum Area that posed a human health risk. The EPA issued an Action Memorandum for this work and directed the PRP Group to complete the work under the terms of the unilateral order. In early 1994 the PRPs completed the removal of all soil not meeting EPA's cleanup goal.

All soil in the Former Buried Drum Area that contained contamination above the EPA-approved risk-based cleanup level, have been excavated and removed from the Site. The area has been regraded and revegetated. The Former Buried Drum Area no longer poses an unacceptable risk to human health or the environment and it will no longer act as a source of contamination to the underlying ground water. EPA's decision is that no further action be taken to remediate soils in the Former Buried Drum Area.

This decision is the same as the one proposed in the Proposed Plan, which EPA submitted to the public in August 1995. The public comment period for the Proposed Plan ended on September 14, 1995. EPA did not receive any written comments during the public comment period. A public meeting was held on August 23, 1995. Comments received during the public meeting period are addressed in the attached Responsiveness Summary.

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SYMBOL --->	SNJSII	SNJSII	NJSBII	ORC-NSFB	DD-NJP	ERRD	DRA	RA
SURNAME -->	GORIN	O'CONNELL	BASSO	MCVEIGH	FRISCO	CALLAHAN	MUSZYNSKI	FOX
DATE --->	9/25/95	9/27/95	9/27/95	9/27/95	9/27	9/27		

DECISION DECLARATION

RECORD OF DECISION

King of Prussia Technical Corporation

SITE NAME AND LOCATION

King of Prussia Technical Corporation
Winslow Township, Camden County, New Jersey

STATEMENT OF BASIS AND PURPOSE

This Record of Decision presents the selected remedial action for the King of Prussia Site in Winslow Township, New Jersey. The remedy was selected in accordance with the requirements of the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended (CERCLA), and to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP).

The New Jersey Department of Environmental Protection concurs with the selected remedy. The information supporting this decision is contained in the administrative record for the site.

DESCRIPTION OF THE SELECTED REMEDY

The response action described in this document represents the second operable unit for the King of Prussia site. It addresses residually-contaminated soils associated with a buried drum area at the site. The Environmental Protection Agency (EPA) has determined that no further action is necessary with regard to the subject soils.

A previous Record of Decision, signed on September 28, 1990, addressed the remediation of contaminated soils, sediments and sludges on the site and contaminated ground water in the underlying aquifer. The remedy selected at that time also included the removal of tankers and buried drums on the site.

EPA removed the tankers and buried drums in 1991. Subsequently, a group of potentially responsible parties has completed all the remaining construction activities comprising the initial remedy for the site. Treatment of the contaminated ground water is ongoing. In addition, in February 1994, the responsible parties completed the excavation and disposal of the contaminated soils surrounding the former buried drum area exceeding the risk-based cleanup goals established by EPA. Consequently, no further action in connection with these soils is necessary.

DECLARATION OF STATUTORY DETERMINATIONS

In accordance with the requirements of CERCLA and the NCP, I have determined that no further remedial action is necessary to protect human health and the environment involving the second operable unit at the King of Prussia site. The response action completed by the responsible parties in 1994 effectively removed all contaminated soils above the cleanup goals established by EPA.

Because the soils associated with the buried drum area no longer contain hazardous substances above health-based levels, the five year review puruant to CERCLA and the NCP does not apply to this decision.

William J. Muszynski

Jeanne M. Fox
Regional Administrator

9/27/95
Date

DECISION SUMMARY

KING OF PRUSSIA TECHNICAL CORPORATION SITE

INTRODUCTION

This Record of Decision presents the no further action remedy for Operable Unit 2 (OU2) at the King of Prussia Site located in Winslow Township, Camden County, New Jersey. The site was added to the National Priorities List (NPL) by the Environmental Protection Agency (EPA) in 1985. On September 28, 1990, following the completion of a Remedial Investigation and Feasibility Study (RI/FS), EPA issued a Record of Decision (ROD) for Operable Unit 1 (OU1) of the King of Prussia Site.

This OU2 ROD was developed in accordance with the requirements of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, as amended, and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) of 1990. This decision document serves to explain the factual and legal basis for selecting the no further action remedy for the site.

Information supporting the no further action remedy is contained in the administrative record for the site. This ROD contains a Decision Declaration, Decision Summary, and a Responsiveness Summary.

SITE DESCRIPTION

Site Characteristics:

The King of Prussia site is located on Piney Hollow Road on tax block 8801, lot 1A in Winslow Township, Camden County, New Jersey (Figure 1). The ten-acre site is in a rural area approximately 30 miles southeast of Philadelphia, Pennsylvania.

The land to the northeast, northwest and southwest of the site is within a dense pine forest of the state-owned, 6,000-acre Winslow Wildlife Management area (Figure 2) and is primarily used for recreational purposes. The site is also within the New Jersey Pinelands National Reserve, which encompasses portions of six counties in southern New Jersey.

The nearest residence is a single family home approximately one mile northeast of the site. Piney Hollow Road borders the site to the southeast and an unnamed fire road is located 200 to 500 feet southwest. The Atlantic City Expressway and U.S. Route 322 (Black Horse Pike) are located 2 miles northeast and southwest of the site, respectively.

Two groundwater aquifers have been identified at the site. These aquifers are part of the Kirkwood-Cohansey Aquifer System. The upper aquifer ranges from 15 feet to approximately 35 feet below the ground surface. The lower aquifer ranges from 50 feet to approximately 250 feet below the surface. The ground water flows towards the southwest at a rate of one foot per day in the upper aquifer and 0.4 feet per day in the lower aquifer. The high porosity and permeability of the soils in the area result in rapid infiltration of precipitation to the underlying aquifer.

The nearest body of surface water is the Great Egg Harbor River, approximately 1,000 feet southwest of the site (Figure 2). The river is used for recreational purposes and has been nationally designated as a Wild and Scenic River. A natural land depression, known as a swale, once directed runoff from the site lagoons towards the Great Egg Harbor River.

The nearest residential potable well is approximately one mile northeast and upgradient of the site. There are additional wells which do not serve as potable water supplies, within a half-mile radius of the site. These wells are located at a Johnson Matthey Inc. facility, located just across Piney Hollow Road from the site, and the field office of the New Jersey Division of Fish, Game and Wildlife, located on the opposite side of the Great Egg Harbor River.

Although no historic or landmark sites are directly affected by the site, the area has a high potential for archeological resources in areas not disturbed by modern activity.

There are no endangered species within close proximity of the site, but the Great Egg Harbor River and wetlands habitats along the river support migratory species which could be impacted by site contaminants.

The site itself is relatively level, and rectangularly shaped. The area has been revegetated with upland trees, shrubbery and grasses. The swale has been revegetated with wetland species.

SITE HISTORY

Origin of the Problem

On July 1, 1970, the King of Prussia Technical (KOP) Corporation presented a proposal to the Winslow Township Committee for the KOP Corporation to purchase a tract of land owned by the township for the purpose of constructing a waste recycling facility. The proposal was subsequently approved by the township and operations at the site began by January 1971.

Six lagoons were used to process liquid industrial waste. The stated intention by the KOP Corporation was to convert these wastes to materials that could be marketed for construction purposes and other uses. However, the KOP Corporation was unable to market these materials and the site soon had more waste than it could process and sell. A minimum of 15 million gallons of acids and alkaline aqueous waste were processed at the facility when the KOP Corporation was the operator, with excess materials transported to other disposal locations.

The KOP Corporation filed for bankruptcy on April 8, 1974. Prior to declaring bankruptcy, KOP sold its hauling operation to Evor Phillips Incorporated which subsequently purchased the site property. It is believed that operations ceased and the site was abandoned in late 1973 to early 1974. In 1976, Winslow Township foreclosed on the property for failure of Evor Phillips to pay taxes, and the township resumed ownership of the property. The township is the current owner of the property. Illegal dumping of trash and hazardous materials was suspected to have occurred prior to installation of a fence by the Potentially Responsible Parties (PRPs) in 1988.

