RECORD OF DECISION

Lightman Drum Company Superfund Site

Soil Remediation

Winslow Township, Camden County, New Jersey

U.S. Environmental Protection Agency
Region II
September 2011

DECLARATION STATEMENT

RECORD OF DECISION

SITE NAME AND LOCATION

Lightman Drum Company
Winslow Township, Camden County, New Jersey
EPA ID #NJD014743678
Operable Unit 2, Soil

STATEMENT OF BASIS AND PURPOSE

This decision document presents the selected remedy for contaminated soil at the Lightman Drum Company Site (Site), in Winslow Township, Camden County, New Jersey. The selected remedy was chosen in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended, and, to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). This decision is based on the Administrative Record file for this Site (see Appendix IV).

The State of New Jersey concurs with the selected remedy (see Appendix V).

ASSESSMENT OF THE SITE

The response action selected in this Record of Decision (ROD) is necessary to protect the public health or welfare or the environment from actual or threatened releases of hazardous substances into the environment.

DESCRIPTION OF THE SELECTED REMEDY

The response action described in this ROD addresses soil contamination at the Lightman Drum Company Site. It represents the second of two planned remedial phases, or operable units, for the Site. A ROD was issued for the first operable unit (OU1) in September 2009 to address groundwater contamination at the Site. This ROD for the second operable unit (OU2) addresses soil contamination.

The major component of the selected remedy is:

Soil Vapor Extraction in the area of soil contamination near the Former Waste Storage Tank Areas.

DECLARATION OF STATUTORY DETERMINATIONS

Part 1: Statutory Requirements
The selected remedy is protective of human health and the environment, complies with Federal and State requirements that are applicable or relevant and appropriate to the remedial action to the extent practicable, and is cost-effective. EPA has determined that the selected remedy represents the maximum extent to which permanent solutions and treatment technologies can be utilized in a practicable manner at the Site.

Part 2: Statutory Preference for Treatment
The selected remedy meets the statutory preference for the use of remedies that involve treatment as a principal element.

Part 3: Five-Year Review Requirements

EPA expects that it will take approximately five years for the SVE system to attain the remedial action objectives and cleanup goals for the soil. Therefore, a statutory five-year review will not be required.

A policy review may take place if it takes more than five years to implement the remedy to ensure that the remedy is, or will be, protective of human health and the environment.

ROD DATA CERTIFICATION CHECKLIST

The following information is included in the Decision Summary section of this ROD. Additional information can be found in the Administrative Record file for this Site.

- Chemicals of concern and their respective concentrations may be found in the “Site Characteristics” section.

- Baseline risk represented by the chemicals of concern may be found in the “Summary of Risks” section.

- Cleanup goals established for chemicals of concern and the basis for these goals can be found in the “Remedial Action Objectives” section.

- Current and reasonably anticipated future land use assumptions and current and potential future uses of

soil used in the baseline risk assessment and ROD can be found in the "Current and Potential Future Site and Resource Uses" section.

- Estimated capital, operation and maintenance (O&M), and total present worth costs, discount rate, and the number of years over which the remedy cost estimates are projected can be found in the "Description of Alternatives" section.

- Key factors that led to selecting the remedy may be found in the "Comparative Analysis of Alternatives" and "Statutory Determinations" sections.

Walter E. Mugdan, Director
Emergency & Remedial Response Division
EPA-Region II

Sept. 19, 2011
Date

RECORD OF DECISION

DECISION SUMMARY

Lightman Drum Company Site
Winslow Township, Camden County
New Jersey

U.S. Environmental Protection Agency
Region II
New York, New York
September 2011

Table of Contents

Appendices

SITE NAME, LOCATION AND BRIEF DESCRIPTION

The Lightman Drum Company Site (Site), EPA ID#NJD014743678, is located at 139 N. Route 73, Berlin, NJ in a lightly developed area of Winslow Township, Camden County, New Jersey (see Appendix I, Figure 1). The Site consists of an approximately 15-acre former industrial waste hauling and drum reclamation business (Lightman Drum Property or Property), and the groundwater contaminant plumes which emanate from the Lightman Drum Property.

The Lightman Drum Property is approximately 300 feet wide and is bordered by Route 73 to the east and the railroad formerly owned by Pennsylvania Railroad to the west (Figure 1). Currently, the portion of the Property nearest to Route 73 is operated by United Cooperage, a drum brokerage business, which stores drums and tractor trailers at the Site. There is a small septic system on the Property and a well used for nonpotable uses.

The U.S. Environmental Protection Agency (EPA) has been designated as the lead agency for cleanup of the Site, with the New Jersey Department of Environmental Protection (NJDEP) functioning in a support role. Investigations at the Site have been performed by a group of Potentially Responsible Parties(PRPs) under an Administrative Order on Consent (AOC) issued in November 2000, with EPA's oversight.

SITE HISTORY AND ENFORCEMENT ACTIVITIES

Prior to 1974, the Property was used for agriculture. Beginning in 1974, the Lightman Drum Company operated an industrial waste hauling and drum reclamation business there. In 1978, NJDEP issued a one-year Temporary Operating Authorization that allowed for the storage of various wastes including chemical powders, pesticides, waste oil, oil sludges, paints, pigment, thinner, ink residues, ketones, alcohols, and mixed solvents. The permit was not renewed.

In 1987, NJDEP collected soil samples which revealed the presence of various organic and inorganic compounds at the Site. A more extensive investigation of the soil and groundwater took place under an NJDEP Administrative Order from 1989 to 1990. During this investigation, about 80 soil samples were collected and 12 deep and shallow

monitoring wells were installed. These samples were concentrated in known storage areas. These known areas are as follows:

Underground Diesel Fuel Tanks
Two fiberglass underground tanks (750 and 1,500 gallons) were installed in 1976 in the south-central portion of the Property. They were used for diesel fuels until the early 1980s and were removed in 1990. Soil samples collected by NJDEP in the vicinity of the tanks showed low levels of petroleum hydrocarbons and one detection of trichloroethylene.