Remedial Actions and Initial Investigations by the EPA and the NJDEP

The New Jersey Department of Environmental Protection (NJDEP) was first notified of possible unauthorized activities at the site in January 1975. Subsequent site inspections by NJDEP and a ground-water study by Geraghty and Miller in 1976 indicated contamination of the soils and ground water at the site.

EPA confirmed the contamination with additional sampling and investigations during 1979, 1980 and 1982. In December 1985, the site was formally included on the NPL.

Investigations conducted by the PRPs with EPA oversight, were started in 1985, with the Remedial Investigation Report being approved in August 1989 and the Feasibility Study issued to the public in July 1990. EPA also conducted a Supplemental Feasibility Study which was released in August 1990.

EPA performed several removal actions at the Site, including: the excavation and recycling/disposal of 120 plastic containers, 159 tons of heavy metal contaminated soil and 150 gallons of acid (completed in September 1990); the excavation and off-site disposal of 200 rusted steel drums and 235 plastic carboys containing acids and organic liquids within the portion of the Site designated as the Buried Drum Area (now known as the Former Buried Drum Area) (completed in November 1991); and the disposal of two rusted steel tankers (completed in August 1991).

In 1993, a Focused Feasibility Study (FFS) was conducted by the PRPs, under EPA direction, to evaluate remedial alternatives for the Former Buried Drum Area. On March 11, 1993, EPA issued its evaluation of Human Health Risks posed by residually contaminated soils in the Former Buried Drum Area. In February 1994, the PRPs completed a removal action which consisted of the excavation and off-site disposal of residually contaminated soils in the Former Buried Drum Area to meet the health-based soil cleanup goals established by EPA in its March 1993 Risk Assessment.

SCOPE AND ROLE OF THE OPERABLE UNITS

Subsequent to the 1990 ROD, to facilitate remedial activities EPA divided the cleanup into three phases, or operable units (OUs).

Operable Unit One

The ROD for OU1 addresses remediation of contaminated ground water and metals-contaminated soils, sediments and sludges, as well as the removal of tankers and buried drums from the site. To date, EPA has removed the rusted tankers from the site and the drums from the Buried Drum Area (now known as the Former Buried Drum Area). On April 15, 1991, EPA issued an Administrative Order, Index No. II CERCLA 10106 (Order), directing a group of five PRPs (PRP Group) to complete the remedial activities described in the September 1990 ROD.

In June 1993, the PRP Group completed OU1 by treating approximately 19,200 tons of metals-contaminated soils and sludges in a soil washing system. The soil washing process removed contaminants from soil using particle size separation techniques. It has been shown that contaminants tend to bind to the fine particles contained in soil. By separating the fine particles from the sand fraction, the majority of contamination was removed. The sand was then washed using a washing solution to remove any residual contamination. The treated sand was backfilled on site, and revegetated following the EPA-approved Habitat Restoration Plan.

Operable Unit Two

A second operable unit (OU2), which is the subject of this ROD, was identified in the September 1990 ROD. The purpose of OU2 is to address the residually-contaminated soils associated with the Former Buried Drum Area.

During a 1991 removal action, EPA excavated and removed the drums from the Former Buried Drum Area. Since then, studies found that the residually-contaminated soils in the Former Buried Drum Area were a potential threat to future residents and also a threat to the ground water underlying the KOP Site. In the June 1993 Risk Assessment, EPA established a risk-based level of contaminants that would be protective of human health. In February 1994, the PRP Group completed excavation and disposal of all soils that had concentrations of contaminants exceeding this level. This removal action was authorized by EPA through a September 21, 1993 Action Memorandum.

As EPA's risk-based cleanup levels have been met, the Agency has selected a no further action remedy for the Former Buried Drum Area. This remedy complies with all federal and state requirements.

Operable Unit Three

Recently, the PRP Group completed construction of a groundwater extraction, treatment and reinjection system as described in the 1990 ROD. The groundwater treatment system consists of a recovery system with eleven recovery wells. The recovery wells are pumped to produce an influent flow of about 200 gallons per minute of ground water, or about 280,000 gallons per day. The water is pumped into an influent holding tank and then passed through electrochemical cells. Ferrous ions are released from iron plates within the cells, and through a chemical reaction, chromium, a contaminant of concern, is converted from its hexavalent state to its trivalent state. Trivalent chromium is both less toxic and easier to remove than hexavalent chromium.

The ground water then passes into a mixing tank were it is mixed with a polymer solution. Metal contaminants bind with the polymer and the polymer/metals mixture is settled out in a clarifier tank. The water is passed through a multi-media filter where any remaining particles are removed. The water is then pumped to two air strippers were the majority of the volatile organic compounds (VOCs) are removed. A carbon polishing unit is used to remove remaining VOCs.

After treatment, the ground water is sampled to ensure that the ROD limits are being met before being reinjected into the aquifer through the ten infiltration galleries along the river, and the five infiltration trenches near the groundwater treatment facility building. The reinjection scenario is designed so that the plume is contained, and contaminants cannot flow into the Great Egg Harbor River.

This system began treating contaminated ground water in early 1995. By August 1995 the treatment system had removed approximately 600 pounds of metals and 400 pounds of VOCs from the ground water. This remedial action will continue until the ground water meets the safe drinking water levels set forth in the September 1990 ROD.

COMMUNITY RELATIONS HISTORY

EPA and NJDEP rely on public comment and discussion to ensure that the concerns of the community are considered in selecting an effective remedy for each Superfund site. Towards this end, a description of the proposed No Further Action Remedy for OU2 was distributed to the public as a Proposed Plan. EPA sought comments during a 30-day public comment period which ended on September 14, 1995. In addition, on August 23, 1995, EPA held a public meeting in Winslow Township to discuss this No Further Action remedy and to answer questions from interested parties.

Comments received at the public meeting are addressed in the Responsiveness Summary Section of this ROD. It should be noted that no written comments were received during the public comment period.

SUMMARY OF THE FORMER BURIED DRUM AREA SOILS CHARACTERISTICS

The implementation of OU2 began with the analyses of soil within the Former Buried Drum Area. As stated above, during a 1991 removal action, buried drums and visibly contaminated soils were excavated and disposed of off-site by EPA. However, residual soil contamination remaining in the area needed to be characterized. The soil was sampled and analyzed by the PRP Group in 1992 in accordance with the December 5, 1991 KOP Remedial Design Workplan. Three soil samples from each of 21 borings were analyzed for VOCs, semivolatile organic compounds and metals. These borings were placed on an approximately 30-foot grid within the area of previous excavation (see Figure 3).

A compilation of the analytical data are contained in the July 1992 Analytical Quality Assurance Report for the Former Buried Drum Area Samples. Also, additional soil data are contained in the August 3, 1993 FFS Report.

Using the soil data, EPA performed a Risk Assessment to evaluate any risks that may be posed by the soils in the Former Buried Drum Area. The results of the Risk Assessment are summarized below.

SITE RISK SUMMARY

Risks Posed by Former Buried Drum Area Soils

An EPA study entitled "Assessment of the Human Health Risks Associated with Contaminated Soils at the Former Buried Drum Area of the King of Prussia Site (June 1, 1993)" evaluated the risks posed by the soils in the Former Buried Drum Area and determined an acceptable cleanup goal for those soils. During a three month period beginning in November 1993, soils around the Former Buried Drum Area at the site were excavated and disposed of off-site by the PRP Group, with EPA oversight, to meet the EPA-established risk-based cleanup goals. Consequently, the soils associated with the Former Buried Drum Area no longer pose an unacceptable risk to human health or the environment.

In the development of risk-based cleanup goals for the soils associated with the Former Buried Drum Area, EPA analyzed two exposure pathways, including soil ingestion and groundwater impacts. The risks posed by surface soils and subsurface soils were assessed separately. The risks once associated with the Former Buried Drum Area and the cleanup goals developed to remedy those risks are discussed below.

Surface Soils

The levels of contamination that were detected in the Former Buried Drum Area in 1992 are presented in Table 1. The only area in which positively identified compounds were detected in elevated concentrations in surface soils were at sample DB-3 (see Figure 3), which contained 14 parts per million (ppm) of tetrachloroethylene (PCE) in the zero to two foot range.

Subsurface Soils

Significantly higher concentrations of contaminants were detected in the subsurface soils of the Former Buried Drum Area. Sample DB-2 was the most highly contaminated, with 16,000 ppm PCE detected in the four to six foot range, and 2,600 ppm in the six to eight foot range. Xylenes, 1,2-dichlorobenzene, and 1,4-dichlorobenzene were also present in sample DB-2, with concentrations of 330 ppm, 240 ppm and 37 ppm in the four to six foot range, respectively. Concentrations of PCE, xylene and dichlorobenzenes all decreased in the six to eight foot range of sample DB-2. Sample DB-3 was similarly contaminated with PCE, xylene, and 1,2-dichlorobenzene, though concentrations were not as elevated as those seen in sample DB-2. Less significant levels of contamination were detected in samples DB-8 and DB-10.

Health Risk Assessment of Direct Contact with Surface Soils

Potential carcinogenic risks were evaluated using the cancer slope factors developed by EPA for the indicator compounds. Cancer slope factors (SFs) have been developed by EPA for estimating excess lifetime cancer risks associated with exposure to potentially carcinogenic chemicals. SFs, which are expressed in units of $(mg/kg\text{-}day)^{-1}$, are multiplied by the estimated intake of a potential carcinogen, in mg/kg-day, to generate an upper-bound estimate of the excess lifetime cancer risk associated with exposure to the compound at that intake level. The term "upper bound" reflects the conservative estimate of the risks calculated from the SF. Use of this approach makes the underestimation of the risk highly unlikely.

Noncarcinogenic risks were assessed using a hazard index (HI) approach, based on a comparison of expected contaminant intakes and safe levels of intake (Reference Doses). Reference doses (RfDs) have been developed by EPA for indicating potential adverse health effects. RfDs, which are expressed in units of mg/kg-day, are estimates of daily exposure levels for humans which are thought to be safe over a lifetime (including sensitive individuals). Estimated intakes of chemicals from environmental media (e.g., the amount of a chemical ingested from contaminated drinking water) are compared with the RfD to derive the hazard quotient for the contaminant in the particular media. The hazard index is obtained by adding the hazard quotients for all compounds across all media. A hazard index greater than one indicates that the potential exists for noncarcinogenic health effects to occur as a result of site-related exposures. The HI provides a useful reference point for gauging the potential significance of multiple contaminant exposures within a single medium or across media.

The primary hazard potentially associated with PCE in surface or near-surface soils is incidental ingestion by potential future residents. The risk associated with ingestion of soils contaminated with the maximum detected concentration of PCE was assessed using the current default exposure parameters outlined in Office of Solid Waste and Emergency Response directive 9285.6-03, as shown in Table 2. The maximum detected concentration of PCE in surface soils (14 ppm), detected in sample DB-3, the exposure parameters described in Table 2 and the indices of toxicity shown in Table 3 were factored into the equations presented in Table 4, to determine the cancer risk and hazard index potentially associated with exposure through ingestion of PCE-contaminated surface soils by future residents. The cancer risk associated with this exposure was 4.2×10^{-7}. The corresponding hazard index was below 0.01. These results suggest that even under the most conservative scenario, exposure to contaminated surface soils at the Former Buried Drum Area would have been highly unlikely to be associated with any adverse health effects even prior to remedial action.

Health Risk Assessment of Direct Contact with Subsurface Soils

Subsurface soils associated with the Former Buried Drum Area were more highly contaminated than surface soils in this area. Under EPA risk calculation procedures, subsurface soils are not considered available under direct contact exposure scenarios, and thus were not of concern from the standpoint of incidental ingestion. Nevertheless, EPA determined what the potential risk would be if the subsurface soils became available for direct contact exposure, should they become available following excavation activities at the site. Use of the maximum detected concentration of PCE (16,000 ppm in the four to six foot range of sample DB-2) in the risk assessment calculations presented in Table 4, resulted in a calculated cancer risk of 5×10^{-4} and a hazard index of 2.3. Both the cancer risk and the hazard index were greater than values which EPA has determined to be acceptable (cancer risk of one in ten thousand (1×10^{-4}) to one in one million (1×10^{-6}) and hazard index of 1).

In addition to PCE, xylene, 1,2-dichlorobenzene and 1,4-dichlorobenzene were detected in subsurface soils. Health risks associated with potential direct contact exposures to maximum concentrations of these contaminants in subsurface soils were determined using the equations presented in Table 4. The hazard indices associated with direct contact exposures to xylene and 1,2-dichlorobenzene were below 0.01 and 0.04, respectively, demonstrating that the concentrations of these contaminants in the soils of the Former Buried Drum Area were not of concern. The cancer risk associated with direct contact with soils contaminated with 1,4-dichlorobenzene was determined to be 5×10^{-7}, well below EPA's level of concern.

The results of this conservative assessment of risks associated with direct contact with contaminated soils by future residents suggested that only PCE had the potential to present unacceptable risks. The risks due to incidental ingestion of soils contaminated with PCE were extraordinarily remote, given that the site is not developed for residential use; significant concentrations of PCE were present only in subsurface soils; PCE would be unlikely to remain in elevated concentrations in surface soils due to its high volatility; and the risk assessment was based on the maximum concentration of PCE that was detected at the site prior to remedial activities.

Potential Contamination of Ground Water by Contaminants in Soil

The Seasonal Soil Compartment Model [SESOIL] (Bonazountas and Wagner, 1984; Hetrick et al., 1989) was used to determine the potential impacts of subsurface PCE soil contamination on the degradation of ground water underlying the site. The SESOIL model was developed for use by EPA, and is designed for determination of mobility of contaminants in unsaturated soils at hazardous waste sites. Generic parameters for the State of New Jersey and meteorological data for Trenton, New Jersey were used to model impacts at the King of Prussia site. Site contamination was assumed to extend from the soil surface to a depth of four feet. Ground water was assumed to be present ten feet below the soil surface. Soils were assumed to be sandy loam, with a moisture content of 0.2%, a porosity of 0.41, and an organic carbon content 0.1%. For the purposes of modeling, degradation of PCE present in subsurface soils was assumed to be nonexistent. The input parameters for the model are considered to be a conservative, reasonable estimate of the conditions present at the King of Prussia site.

The risk assessment for the OU1 ROD determined that unacceptable health risks could be associated with potential potable use of ground water contaminated with PCE and other compounds. The SESOIL model was used to determine soil concentration levels resulting in groundwater contaminant concentrations below the ROD cleanup goal of 1 ppb. The model assumed that a 100-fold dilution would occur as contaminants entered the ground water. Accordingly, the model was used to determine soil concentrations which would result in concentrations 100 times the groundwater target at the point the contaminant entered the groundwater column. The soil concentration of PCE generated using this approach was 1 ppm. PCE was detected at concentrations as much at 16,000 times this level in subsurface soils of the Former Buried Drum Area. The presence of elevated concentrations of PCE in the subsurface soils confirms that the Former Buried Drum Area may have served as a significant source of contamination to the ground water underlying the site.

CLEANUP GOALS FOR CONTAMINATED SOILS ASSOCIATED WITH THE FORMER BURIED DRUM AREA

Direct Contact Exposures

Only PCE was determined to present a potential hazard in subsurface soils due to incidental ingestion of contaminated soils by potential future site residents. The most conservative cleanup goal for PCE based on direct contact with contaminated soils was derived using the equation for the determination of cancer risks (Table 4). It was determined that a cleanup goal of 33 ppm would prevent unacceptable risks due to soil ingestion.

Protection of Ground Water

The ground water cleanup goal for PCE specified in the 1990 ROD was 1 part per billion (ppb). The SESOIL model was used to determine that soil concentration levels of 1 ppm would result in groundwater contaminant concentrations below the ground water cleanup goal.

Summary and Conclusions

PCE, xylene, 1,2-dichlorobenzene, and 1,4-dichlorobenzene were detected in soils at the Former Buried Drum Area of the King of Prussia site. Contamination due to xylene, 1,2-dichlorobenzene, and 1,4-dichlorobenzene were determined not to present unacceptable levels of risk due to direct contact with soils by potential future on-site residents. Historically, these compounds have not been detected in ground water at the site, and are not considered to be of primary concern.