Unlined Waste Disposal Pit
An Unlined Waste Disposal Pit was located in a small depression in a wooded area in the west-central portion of the Property. This pit was accessed by a dirt road leading from Lightman Drum Company's main operations area. As part of the NJDEP investigation of the Site, it was reported that the Lightman Drum Company used the pit for the disposal of chemical wastes in 1974. The Lightman Drum Company reportedly removed the waste from this area.

Former Waste Storage Tanks
Two 5,000-gallon underground storage tanks were formerly located in the north-central area of the Property. The tanks were reportedly used to store waste paint pigments, ink sludges, and thinners. The tanks operated under the NJDEP Temporary Operating Authorization. NJDEP observed the removal of the tanks in 1984.

Warehouse
Drums were stored in a warehouse located in the eastern part of the Property until a fire destroyed the warehouse in 1985. Only the concrete foundation slab remains.

Drum Storage Areas
There were various drum storage areas throughout the active portion of the Property. The investigated areas included the main storage areas along the southern property boundary, west of the former diesel tanks, and along the northern tree line east of the former waste storage tanks.

The NJDEP studies in 1987 showed the presence of elevated levels of Volatile Organic Compounds (VOCs) and Semi-Volatile Organic Compounds (SVOCs) in the groundwater and VOCs, SVOCs, pesticides, and inorganic compounds in the soil.

In May 1999, NJDEP requested that EPA perform a Hazard Ranking System Evaluation. As a result of the evaluation, EPA proposed the Site for inclusion on the National Priorities List on July 22, 1999 and the Site was placed on the National Priorities List on October 22, 1999. At that time, EPA became the lead agency for Superfund remediation activities at the Site.

In November 2000, EPA issued an Administrative Order requiring a group of Potentially Responsible Parties (PRPs) to conduct a Remedial Investigation and Feasibility Study. The Remedial Investigation work plan was approved in 2002. Following review of the initial results, installation of additional wells and piezometers (groundwater sampling sites) was approved in September 2003. The work plan was updated and the investigations have been expanded as necessary. Additional soil samples were collected in May 2006, and additional groundwater transect and monitoring well data were collected in 2007.

A second Administrative Order (Removal Order) was issued by EPA in 2007, under which the PRPs removed over 480 cubic yards of contaminated soil from the unsaturated and saturated zones in the vicinity of the former Underground Waste Storage Tanks.

In October and November of 2008, while the contaminated soils were being removed, areas of unnaturally colored soils were identified. These brightly colored soils were bright red, yellow and purple, among other colors, and were visible within discreet areas of the natural soils. The unnaturally colored soils were sampled and found to contain lead and hexavalent chromium at levels exceeding NJDEP Direct Contact standards. These soils were mostly located near the surface and were excavated and disposed of properly off-Site under the terms of the 2007 Order. Approximately 1,690 tons of these soils were excavated and disposed of off-Site.

In addition, at the time of the discovery of the unnaturally colored soils, an area of VOC-contamination was identified. Samples were collected from this area in February 2009. As a result of the sampling, EPA decided to address the area of VOC-contaminated soil as a new operable unit, OU2. A OU2 Remedial Investigation and a Focused Feasibility Study were conducted. The Remedial Investigation and the Focused Feasibility Study Reports

were approved in June 2011.

HIGHLIGHTS OF COMMUNITY PARTICIPATION

The RI/FS Reports and the Proposed Plan for the Site were released to the public for comment on June 10, 2011. These documents were made available to the public in the administrative record file maintained at the Camden County Library, South County Branch, 35 Coopers Folly Road, Atco, NJ 08004 and at the EPA Region II Records Center located at 290 Broadway, New York City. The notice of availability for these documents was published in the Courier-Post on June 10, 2011. A public comment period was held from June 10, 2011 through July 11, 2011.

In addition, on June 22, 2011, a public meeting was conducted at the Municipal Building, 125 South Route 73, Braddock, New Jersey, to discuss the findings of the RI/FS and to present EPA's Proposed Plan to local officials and the community. At this meeting, EPA representatives answered questions about the soil contamination and remedial alternatives.

Comments which were received by EPA at the pubic meeting and during the public comment period are addressed in the Responsiveness Summary (see Appendix III).

SCOPE AND ROLE OF OPERABLE UNIT OR RESPONSE ACTION

As with many Superfund sites, the contamination at the Lightman Drum Site is complex. In order to manage the cleanup of the Site more effectively, EPA has organized the work into immediate actions and two phases of long-term cleanup called operable units (OUs).

An immediate action, known as a removal action, has been completed. In 2007, EPA issued a Removal Order which required excavation of source area soils in the saturated zone near the Former Waste Storage Tanks Area. The excavation was approximately 33 feet by 16 feet by 25 feet deep (over 480 cubic yards). During the removal action, unnaturally colored soils were observed throughout the industrial portion of the Lightman property. After further investigation, the unnaturally colored soils were found to contain metals such as lead and hexavalent chromium. As a result, these soils were excavated and disposed of properly

off-Site. In February 2009, an area of VOC-contaminated soils near the removal action excavation was identified and characterized.

The first phase of long-term cleanup of the Site Operable Unit 1 (OU1), will provide for implementation of a remedy to address groundwater contaminants in both the eastern and western plumes near their on-site sources and in the downgradient areas. The second phase of long-term cleanup Operable Unit 2 (OU2), which is the subject of this ROD, addresses the area of VOC-contaminated soils near the Former Waste Storage Tank Area described above.

SUMMARY OF SITE CHARACTERISTICS

The entire Site is located within the New Jersey Pinelands Protection Area. In general, the topography of the area is flat. The majority of the Property is wooded with a 0.8-acre area of wetlands at the westernmost portion of the Property. There is farm and woodlands to the north and a wooded area as well as commercial development to the south. There are residences and small businesses along Route 73.

The Lightman Drum Property and adjacent properties are zoned for industrial use, though a portion of the corridor along Route 73 southeast of the Site is zoned as minor commercial. Some residential properties are located on Route 73 in the vicinity of the Lightman Drum Property. The Winslow Township administrative code requires that all properties within 200 feet of the municipal water main be connected to the public water supply system and use of private wells for drinking water is prohibited. Pre-existing wells may be used for nonpotable purposes if they do not contain contaminants. New irrigation wells may also be installed and used if they do not contain contaminants. Several irrigation wells have been installed in nearby residential areas. The nearest municipal water supply well, Well #8, is located about 7,500 feet southwest (downgradient) of the Site. The well draws water from about 140 feet below the ground surface and can pump at 1,000 gallons per minute. This well has been used sporadically since August 2007 and is tested regularly by the local water authority. The municipal water supply well has not been impacted by Site contamination.

According to the Delaware Valley Regional Planning Commission, as of 2007, over 34,000 people lived in Winslow

Township. Approximately 8,000 people live within a 3-mile radius of the Site.

The results of investigations conducted at the Site indicate that the area is underlain by well-drained sandy soils with poor filtering capacity. Active areas of the Property have a thin layer of relatively impermeable fill. Under the soil is the Cohansey-Kirkwood aquifer system which is used extensively as the water supply in the area of the Site. In the vicinity of the Site, the water table begins at about 12-14 feet below the ground surface.

The Cohansey-Kirkwood aquifer system, which dips eastward toward the Atlantic Ocean, is a relatively uniform unconfined aquifer consisting of yellowish brown coarse to fine-grained sand. Groundwater within the aquifer flows primarily to the south in the vicinity of the Site. The base of the Cohansey-Kirkwood formation is defined as the top of a clay bed lying at the base of the Kirkwood at 100 feet below the ground surface.

OU1 Remedial Investigation

The OU1 investigation was a site-wide investigation that was conducted between 2000 and 2009 by a group of PRPs under EPA's oversight. During this investigation, samples were taken from the surface water, sediments, soils, and groundwater. The sediments were characterized through eight samples from four locations. Fifty-eight subsurface soil borings were installed and samples from these borings were analyzed. Surface water samples were also taken from each of the four sediment sample locations. The groundwater was characterized through 243 temporary well points, and subsequently, by the installation and sampling of 23 monitoring wells. In 2009, the PRPs submitted a Remedial Investigation Report, Risk Assessment, and Feasibility Study for OU1.

These studies showed that groundwater contamination at the Site emanates from the former Waste Storage Tanks Area (eastern plume) and the Unlined Pit Area (western plume). These plumes are shown on Figure 1.

As a result of the OU1 studies, EPA determined that there was no unacceptable risk to human health and the environment from the Site surface water, sediments, and soils. However as mentioned above, one area of soil was

identified during the removal activities which were conducted from 2008 to 2009(Figure 2). EPA decided to further evaluate the newly discovered on-site area of VOC-contaminated soils as OU2.

In September 2009, EPA issued a Record of Decision (ROD) for the groundwater (OU1). The Remedial Investigation and Feasibility Study reports for OU1 can be found in the Administrative Record established for the Site. The results of the OU2 soil studies are the subject of this Proposed Plan and are discussed in the Site Characteristics section, below.

Groundwater Remedy

The main elements of the selected OU1 groundwater remedy are:

- Air Sparging and Soil Vapor Extraction of near-site groundwater contaminants from near the Former Waste Storage Tank Areas (east plume) and Former Unlined Pit Areas (west plume);

- Extraction and treatment of contaminated groundwater found in “hot spots” in the downgradient areas of the east and west groundwater plumes. Treated groundwater will be reinjected;

- Monitored Natural Attenuation for the remaining portions of the plume; and

- Establishment of a Classification Exception Area, which is an institutional control, to minimize the potential for exposure to contaminated groundwater until the aquifer meets the cleanup goals.

In June 2010, EPA issued an Administrative Order to the PRP Group, requiring the engineering design and construction of the groundwater remedy. Work under the terms of the Administrative Order is underway.

OU2: VOC-contaminated Soil Investigation

During removal of the unnaturally colored soils in 2008 and 2009, an area of VOC-contaminated soils was identified. In February 2009, samples from this area were collected and analyzed. The VOC contaminants, perchloroethylene (PCE) and

trichloroethylene (TCE) were the primary compounds found to be present in these soils. PCE was detected in 24 samples taken from 21 borings at concentrations ranging from 0.011 milligrams/kilogram (mg/kg) in boring HB-15 at 2-4 feet below the ground surface (bgs) to 680 mg/kg in boring HB-05 at 2-4 feet bgs. TCE was detected in 24 samples taken from 21 borings at concentrations ranging from 0.002 mg/kg in boring HB-21 at 0-2 feet bgs to 74 mg/kg in boring HB-05 at 2-4 feet bgs. Low levels of aromatic compounds, primarily the noncholorinated hydrocarbon compounds ethylbenzene and total xylenes, were detected in 6 of the 24 borings.

The results of the soil sampling indicates that soils containing elevated levels of VOCs are located up to 12 feet bgs and the contaminant concentrations generally decrease with depth. The areal extent of the VOC-contaminated soils is relatively small, approximately 2,100 square feet (0.05 acre). This area of VOC contamination is shown on Figure 2 and a summary of the data can be found in Appendix II-A, Table 1

Potential risks were evaluated in a Human Health Risk Assessment. A summary of the results of the Risk Assessment is in a following section of this ROD.

CURRENT AND POTENTIAL FUTURE SITE AND RESOURCE USES

Land Uses: Currently, only the easternmost section of the Property near Route 73 is in use. It is being used by United Cooperage, a drum brokerage business, which stores drums and tractor trailers on the Property. The Site is located in a relatively rural area of Winslow Township. There is some residential use of land in the vicinity of the Site, though the immediate area of the Site is zoned industrial. Future use of the Site is anticipated to remain industrial.

Ground and Surface Water Uses: Currently, potable groundwater in the vicinity of the Site comes from a municipal water supply system. Winslow Township requires new construction or any property within 200 feet of the municipal water main to be connected. Pre-existing wells may be used and new wells installed for irrigation purposes, if they do not contain contaminants.

The Site and the area around it are within the NJ Pinelands Protection Area and the aquifer must meet the NJDEP Class

IA-PL standards from the New Jersey Groundwater Quality Standards as well as the New Jersey and Federal Maximum Concentration Limits (MCL) which are from the Federal Safe Water Drinking Act.