The potential hazards associated with direct contact with PCE-contaminated soils were determined to be minimal even prior to the removal of soil from the Former Buried Drum Area. While a highly conservative assessment of direct contact risks by potential future on-site residents generated potential risks slightly above EPA's target range, the series of events required to realize such risks were extremely unlikely.

PCE was identified as a contaminant of concern in ground water underlying the site in the OU1 ROD, and was determined to present unacceptable health risks. PCE present in subsurface soils of the Former Buried Drum Area was a likely source for continued degradation of ground water underlying the site.

Cleanup levels for PCE were developed based on the mitigation of risks due to direct contact with contaminated subsurface soils and protection of ground water underlying the site. As stated above, the cleanup level based on the direct contact scenario was calculated to be 33 ppm.

Cleanup goals based on the protection of ground water at the site were developed using the SESOIL model. This modelling effort determined that PCE soil concentrations greater that 1 ppm are expected to result in further degradation of the ground water underlying the site.

The 1 ppm cleanup goal for protection of groundwater is more conservative than the goal derived for direct contact. As such, the overall cleanup goal for the remediation of the Former Buried Drum Area was set at 1 ppm PCE.

FORMER BURIED DRUM AREA SOIL REMOVAL ACTION

The 1993 FFS was conducted to evaluate remedial alternatives for the Former Buried Drum Area. The FFS was based on the data and interpretations of the Former Buried Drum Area presented in the July 14, 1989 Draft Final Remedial Investigation, the data collected during the execution of the December 5, 1991 Remedial Design Work Plan, and on additional field sampling conducted in January 1993. The remedial action objective established by EPA was to be a risk-based cleanup level for PCE. The conclusions of the FFS indicated that the preferred remedial alternative for the protection of human health and the environment from the residual contamination in the soils associated with the Former Buried Drum Area was the excavation and off-site disposal of the impacted soils.

Removal Action Work Plan

In an August 20, 1993 letter to EPA, the PRP Group requested permission to perform the necessary soil excavation as a removal action, pursuant to the April 15, 1991 Order. On September 21, 1993, EPA issued an Action Memorandum for the performance of a removal action at the Former Buried Drum Area of the KOP site. Subsequently, in an October 8, 1993 letter, EPA approved the PRP Group's request to perform the removal action. In addition, EPA directed the PRP Group to prepare a work plan for soil excavation, staging, sampling, analyses and off-site disposal of impacted soils exceeding the EPA established soil cleanup level.

Removal Action Criteria

Since there are no contaminant-specific Applicable or Relevant and Appropriate Requirements (ARARs) for soils, EPA developed soil cleanup levels through the performance of a site-specific human health risk assessment. As explained in a previous section of this document, PCE was selected as the indicator contaminant upon which the cleanup of the Former Buried Drum Area was based. The most stringent calculated cleanup goal for the Former Buried Drum Area soils is 1 ppm of PCE. This was the level selected by EPA for soil remediation.

Description of Former Buried Drum Area Removal Action

Based on the available data, two areas were identified for excavation during the removal action (Figure 4). These were designated as Area No. 1 and Area No. 2. The dimensions of Area No. 1 were approximately 40 feet by 60 feet and the dimensions of Area No. 2 were approximately 25 feet by 25 feet. Each of these areas was delineated by estimating the concentration contours for PCE and then selecting the 1 ppm contour as the boundaries of the removal areas. The estimated depth of remediation was approximately 8 feet based on the groundwater level at the site.

All activities were completed following EPA approval of the Work Plan submitted by the PRP Group. Areas No. 1 and No. 2 were identified during the previous investigations and established during the FFS for the Former Buried Drum Area. Soils containing elevated levels of PCE were removed from both areas until established cleanup goals were demonstrated to be met.

During the excavation of the areas, qualitative preliminary screening was conducted using field sampling techniques to segregate the soils as they were being removed. Soils were then stockpiled in the appropriate categories. This screening technique was also used to define perimeters that were below EPA's risk-based cleanup level for PCE.

Soil samples were collected from each excavation to confirm that the established cleanup goals had been achieved. Each perimeter sample was screened using field analyses techniques for PCE and other select VOCs. Subsequent to the field screening, select samples maintaining the highest concentrations of PCE were submitted for confirmatory laboratory analyses of VOCs.

Beginning in November 1993, the excavated soils were stockpiled in 30 mounds. Soil samples were collected from each of the 30 stockpiles. Each sample was screened for PCE and subsequently submitted for laboratory analyses of VOCs. Of the 30 stockpile samples analyzed for VOCs, 12 were above the cleanup level of 1 ppm of PCE.

Beginning in February 1994, impacted soils above the established risk-based cleanup level of 1 ppm of PCE that were characterized through testing as non-hazardous waste were transported off-site for disposal at the Waste Management, G.R.O.W.S. Landfill in Morrisville, Pennsylvania (approximately 556 tons). Soils characterized as hazardous waste were transported off-site for disposal at the Chemical Waste Management's landfill in Model City, New York (approximately 277 tons). Soils demonstrated to be below the established cleanup goals (approximately 1,300 tons) were used as backfill material for the excavations.

DESCRIPTION OF THE NO FURTHER ACTION REMEDY

All soils in the Former Buried Drum Area that contained concentrations of PCE above the EPA-approved cleanup level have been excavated and removed from the site. The area has been regraded and revegetated. The Former Buried Drum Area no longer poses an unacceptable risk to human health or the environment and will no longer act as a source of contamination to the underlying ground water.

As EPA's risk-based cleanup levels have been met, the Agency has determined that no further action needs to be taken to remediate the soils in the Former Buried Drum Area. This proposed no further action remedy complies with all federal and state requirements.