SUMMARY OF SITE RISKS

As part of the RI/FS, EPA conducted a baseline risk assessment to estimate the current and future effects of contaminants on human health and the environment. A baseline risk assessment is an analysis of the potential adverse human health and ecological effects of releases of hazardous substances from a site in the absence of any actions or controls to mitigate such releases, under current and future land, groundwater, surface water and sediment uses. The full baseline risk assessment includes a baseline human health risk assessment (BHHRA) and an ecological risk assessment. It provides the basis for taking action and identifies the contaminants and exposure pathways that need to be addressed by the remedial action. This section of the ROD summarizes the results of the baseline risk assessment for the site.

Human Health Risk Assessment

A four-step process is utilized for assessing site-related human health risks for a reasonable maximum exposure scenario: *Hazard Identification* – uses the analytical data collected to identify the contaminants of potential concern at the site for each medium, with consideration of a number of factors explained below; *Exposure Assessment* - estimates the magnitude of actual and/or potential human exposures, the frequency and duration of these exposures, and the pathways (e.g., ingesting contaminated well-water) by which humans are potentially exposed; *Toxicity Assessment* - determines the types of adverse health effects associated with chemical exposures, and the relationship between magnitude of exposure (dose) and severity of adverse effects (response); and *Risk Characterization* - summarizes and combines outputs of the exposure and toxicity assessments to provide a quantitative assessment of site-related risks The risk characterization also identifies contamination with concentrations which exceed acceptable levels, defined by the National Contingency Plan (NCP) as an excess lifetime cancer risk greater than 1×10^{-6} – 1×10^{-4} or a Hazard Index greater than 1.0; contaminants at these concentrations are considered chemicals of concern

(COCs) and are typically those that will require remediation at the site. Note that the NJDEP acceptable risk level is defined as a maximum lifetime cancer risk that does not exceed 1 X 10^{-6}. Also included in this section is a discussion of the uncertainties associated with these risks.

Hazard Identification

In this step, the chemicals of potential concern (COPCs) in each medium were identified based on such factors as toxicity, frequency of occurrence, fate and transport of the contaminants in the environment, concentrations, mobility, persistence, and bioaccumulation. Analytical information that was collected to determine the nature and extent of contamination revealed the presence of PCE, 1,2,4-trichlorobenzene, benzene, chlorobenzene, ethylbenzene, TCE and total xylenes at the site at concentrations of potential concern. The risk assessment also retained two additional chemicals for further qualitative evaluation based on lack of screening criteria. Based on this information, the risk assessment focused on surface soils, subsurface soils and the contaminants which may pose significant risk to human health. A comprehensive list of all COPCs can be found in the BHHRA in the administrative record. Only the COCs, or these chemicals requiring remediation at the site, are listed in Appendix II-B, Table 1.

Exposure Assessment

Consistent with Superfund policy and guidance, the BHHRA is a baseline human health risk assessment and therefore assumes no remediation or institutional controls to mitigate or remove hazardous substance releases. Cancer risks and noncancer hazard indices were calculated based on an estimate of the reasonable maximum exposure (RME) expected to occur under current and future conditions at the site. The RME is defined as the highest exposure that is reasonably expected to occur at a site. For those contaminants for which the risk or hazard exceeded the acceptable levels, the central tendency estimate (CTE), or the average exposure, was also evaluated.

The site is currently zoned for commercial/industrial use. According to the current and historical use, it is anticipated that the future land use for this area will remain consistent with current use. The BHHRA evaluated

potential risks to populations associated with both current and potential future land uses.

Exposure pathways were identified for each potentially exposed population and each potential exposure scenario for the subsurface soils. Exposure pathways assessed in the BHHRA include a commercial/industrial (outdoor) worker's exposure to surface soil via incidental ingestion, inhalation and dermal contact. Since the site could be accessed by trespassers, pre-adolescent and adolescent trespassers were also identified as potentially exposed populations. The BHHRA also focused on the construction worker's exposure to surface and subsurface soil via incidental ingestion, inhalation of volatiles in ambient air and dermal exposure. A summary of the exposure pathways included in the baseline human health risk assessment can be found in Appendix II-B, Table 1. Typically, exposures are evaluated using a statistical estimate of the exposure point concentration, which is usually an upperbound estimate of the average concentration for each contaminant, but in some cases may be the maximum detected concentration. A summary of the exposure point concentrations for the COCs in soils can be found in Appendix II-B, Table 1, while a comprehensive list of the exposure point concentrations for all COPCs can be found in the BHHRA.

Toxicity Assessment

Under current EPA guidelines, the likelihood of carcinogenic risks and noncancer hazards due to exposure to site chemicals are considered separately. Consistent with current EPA policy, it was assumed that the toxic effects of the site-related chemicals would be additive. Thus, cancer and noncancer risks associated with exposures to individual COPCs were summed to indicate the potential risks and hazards associated with mixtures of potential carcinogens and noncarcinogens, respectively.

Toxicity data for the human health risk assessment were provided by the Integrated Risk Information System (IRIS) database, the Provisional Peer Reviewed Toxicity Database (PPRTV), or another source that is identified as an appropriate reference for toxicity values consistent with EPA's directive on toxicity values. This information is presented in Appendix II-B, Table 2 (noncancer toxicity data summary) and Appendix II-B, Table 3 (cancer toxicity data summary). Additional toxicity information for all

COPCs is presented in the BHHRA.

Risk Characterization

Noncarcinogenic risks were assessed using a hazard index (HI) approach, based on a comparison of expected contaminant intakes and benchmark comparison levels of intake (reference doses, reference concentrations). Reference doses (RfDs) and reference concentrations (RfCs) are estimates of daily exposure levels for humans (including sensitive individuals) which are thought to be safe over a lifetime of exposure. The estimated intake of chemicals identified in environmental media (*e.g.*, the amount of a chemical ingested from contaminated drinking water) is compared to the RfD or the RfC to derive the hazard quotient (HQ) for the contaminant in the particular medium. The HI is obtained by adding the hazard quotients for all compounds within a particular medium that impacts a particular receptor population.

The HQ for oral and dermal exposures is calculated as below. The HQ for inhalation exposures is calculated using a similar model that incorporates the RfC, rather than the RfD.