ROD FIGURES

FIGURE 1

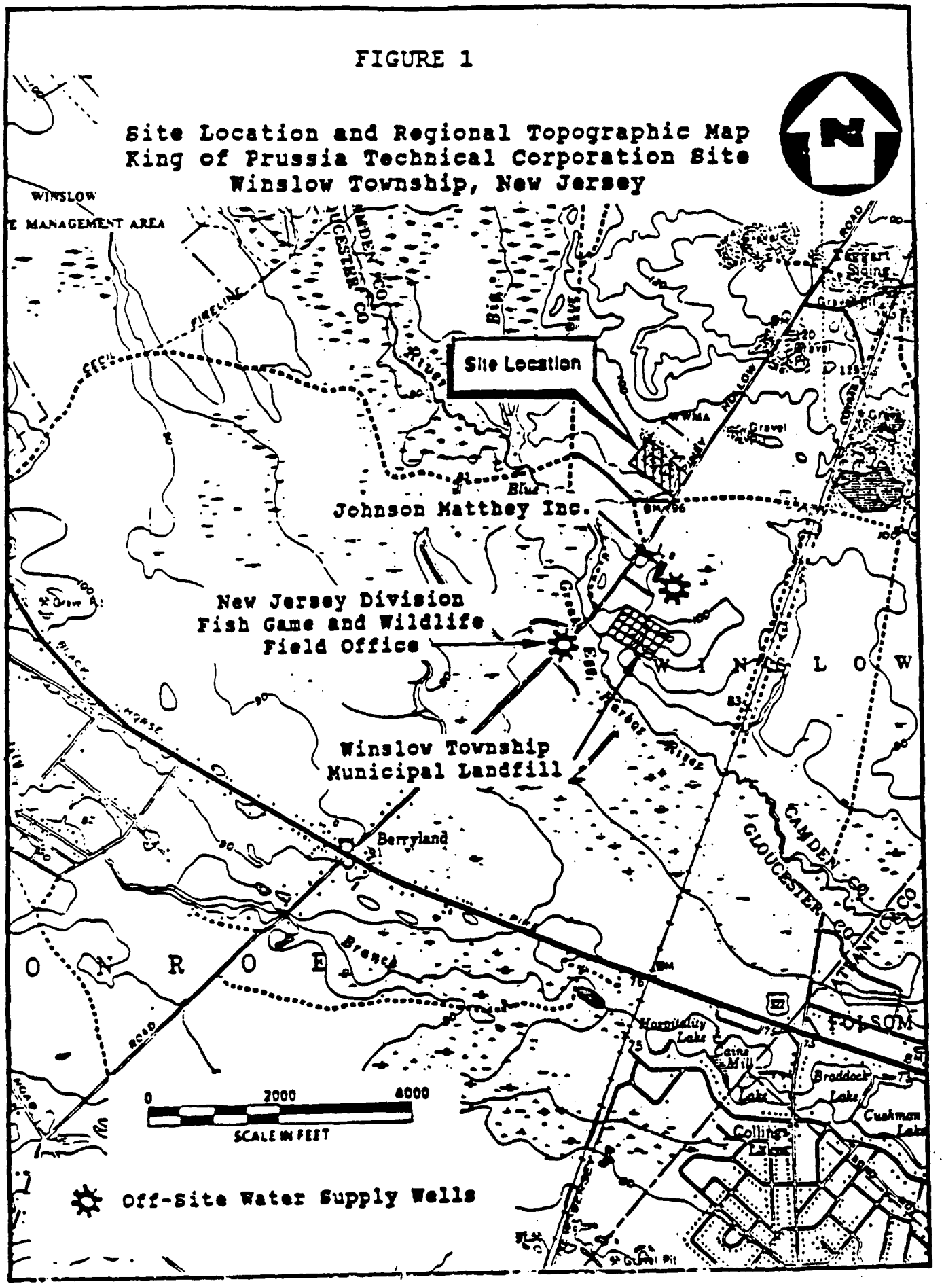

Site Location and Regional Topographic Map
King of Prussia Technical Corporation Site
Winslow Township, New Jersey
Site Location
Johnson Matthey Inc.
New Jersey Division
Fish Game and Wildlife
Field Office
Winslow Township
Municipal Landfill
Berryland
WINSLOW
MANAGEMENT AREA
FIRELINE
CAMDEN CO
GLOUCESTER CO
ATLANTIC CO
BLACK HORSE ROAD
Great Egg Harbor River
Blue Branch
Hammonton Lake
Braddock Lake
Cushman Lake
Collings Lake
FOLSOM
0
2000
4000
SCALE IN FEET
Off-Site Water Supply Wells

Figure 2
Site Plan
King of Prussia Technical Corporation Site
Winslow Township, New Jersey

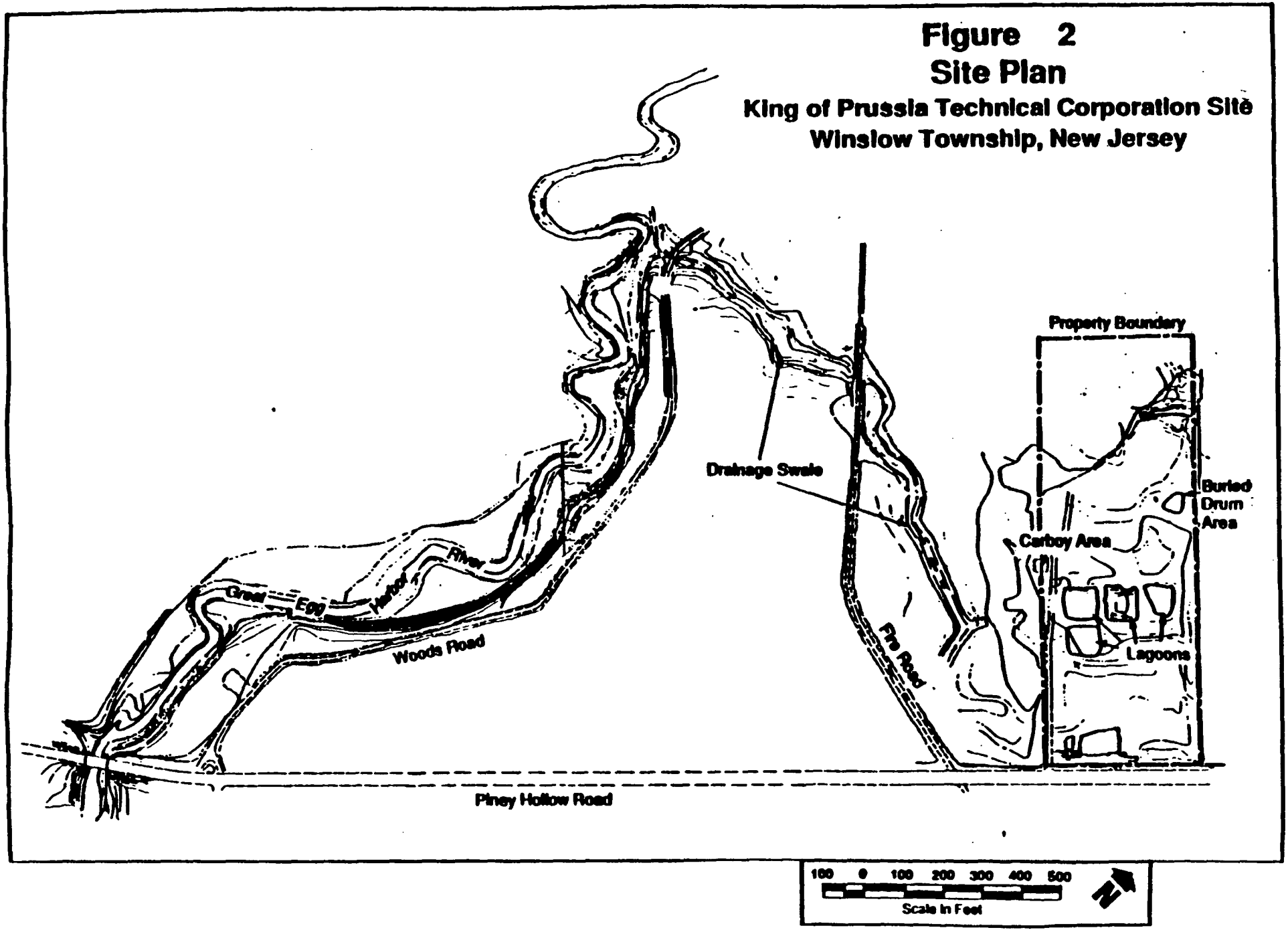


Figure 3

Sampling Locations in the Former Buried Drum Area
King of Prussia Technical Corporation
Winslow Township
Camden, New Jersey