HQ = Intake/RfD

Where: HQ = hazard quotient
Intake = estimated intake for a chemical (mg/kg-day)
RfD = reference dose (mg/kg-day)

The intake and the RfD will represent the same exposure period (i.e., chronic, subchronic, or acute).

As previously stated, the HI is calculated by summing the HQs for all chemicals for likely exposure scenarios for a specific population. An HI greater than 1.0 indicates that the potential exists for noncarcinogenic health effects to occur as a result of site-related exposures, with the potential for health effects increasing as the HI increases. When the HI calculated for all chemicals for a specific population exceeds 1.0, separate HI values are then calculated for those chemicals which are known to act on the same target organ. These discrete HI values are then compared to the acceptable limit of 1.0 to evaluate the potential for noncancer health effects on a specific target organ. The HI provides a useful reference point for gauging the potential significance of multiple contaminant

exposures within a single medium or across media. A summary of the noncarcinogenic risks associated with these chemicals for each exposure pathway is contained in Appendix II-B, Table 4.

As identified in Appendix II-B, Table 4, the HI for noncancer effects is 0.036 for the commercial/industrial worker (RME), 0.0095 for the pre-adolescent trespasser (RME), 0.014 for the adolescent trespasser (RME) and 0.13 for the construction worker (RME); therefore, there aren't any noncarcinogenic risks above USEPA's threshold value of 1 for non-cancer health effects.

For carcinogens, risks are generally expressed as the incremental probability of an individual developing cancer over a lifetime as a result of exposure to a carcinogen, using the cancer slope factor (SF) for oral and dermal exposures and the inhalation unit risk (IUR) for inhalation exposures. Excess lifetime cancer risk for oral and dermal exposures is calculated from the following equation, while the equation for inhalation exposures uses the IUR, rather than the SF:

Risk = LADD x SF

Where: Risk = a unitless probability (1×10^{-6}) of an individual developing cancer

LADD = lifetime average daily dose averaged over 70 years (mg/kg-day)

SF = cancer slope factor, expressed as [1/(mg/kg-day)]

These risks are probabilities that are usually expressed in scientific notation (such as 1×10^{-4}). An excess lifetime cancer risk of 1×10^{-4} indicates that one additional incidence of cancer may occur in a population of 10,000 people who are exposed under the conditions identified in the assessment. Again, as stated in the National Contingency Plan, the acceptable risk range for site-related exposure is 10^{-6} to 10^{-4}. Note that the NJDEP's acceptable risk value is equal to or less than 1×10^{-6}.

Results of the BHHRA presented in Appendix II-B, Table 5 indicate that the cancer risk associated with soil is 3.0×10^{-5} for the industrial/commercial worker (outdoor), 1.7×10^{-6} for the pre-adolescent trespasser, 2.2×10^{-6} for the

adolescent trespasser and 7.1 x 10^{-6} for the construction worker.

In summary, PCE, ethylbenzene and TCE are the risk drivers in soil. The COPCs that contribute to the cancer risks are all within the EPA's acceptable risk range of 10^{-4} to 10^{-6}, though they are above the NJDEP risk value which is 10^{-6}. The non-cancer hazards and cancer risks from all COPCs can be found in the BHHRA.

The Site is currently zoned to be industrial. However, if the area were to become residential, the soil would need to be remediated to the NJDEP residential soil remediation values of 2.0 mg/kg for PCE and 7.0 mg/kg for TCE. The NJDEP values are within the EPA risk range for residential soils.

Uncertainties

The procedures and inputs used to assess risks in this evaluation, as in all such assessments, are subject to a wide variety of uncertainties. In general, the main sources of uncertainty include:

- environmental chemistry sampling and analysis
- risk characterization
- fate and transport modeling
- receptor exposure assessment
- toxicological data/assessment

Uncertainty in environmental sampling arises in part from the potentially uneven distribution of chemicals in the media sampled. Consequently, there is significant uncertainty as to the actual levels present. Environmental chemistry-analysis error can stem from several sources including the errors inherent in the analytical methods and characteristics of the matrix being sampled.

Uncertainties in the exposure assessment are related to estimates of how often an individual would actually come in contact with the chemicals of concern, the period of time over which such exposure would occur, and in the models used to estimate the concentrations of the chemicals of concern at the point of exposure.

Uncertainties in toxicological data occur in extrapolating both from animals to humans and from high to low doses of exposure, as well as from the difficulties in assessing the

toxicity of a mixture of chemicals. These uncertainties are addressed by making conservative assumptions concerning risk and exposure parameters throughout the assessment. As a result, the risk assessment provides upper-bound estimates of the risks to populations near the site, and is highly unlikely to underestimate actual risks related to the site.

More specific information concerning public health risks, including a quantitative evaluation of the degree of risk associated with various exposure pathways, is presented in the risk assessment report.

Vapor Intrusion Risk Assessment

The potential for vapor intrusion was evaluated at the Site. At the present time, there are no structures on or near the vicinity of the OU2 soil contamination. Therefore, there is no vapor intrusion pathway related to OU2. EPA will reevaluate the potential for future vapor intrusion at the completion of the soil remedy, but expects that the remedy will remove soil contaminants to levels that will not pose any risks for future development.

Screening Level Ecological Risk Assessment

A Screening Level Ecological Risk Assessment was conducted for OU1 to evaluate risks to ecological receptors throughout the entire Site. Based on the results of that evaluation, there were no unacceptable risk to the surface water, sediments or soil at the Site. The small area (0.05 acres) of the OU2 soils was included in that study. This area is near the former Waste Storage Tanks and where the Soil removal action took place (Figure 2). It is not in the wooded area of the Site. Evaluation of the OU2 sampling data shows that most of the contamination is more than 2 feet below the ground surface and would not be accessible to most plants and animals.

Therefore, it was not necessary to conduct a separate ecological risk assessment for the OU2 soils and the soils do not pose an unacceptable ecological risk.

Summary of Risks to the Groundwater

Although EPA believes there is no unacceptable human health risk from exposure to the soils, the soils continue to be a source of contamination to the groundwater. Analysis of

samples collected from the soils showed elevated levels of PCE and TCE; up to 680 mg/kg of PCE and up to 74 mg/kg of TCE. Based on computer modeling, these levels of PCE and TCE in soils can results in contamination levels in the groundwater which are above the groundwater cleanup levels (NJDEP Class IA-PL standards) set in the OU1 ROD. Therefore, PCE and TCE are COCs and the soils pose a risk to the groundwater if the contamination remains at the current levels.

Conclusions of the Risk Assessment

It is EPA's current judgment that a remedy is necessary to protect public health or welfare or the environment from actual or threatened releases of hazardous substances into the environment.

REMEDIAL ACTION OBJECTIVES

The following Remedial Action Objective (RAO) was developed for soil to address the human health risks and environmental concerns posed by Site-related contamination.

- Reduce the concentration of PCE and TCE in the soil to levels at which they will no longer be a source of groundwater contamination.

To achieve this RAO, cleanup goals for the soil at the Site were developed. The Site lies within the New Jersey Pinelands Protection Area. Therefore, soil cleanup standards were developed that will result in protection of the groundwater to the NJDEP Class IA-PL standards. These soil goals were developed by using the Seasonal Soil (SESOIL) model. The cleanup goals that were calculated through the model are 2.6 mg/kg for PCE and 14.0 mg/kg for TCE.

DESCRIPTION OF ALTERNATIVES

CERCLA requires that each remedial alternative be protective of human health and the environment, be cost effective, comply with other statutory laws, and utilize permanent solutions and alternative treatment technologies and resource recovery technologies to the maximum extent practicable. In addition, the statute includes a preference for the use of treatment as a principal element for the

reduction of toxicity, mobility or volume of hazardous substances. Using the presumptive remedy guidelines developed by EPA, the soil vapor extraction (SVE) technology was determined to be appropriate for the Site and a detailed analysis of this technology was developed in the Feasibility Study. Consistent with expectations set out in the Superfund regulations, the SVE alternative does not rely exclusively on institutional controls to achieve protectiveness.

The time frame presented below for construction does not include the time for pre-design investigations, remedial design, or contract procurements.

Presumptive Remedy

The OU2 soil investigation showed that there is a threat to groundwater from VOCs in the soil located in one area of the Lightman property. Soil Vapor Extraction (SVE) is the Presumptive Remedy for VOC contamination in unsaturated soils. Presumptive Remedies were developed by EPA to accelerate the cleanup of sites, as well as to focus the feasibility study efforts. These are "preferred technologies for common categories of sites, based on historical patterns of remedy selection and EPA's scientific and engineering evaluation of performance data…" (OSWER directive 9355.0-63FS, July 1996).

The soils in the OU2 area are sandy and are contaminated primarily with VOCs. SVE is an appropriate technology to treat such soils. The Presumptive Remedy process differs from the usual remedy selection process only in that EPA considers a reduced number of remedial alternatives. In this case, EPA is considering just two remedial alternatives; No Action, and Soil Vapor Extraction.

Alternatives

Alternative 1 – No Action

The No Action Alternative was retained, as required by the National Contingency Plan (NCP), and provides a baseline for comparison with other alternatives. No remedial actions would be implemented as part of the No Action Alternative. Furthermore, this alternative would not involve any remediation or monitoring of the soil. Contamination in the soil would continue to migrate to the

groundwater unabated. Some of the contamination might attenuate through natural attenuation processes. However, there would be no sampling to evaluate any changes in contamination levels over time.

Total Capital Cost	$0
Operation and Maintenance	$0
Total Present Net Worth	$0
Time frame	0 years

Alternative 2 – Soil Vapor Extraction

This alternative addresses contaminated soil by constructing a Soil Vapor Extraction system operating within the source area. This Soil Vapor Extraction system would be built as an extension of the Soil Vapor Extraction system being built for the groundwater (OU1) remedy.

Soil Vapor Extraction is an in-situ technology for the removal of volatile compounds in the soil. This technology reduces the concentrations of VOCs in unsaturated soils.

In a Soil Vapor Extraction system, extraction wells are drilled into the contaminated soils. VOCs evaporate into the vapor phase and a vacuum is applied to the wells which pulls the vapors out. The extracted vapors, containing contaminants, are then passed through a material such as activated carbon which traps the contaminants. The activated carbon will be regenerated or disposed of properly.

EPA expects that it will take approximately five years for the SVE system to attain the remedial action objective and cleanup goals for the soil. Although the remedial action objective and cleanup goals are designed for industrial use of the Site, it is likely that the SVE system will also achieve the residential cleanup values which would allow for unrestricted use of the Site. If the more stringent residential goals are not achieved at the completion of the remedial action for OU2, EPA would evaluate the need for Institutional Controls to maintain the area for industrial use.

Soil Vapor Extraction Total Capital Cost	$45,000
Operation and Maintenance	$51,252
Discount Rate	7%
Total Present Net Worth	$97,000

Time frame	
Soil Vapor Extraction	5 years

COMPARATIVE ANALYSIS OF ALTERNATIVES

In selecting a remedy, EPA considered the factors set out in CERCLA § 121, 42 U.S.C. § 9621, by conducting a detailed analysis of the viable remedial response measures pursuant to the NCP, 40 CFR § 300.430(e)(9) and OSWER Directive 9355.3-01. The detailed analysis consisted of an assessment of the individual response measure against each of nine evaluation criteria and a comparative analysis focusing upon the relative performance of each response measure against the criteria.

Threshold Criteria - The first two criteria are known as "threshold criteria" because they are the minimum requirements that each response measure must meet in order to be eligible for selection as a remedy.

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1. Overall Protection of Human Health and the Environment
Overall protection of human health and the environment addresses whether each alternative provides adequate protection of human health and the environment and describes how risks posed through each exposure pathway are eliminated, reduced, or controlled, through treatment, engineering controls, and/or institutional controls.

The No Action Alternative, Alternative 1, is not considered protective of human health and the environment, because it does not prevent or monitor the potential migration of contamination from the soil to the groundwater.

Alternative 2, Soil Vapor Extraction, is considered protective. It provides for active treatment by removal of the contaminants in the soil until the remediation goals has been achieved.