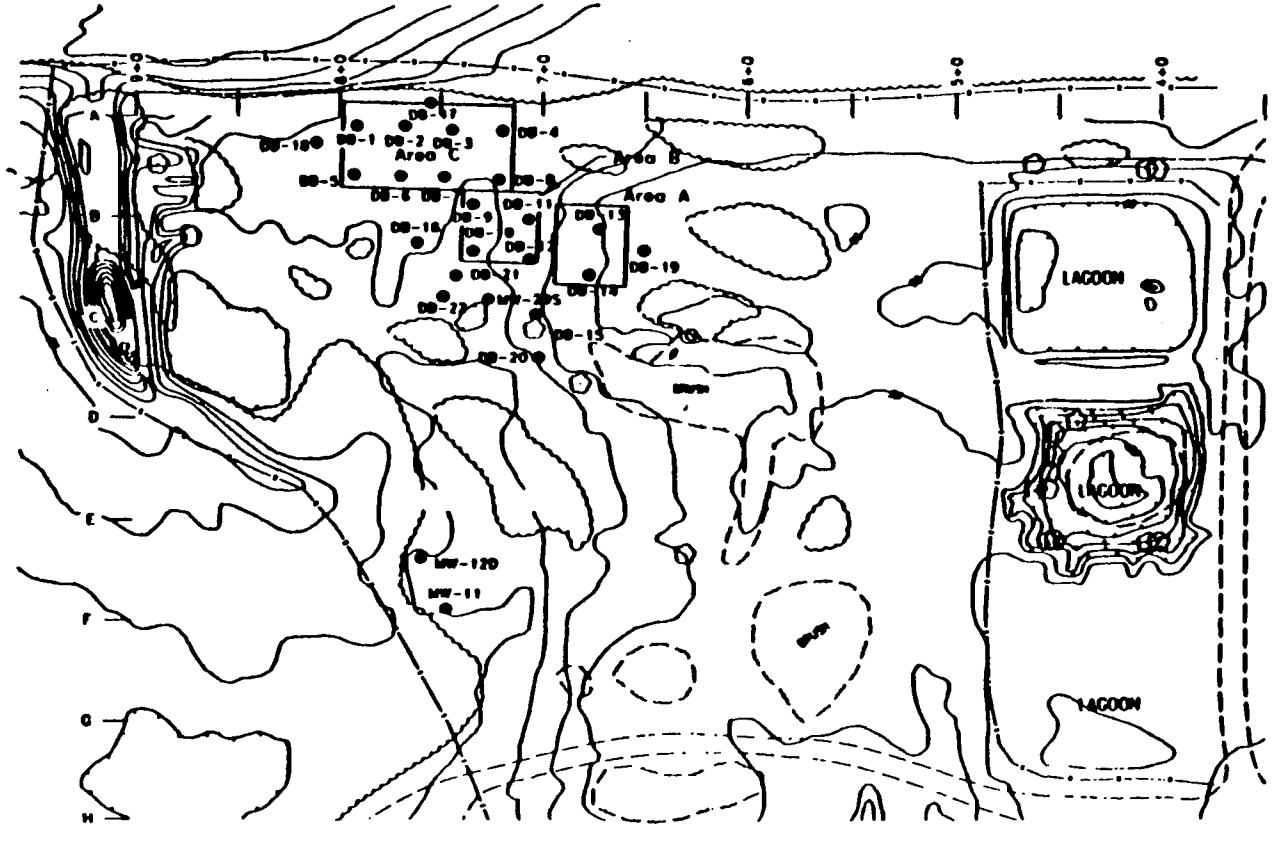
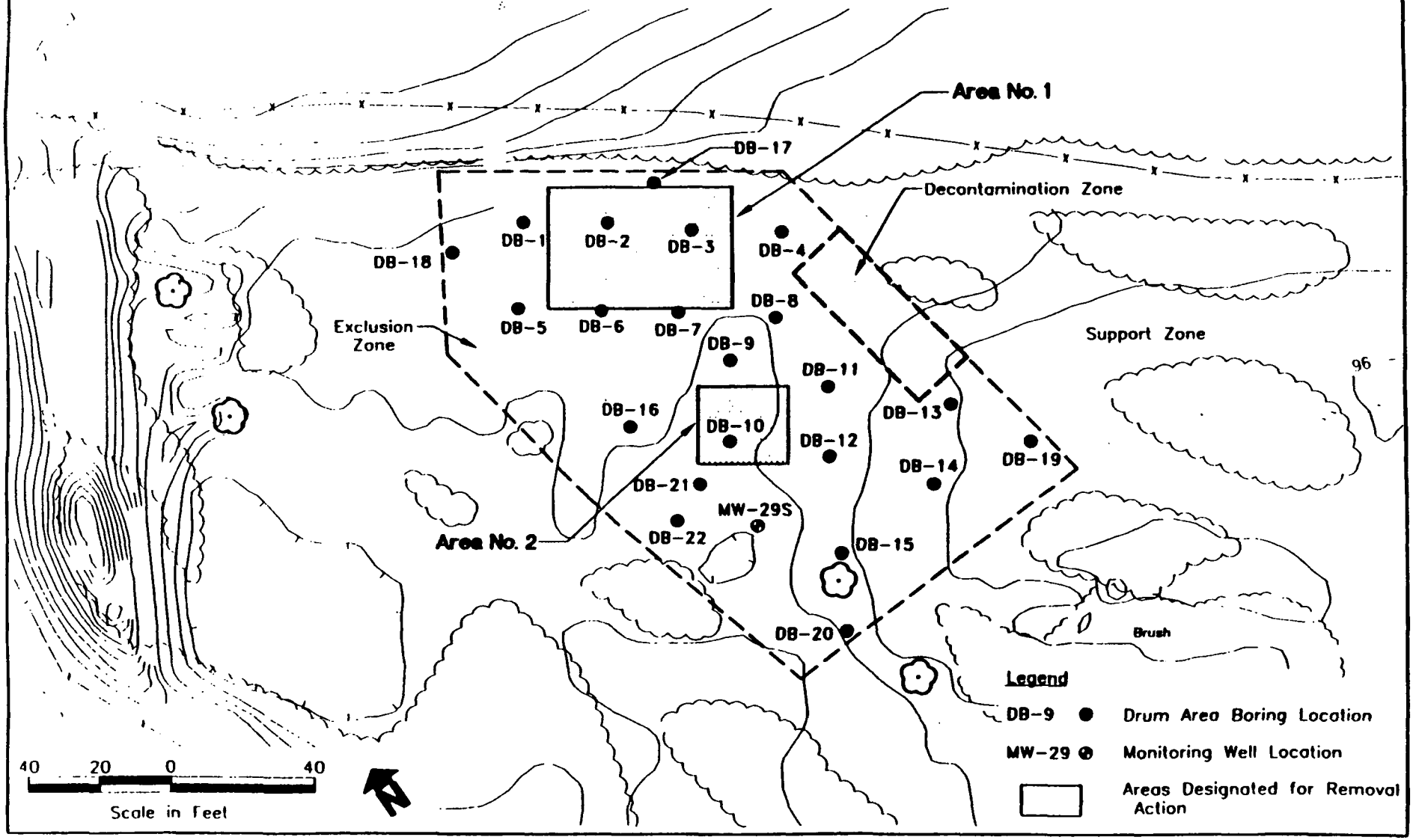


FIGURE 4
Areas Identified for Removal Action
Former Buried Drum Area
King of Prussia Technical Corporation
Winslow Township
Camden, New Jersey



ROD TABLES

TABLE 1

VOLATILE ORGANIC COMPOUNDS (VOCs) DETECTED IN THE FORMER BURIED DRUM AREA SOILS

VOC	DB-1 (2-4')	DB-1 (4-6')	DB-1 (6-8')	DB-2 (2-4')	DB-2 (4-6')	DB-2 (6-8')	DB-3 (0-2')	DB-3 (4-6')	DB-3 (6-8')
Acetone	ND	50B	ND	3300B	ND	ND	ND	ND	ND
2-butanone	ND	ND	ND	7100J	ND	ND	1800	ND	ND
trichloroeth-ene	ND	ND	ND	ND	92000J	ND	ND	ND	ND
tetrachloroeth-ene (PCE)	ND	ND	ND	20000	16000000	2600000	14000	2300000	540000
xylene	ND	ND	ND	1400	330000	10000J	1800	160,000	29,000

VOC	DB-4 (2-4')	DB-4 (4-6')	DB-4 (6-8')	DB-5 (0-2')	DB-5 (2-4')	DB-5 (4-6')	DB-6 (0-2')	DB-6 (2-4')	DB-6 (6-8')
Acetone	ND	ND	ND	ND	ND	ND	ND	38	11
tetrachloroeth-ene (PCE)	3J	ND	ND	12J	24	10J	900J	41	ND
xylene	ND	ND	ND	ND	ND	ND	ND	ND	ND

B: The result is qualitatively invalied because the compund was also detected in the blank at a similar concentration
J: This result should be considered a quantitative estimate
ND: This compound was analyzed but not detected.

TABLE 1 (cont.)