2. Compliance with applicable or relevant and appropriate requirements (ARARs)
Section 121 (d) of CERCLA and NCP § 300.430(f) (1) (ii) (B) require that remedial actions at CERCLA sites at least attain legally applicable or relevant and appropriate

Federal and State requirements, standards, criteria, and limitations which are collectively referred to as "ARARs," unless such ARARs are waived under CERCLA section 121(d)(4).

Applicable requirements are those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under Federal environmental or State environmental or facility siting laws that specifically address a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance found at a CERCLA site. Only those State standards that are identified by a state in a timely manner and that are more stringent than Federal requirements may be applicable. Relevant and appropriate requirements are those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under Federal environmental or State environmental or facility siting laws that, while not "applicable" to a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance at a CERCLA site, address problems or situations sufficiently similar to those encountered at the CERCLA site that their use is well-suited to the particular site. Only those State standards that are identified in a timely manner and are more stringent than Federal requirements may be relevant and appropriate.

Compliance with ARARs addresses whether a remedy will meet all of the applicable or relevant and appropriate requirements of other Federal and State environmental statutes or provides a basis for invoking a waiver.

There are no chemical-specific ARARs establishing soil impact-to-groundwater remediation standards. However, EPA considered NJDEP guidance identifying methodologies for use in developing site-specific impact-to-groundwater soil remediation goals. Therefore, EPA used the SESOIL model to develop soil remediation goals for the Site to ensure that the groundwater would be protected. The NJ Soil Remediation Standards will be used determine the need for Institutional Controls.

Alternative 1, No Action, would not involve any action to remediate VOC-contaminated soil. Alternative 2, Soil Vapor Extraction, which includes active treatment of the soil, is expected to achieve the remediation goals in less than five years.

Location specific ARARs address the specifics of the area where the contamination and remediation activities are located. Potential ARARs for the soil remediation include the New Jersey Freshwater Protection Act and parts of the Federal National Environmental Policy Act.

Action specific ARARs are determined for the specific technology. Alternative 2, Soil Vapor Extraction, is a technology that removes contaminants from air spaces in soil. Therefore, Soil Vapor Extraction must comply with air standards such as the Federal Clean Air Act and New Jersey Air Pollution Control criteria in the NJ Statutes and Rules.

All operations would be done in compliance with applicable OSHA regulations. Any hazardous material that will need to be disposed will follow the applicable section of the Resource Conservation and Recovery Act. A complete list of potential ARARs can be found in Appendix II-A, Table 2.

Alternative 2, Soil Vapor Extraction, as opposed to Alternative 1, No Action, will be in compliance with the ARARs.

Primary Balancing Criteria - The next five criteria, criteria 3 through 7, are known as "primary balancing criteria". These criteria are factors with which tradeoffs between response measures are assessed so that the best option will be chosen, given site-specific data and conditions.

3. Long-term effectiveness and permanence

A similar degree of long-term effectiveness and permanence refers to expected residual risk and the ability of a remedy to maintain reliable protection of human health and the environment over time, once cleanup levels have been met. This criterion includes the consideration of residual risk that will remain on-site following remediation and the adequacy and reliability of controls.

Alternative 1, No Action, is not considered to be effective in the long term. Under this alternative, soil contaminants could remain in the soil and would continue to migrate to the groundwater.

Alternative 2, Soil Vapor Extraction, would be effective for removal of soil contamination. Detailed modeling using the SESOIL model was performed to determine specific cleanup goals for PCE and TCE that would be protective of groundwater in the long-term.

4. Reduction of toxicity, mobility, or volume

Reduction of toxicity, mobility, or volume through treatment refers to the anticipated performance of the treatment technologies that may be included as part of a remedy.

Alternative 1, No Action, would not reduce the toxicity, mobility, or volume of the contaminants. There may be some change in the chemistry of the contamination due to partial dechlorination of the contaminants over time through natural processes. However, it is unlikely that there would be a significant amount of dechlorination before the contaminants reach the groundwater. In addition, the changes in chemistry would not be monitored.

Alternative 2, Soil Vapor Extraction, would reduce the toxicity, mobility and volume of contaminants because the Soil Vapor Extraction system would remove the soil contaminants before they migrate to the groundwater. The contaminants would be captured on activated carbon. When the activated carbon is spent, it will be regenerated or disposed of properly.

5. Short-Term Effectiveness

Short-term effectiveness addresses the period of time needed to implement the remedy and any adverse impacts that may be posed to workers, the community and the environment during construction and operation of the remedy until cleanup levels are achieved.

Alternative 1, No Action, would have no short-term impacts because no action would be taken.

Alternative 2, Soil Vapor Extraction, would have some short-term impacts because it would be necessary to construct parts of the Soil Vapor Extraction system on the Lightman property near where United Cooperage currently operates. However, the OU2 Soil Vapor Extraction system is expected be built by adding extraction wells to the soil vapor extraction system to be built as part of the OU1

remedy to address contaminated groundwater. Any additional impact due to the construction of the extra extraction wells is expected to be minimal. It is estimated that through treatment, these goals would be reached in approximately 5 years.

6. Implementability

Implementability addresses the technical and administrative feasibility of a remedy from design through construction and operation. Factors such as availability of services and materials, administrative feasibility, and coordination with other governmental entities are also considered.

Alternative 1, No Action, would be the easiest both technically and administratively to implement, as no additional work would be performed at the Site to address soil contamination.

Alternative 2, Soil Vapor Extraction, is easy to implement. The area of OU2 is small and the components of a Soil Vapor Extraction system are readily available. In addition, construction of the OU2 SVE will involve adding extraction wells to the SVE system which will be built as part of the OU1 groundwater remedy. EPA expects that the OU1 and OU2 Soil Vapor Extraction systems would be built at the same time.

7. Cost

Includes estimated capital and O&M costs, and net present worth value of capital and O&M costs.

Alternative 1, No Action, has no associated cost, but is not considered protective of human health and the environment.

The estimated present worth cost for Alternative 2, Soil Vapor Extraction is $97,000. The estimated cost of $97,000 includes only the additional minimal costs of adding wells within the area of soil contamination. Vapors extracted from these wells will be treated in system to be built to address Site groundwater contamination, which uses the same technology. Costs associated with mobilization for construction, activated carbon to trap the VOC vapors, fans to create the vacuum, O&M, etc., were included in the OU1 remedy and are not included here.