VOLATILE ORGANIC COMPOUNDS (VOCs)
DETECTED IN THE FORMER BURIED DRUM AREA SOILS

VOC	DB-7 (0-2')	DB-7 (2-4')	DB-7 (6-8')	DB-8 2-4'	DB-8 (4-6')	DB-8 (6-8')	DB-9 (0-2')	DB-9 (2-4')	DB-9 (4-6')
Acetone	ND	ND	ND	3600	660J	160B	41B	ND	190
1,1,2,2 - tetrachloroeth-ane	ND	ND	ND	ND	ND	ND	28	26	10
toluene	ND	ND	ND	ND	ND	ND	2J	ND	ND
tetrachloroeth-ene (PCE)	36	ND	ND	980J	11J	ND	120	700	50
2-butanone	ND	ND	ND	2000	ND	ND	ND	ND	ND

VOC	DB-10 (0-2')	DB-10 (2-4')	DB-10 (4-6')	DB-11 (0-2')	DB-11 2-4'	DB-11 4-6'	DB-12 0-2'	DB-12 2-4'	DB-12 4-6'
Acetone	ND	1800B	ND	ND	33B	ND	ND	ND	34B
2-butanone	ND	1500B	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-tetrachloro-ethane	ND	ND	ND	ND	ND	ND	ND	ND	ND
tetrachloroeth-ene (PCE)	350J	6700	27,000	17	10J	12	34	11	4J
ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND
xylene	ND	ND	480000	ND	ND	ND	ND	ND	ND

B: The result is qualitatively invalied because the compund was also detected in the blank at a similar concentration
J: This result should be considered a quantitative estimate
ND: This compound was analyzed but not detected.

TABLE 1 (cont.)

VOLATILE ORGANIC COMPOUNDS (VOCs)
DETECTED IN THE FORMER BURIED DRUM AREA SOILS

VOC	DB-13 (0-2')	DB-13 (4-6')	DB-13 (6-8')	DB-14 (0-2')	DB-14 4-6'	DB-14 (6-8')	DB-15 0-2'	DB-15 (2-4')	DB-15 (4-6')
2-butanone	ND	ND	9B	ND	8B	ND	ND	ND	ND
xylene	ND	ND	ND	ND	ND	ND	5J	2J	3J
tetrachloroeth-ene (PCE)	2B	ND	1B	50	ND	ND	200	ND	3J

VOC	DB-16 (0-2')	DB-16 (2-4')	DB-16 (4-6')	DB-17 (0-2')	DB-17 2-4'	DB-17 (4-6')	DB-18 2-4'	DB-18 (4-6')	DB-18 (6-8')
Acetone	ND	ND	ND	ND	2700	200	ND	26B	21B
tetrachloroeth-ene (PCE)	2J	3J	3J	7800	430J	8J	2J	ND	ND
xylene	ND	ND	ND	ND	ND	ND	ND	ND	ND

VOC	DB-19 0-2'	DB-19 2-4'	DB-19 4-6'	DB-20 0-2'	DB-20 2-4'	DB-20 4-6'	DB-21 (0-2')	DB-21 2-4'	DB-21 4-6'
Acetone	ND	ND	ND	12B	35B	ND	ND	ND	ND
methylene chloride	ND	2J	ND	110	3B	1B	ND	ND	ND
tetrachloroeth-ene (PCE)	ND	ND	ND	ND	ND	ND	20	27	4B
xylene	ND	ND	ND	1J	580J	ND	ND	ND	ND

B: The result is qualitatively invalied because the compund was also detected in the blank at a similar concentration
J: This result should be considered a quantitative estimate
ND: This compound was analyzed but not detected.

Table 2

Standard Default Exposure Assumptions for Incidental Ingestion of Contaminated Soils by Residents

Body Weight, Adult (kg)	70
Body weight, age 1-6 (kg)	15
Averaging time (years of life):	70
Soil ingestion - age adjusted (mg/d)	100
Soil ingestion age 1-6 (mg/d)	200
Soil ingestion - adult (mg/d)	100
Exposure frequency (d/y)	350
Exposure duration (y):	30

The oral potency slope factor and oral RfD for PCE are presented in Table 2.

Table 3

Indices of Toxicity for Contaminants Potentially of Concern in Former Drum Burial Area Soils

Contaminant	Oral RfD (mg/kg/d)		Oral Potency Slope	
PCE	1.00e-02	(a)	5.20e-02	(c)
Xylene	2.00e+00	(a)	-	
1,2-dichlorobenzene	9.00e-02	(a)	-	
1,4-dichlorobenzene	NA		2.40e-02	(b)

a Obtained from the IRIS database.

b Obtained from the Health Effects Assessment Summary Tables

c Provided by EPA Environmental Criteria and Assessment Office (ECAO), Cincinnati, OH.

NA Not Available

The algorithms for determination of the cancer risk and hazard index associated with incidental ingestion of soils contaminated with PCE are shown in Table 3.

Table 4

Determination of cancer risk:

$$\text{Cancer Risk} = \frac{SC \cdot EF \cdot ED \cdot IRS_a \cdot 10^{6}\text{mg/kg} \cdot SF}{BW \cdot AT \cdot 365\ \text{d/yr}}$$

$$\text{Hazard Index} = \frac{SC \cdot EF \cdot ED \cdot IRS_a \cdot 10^{6}\text{mg/kg}}{BW \cdot ED \cdot 365\ \text{d/yr} \cdot RfD}$$

Where,

AT	=	Averaging Time
BW	=	Body Weight
ED	=	Exposure Duration
EF	=	Exposure Frequency
IRS_a	=	Soil Ingestion Rate for Adults
RfD	=	Reference Dose
SC	=	Contaminant Concentration in Soil (mg/kg)
SF	=	Cancer Slope Factor

RESPONSIVENESS SUMMARY

RESPONSIVENESS SUMMARY
KING OF PRUSSIA SUPERFUND SITE
WINSLOW TOWNSHIP, NEW JERSEY

INTRODUCTION

This Responsiveness Summary provides a summary of the public's comments and concerns regarding the Proposed Plan for Operable Unit Two (OU2) for the King of Prussia (KOP) Superfund Site. OU2 deals with the soils associated with the Former Buried Drum Area at the site. This Responsiveness Summary also summarizes the Environmental Protection Agency's (EPA's) responses to the comments received.

EPA held a public comment period from August 16, 1995 through September 14, 1995 to provide interested parties the opportunity to comment on the Proposed Plan. In addition, on August 23, 1995, EPA held a public meeting to discuss the preferred remedy identified in the Proposed Plan for OU2 along with the rationale for this preference, and to provide an update on the progress of the cleanup of the site.

No objections to the Proposed Plan for OU2 were received during the public comment period.

This Responsiveness Summary is divided into the following sections:

I. RESPONSIVENESS SUMMARY OVERVIEW: This section briefly describes the site background and preferred remedial alternative for the soils associated with the Former Buried Drum Area.

II. BACKGROUND ON COMMUNITY INVOLVEMENT AND CONCERNS: This section provides the history of community concerns and interests regarding the King of Prussia site.

III. COMPREHENSIVE SUMMARY OF MAJOR QUESTIONS, COMMENTS, CONCERNS AND RESPONSES: This section summarizes the oral comments received by EPA at the public meeting, and EPA's responses to those comments. No written comments were received during the public comment period.

I. OVERVIEW

The King of Prussia site is located on Piney Hollow Road in Winslow Township, Camden County, New Jersey (see Figure 1). The ten-acre site is in a rural area approximately 30 miles southeast of Philadelphia, Pennsylvania.

In 1970, the King of Prussia Technical Corporation purchased a tract of land owned by Winslow Township for the purpose of constructing a waste recycling facility. Operations at the site began by January 1971. Six lagoons were used to process liquid industrial waste. The stated intention of the KOP Technical Corporation was to convert these wastes to materials that could be marketed for construction purposes and other uses. However, the KOP Technical Corporation was unable to market these materials and the site soon contained more waste than it could process and sell.

The KOP Technical Corporation filed for bankruptcy in 1974. Prior to declaring bankruptcy, KOP sold its hauling operation to Evor Phillips, Inc. which subsequently purchased the site property. It is believed that operations ceased and the site was abandoned in late 1973 or early 1974. In 1976, Winslow Township foreclosed on the property for failure of Evor Phillips to pay taxes. Winslow Township is the current owner of the property.

The New Jersey Department of Environmental Protection (NJDEP) was first notified of possible unauthorized activities at the site in January 1975. Subsequent field inspections and a groundwater study performed in 1976 indicated contamination of site soils and the underlying ground water.

EPA confirmed the contamination with additional sampling and field investigations during 1979, 1980 and 1982. In December 1985, the site was formally placed on the National Priorities List of Superfund sites. Under EPA oversight, a group of potentially responsible parties (PRPs) conducted a Remedial Investigation and Feasibility Study (RI/FS) at the site starting in 1985.

The RI showed that beryllium, chromium, copper, nickel and zinc were the principal contaminants detected in the soil and sludge in and around the former lagoon area and in the swale. Additional metals contaminants were found in two torn and rusted tankers on the site. The site also had an area with an undetermined number of buried drums and containers. A partially buried drum and some soil in this Buried Drum Area were sampled during the RI. Analysis of these samples indicated that the drums and soils in the Buried Drum Area contained high concentrations of volatile and semi-volatile organic compounds.

During the RI, it became evident that organic and inorganic (metals) contamination was migrating vertically downward to the ground water. Many of the compounds found in the soil, sludge and upper aquifer are known to have adverse carcinogenic and non-carcinogenic health effects on humans.

Based on the studies and public input, EPA issued a Record of Decision (ROD) on September 28, 1990 selecting a remedy for the KOP site. The remedy addresses the metals-contaminated soil, the contaminated ground water, as well as the contaminated sediments, sludges, and buried drums and tankers on the site.

One component of the 1990 ROD was a requirement to characterize the residually-contaminated soils in the buried drum area. EPA further explained in the ROD that a subsequent remedial decision involving the soils associated with this area would be made after the additional soils data resulting from this characterization were obtained and evaluated.

To facilitate remedial activities, EPA divided the cleanup into three remedial phases, or operable units (OUs). OU1 deals with the cleanup of the metals-contaminated soil; OU2 addresses the removal of contaminated soils in the Former Buried Drum Area; and OU3 involves the cleanup and reinjection of the ground water.

In November 1991, EPA removed the rusted tankers from the site and the drums from the Buried Drum Area (now known as the Former Buried Drum Area) through a removal action. In April 1991, EPA issued an Administrative Order, Index No. II CERCLA 10106, directing a group of five Potentially Responsible Parties (PRP Group) to complete the remedial activities described in the September 1990 ROD. Since then, the PRP Group has actively pursued the site's remediation.

In June 1993, the PRP Group completed OU1 by treating approximately 19,200 tons of metals-contaminated soils and sludges. Subsequently, the PRP Group initiated construction of the groundwater extraction, treatment and reinjection system designated OU3. This system began treating contaminated ground water in early 1995 and will continue operating until the ground water meets the safe drinking water levels set forth in the September 1990 ROD.

The implementation of OU2 began with the analyses of soil within the Former Buried Drum Area. The soil was sampled and analyzed by the PRP Group in 1992. Using this data, EPA performed a Risk Assessment to evaluate any risks that may be posed by the soils in the Former Buried Drum Area. Based on this assessment, and the subsequent removal of soils posing an unacceptable risk, EPA has selected a No Further Action remedial alternative to address the soils associated with the Former Buried Drum Area.

II COMMUNITY INVOLVEMENT AND CONCERNS

The EPA relies on public comment and discussion to ensure the concerns of the community are considered in selecting an effective remedy for each Superfund site. From the early stages of the remedial investigations, through remedial design and remedial actions, EPA has worked closely with the local community near the KOP site. EPA has held public meetings prior to each stage of the remedial process, and has been and continues to be available to meet with and answer questions from the local community.

The Proposed Plan for OU2 was distributed to the public and EPA provided a 30-day public comment period which ended on September 14, 1995. In addition, on September 23, 1995, EPA held a public meeting in Winslow Township to discuss this No Further Action recommendation and to answer questions.

Comments received at this public meeting are addressed in Section III of this Responsiveness Summary.

III COMPREHENSIVE SUMMARY OF MAJOR QUESTIONS, COMMENTS CONCERNS, AND RESPONSES

This section summarizes comments received from the public during the public comment period, and EPA's response to those comments. It should be noted that no written comments were received and all comments summarized below were received during the August 23, 1995, Public Meeting.

SUMMARY OF QUESTIONS AND EPA'S RESPONSES FROM THE AUGUST 23, 1995 PUBLIC MEETING

A public meeting was held on August 23, 1995 at 7:00 p.m. at the Winslow Township Municipal Hall, Route 73, Braddock, New Jersey. A brief presentation was given by EPA on the history of the site, the current status of the cleanup and on the proposed No Further Action remedy for the soils associated with the Former Buried Drum Area. A representative from the PRP Group updated the community regarding the operation of the soil washing plant that was previously located on site and that had successfully cleaned the metals-contaminated soils at the site. The PRP Group representative also discussed the groundwater treatment plant, which is currently operating at the site.

Although the main purpose of the Public Meeting was to present the Proposed Plan for OU2, all comments and questions were in reference to the groundwater cleanup activities. They are provided below.

Comment 1: What happens to the materials that are being moved off-site during the groundwater treatment? Where is off-site?

Response: Currently, the only material being moved-off site is the sludge from the groundwater treatment plant. The treatment process produces what is considered non-hazardous waste. The waste has been accepted by the Pennsylvania Department of Environmental Resources as non-hazardous material. It is shipped from the KOP site to the GROWS Landfill in Pennsylvania. The GROWS facility is a permitted landfill.

Comment 2: Are volatile organics being vented into the air during operation of the groundwater treatment plan?

Response: Yes. The groundwater treatment facility is regulated by an air permit that allows a certain amount of volatile organic compounds to be released into the air. If levels of such volatiles exceed the allowable levels, additional treatment would be necessary. As the volatile contamination in the ground water is in the low part per billion range, it is unlikely that the permit levels will be contravened. All volatiles released to date are within the permit requirements.

Comment 3: Are particulates being vented into the air during operation of the groundwater treatment plant?

Response: There are no particulates being vented into the air during operation of the groundwater plant.

Comment 4: Which direction does the ground water flow?

Response: The ground water flows towards the southwest, in the direction of the Great Egg Harbor River.

Comment 5: Is the water problem on Spring Road related to what is going on at the King of Prussia site.

Response: No. The contamination at the King of Prussia site is very localized. The plume of contamination is relatively small and does not pass near Spring Road.

Comment 6: How long will it take to clean the ground water?

Response: Based on computer modelling, it should take about 17 years to reduce the contamination in the water to drinking water levels. However, actual cleanup could be faster or slower depending on a number of variables such as the concentration of the influent, and the ability of the local soils to retain the volatile chemical contaminants.

Comment 7: Who is paying for the cleanup? How much does it cost?

Response: A group of five Potentially Responsible Parties is paying for the cleanup. To date, the PRPs have spent $10 million for remedial activities and about $2 million on investigations at the site. Future cost, in current value dollars, could range from $3 million to $10 million, depending on how long groundwater pumping and treatment are required.

ROD FACT SHEET

SITE

Name :	King of Prussia
Location/State :	Winslow Township, New Jersey
EPA Region :	2
HRS Score (date):	29.58 (10/23/81)
Site ID # :	SID 00551; EPA ID NJD980505341

ROD

Date Signed:	9/27/95
Remedy:	No Action (contaminants in the soil around a former buried drum area are below EPA's risk based cleanup level, therefore remedial action is not warranted)
Operating Unit Number:	OU-2
Capital cost:	NA
Construction Completion:	NA
O & M :	NA
Present worth:	NA

LEAD

Lead:	EPA
Primary contact:	Jon Gorin, USEPA (212) 637-4361
Secondary contact	Kim O'Connell, USEPA (212) 637-4397
Main PRP(s)	Johnson Matthey Inc., Cabot Beryl Company, Carpenter Technology, Ford Motor Company, Reutgers-Nease Chemical Company
PRP Contact:	Frank Opet, Vice President Health, Safety & Environmental Affairs Johnson Matthey, Inc. (609) 384-7278

WASTE

Type:	Volatile Organic Chemicals
Medium:	Soil, Ground Water
Origin	Buried Drums
Est. quantity:	NA