Modifying Criteria - The final two evaluation criteria, criteria 8 and 9, are called "modifying criteria" because new information or comments from the state or the community on the Proposed Plan may modify the preferred response measure or cause another response measure to be considered.

8. State acceptance

Indicates whether based on its review of the RI/FS reports and the Proposed Plan, the state supports, opposes, and/or has identified any reservations with the selected response measure.

The State of New Jersey concurs with EPA's selected remedy, Alternative 2, Soil Vapor Extraction.

9. Community acceptance

Summarizes the public's general response to the response measures described in the Proposed Plan and the RI/FS reports. This assessment includes determining which of the response measures the community supports, opposes, and/or has reservations about.

EPA solicited input from the community on the remedial response measures proposed for the Site. Oral comments were recorded from attendees of the public meeting held on June 22, 2011 in Winslow Township. Some written comments were received during the public comment period. No significant objections to EPA's preferred alternative, Soil Vapor Extraction, were received during the public comment period.

The Responsiveness Summary, located in Appendix III, addresses all comments received during the public comment period.

PRINCIPAL THREAT WASTES

EPA defines Principal Threat Waste as "those source materials considered to be highly toxic or highly mobile that generally cannot be reliably contained or would present a significant risk to human health or the environment should exposure occur".

The buried drums (from the former Waste Storage Tank Area and underground Diesel Fuel Tanks), waste material from the

unlined Waste Disposal Pit, and the saturated soils near the former Waste Tank Storage Area which were all previously removed from the Site were considered “Principal Threat” wastes. The waste material addressed during these removal actions contained elevated levels of VOCs which, if not remediated, would have continued to serve as a source of groundwater contamination. As part of the site-wide RI, EPA conducted additional investigations in an attempt to identify any remaining source areas which may present a principal threat.

Operable Unit 2 consists of a small area, approximately .05 acres, of soil contamination which is acting as a residual source of groundwater contamination. Removing these wastes will have a positive impact on the planned groundwater remediation since this small source area will be addressed.

Based on the definition above, the OU2 wastes are not Principal Threat Wastes because, based on the Risk Assessment, they are not highly toxic and would not present a significant risk to human health or the environment should exposure occur.

SELECTED REMEDY

Based upon consideration of the results of Site investigations, the requirements of CERCLA, the detailed analysis of the remedial alternatives and public comments, EPA has determined that Alternative 2 comprises the appropriate remedy for contaminated soil at the Site. This remedy best satisfies the requirements of CERCLA Section 121 and the NCP's nine evaluation criteria for remedial alternatives, 40 CFR § 300.430(e)(9). This remedy includes the following component:

- Soil Vapor Extraction in the area of soil contamination near the Former Waste Storage Tank Areas

Prior to implementation of the remedy, a remedial design (RD)investigation for OU2 may be conducted to further delineate the areal extent of contaminated soil and collect sufficient data to complete the engineering design of the selected remedy.

The OU2 soil remedy is expected to be built as an extension of the Soil Vapor Extraction system that is being designed for the groundwater (OU1) remedy.

The OU1 groundwater remedy near the Lightman Drum property consists of an Air Sparging and Soil Vapor Extraction system. For the Air Sparging portion, approximately 60 air injection wells will be located on the Lightman property and the adjacent property to the south. Air will be injected into the groundwater through each injection well which will cause the contaminants in the groundwater to evaporate (become a gas). This gas moves upward through the groundwater and into the soils above the groundwater. These contaminated gases then will be removed by the Soil Vapor Extraction system.

The Soil Vapor Extraction portion of the remedy for groundwater will consist of approximately 40 locations also on the Lightman Property and the adjacent Property to the south. At each of these locations, the well, which will include a perforated tube, will be inserted into the ground to the top of the water table. A vacuum will be applied to the tubes and the contaminants in the gas phase will be removed. The gas and contaminants will pass through activated carbon where the contaminants will “stick” to the activated carbon. When the activated carbon is saturated with contaminants, it will be replaced with clean carbon. The contaminant-saturated carbon will be sent off-site to be recycled by heating the carbon to destroy the contaminants or otherwise disposed of properly.

The OU2 remedy will add a limited number of wells within the area of soil contamination and vapors will be extracted from these wells. Those vapors will be transported and treated with carbon as described above. It is estimated that the OU2 remedy will add one additional vapor extraction well to the OU1 Air Sparging and Soil Vapor Extraction system in order to address the small area of soil contamination.

The estimated cost of the selected remedy for the soil is $97,000. The cost is low because most of the cost for the Soil Vapor Extraction system is included in the OU1 remedy. The costs were estimated in the Focused Feasibility Study by assuming one additional extraction well will be constructed for the OU2 remedy.

The cleanup goals of 14 mg/kg for TCE and 2.6 mg/kg for PCE are protective of groundwater and are more stringent than the NJDEP Soil Remediation Standards for non-residential use. Residential standards of 7.0 mg/kg for TCE and

2.0 mg/kg for PCE are more stringent, but may be met by remediation using an SVE system. If the more stringent residential goals are not achieved at the completion of the remedial action for OU2, EPA would evaluate the need for Institutional Controls to maintain the area for industrial use.

Consistent with EPA Region 2's Clean and Green policy, EPA will evaluate the use of sustainable technologies and practices with respect to the remedial alternative selected for the Site.

STATUTORY DETERMINATIONS

As was previously noted, CERCLA § 121(b)(1) mandates that a remedial action must be protective of human health and the environment, cost-effective, and utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable. Section 121(b)(1) also establishes a preference for remedial actions which employ treatment to permanently and significantly reduce the volume, toxicity or mobility of the hazardous substances, pollutants, or contaminants at a site. CERCLA § 121(d) further specifies that a remedial action must attain a degree of cleanup that satisfies ARARs under federal and state laws, unless a waiver can be justified pursuant to CERCLA § 121(d)(4).

In this case, EPA determined that it is appropriate to use the presumptive remedy guidance for the OU2 VOC-contaminated soil. Therefore, the Soil Vapor Extraction was the only alternative compared to a No Action alternative.

Protection of Human Health and the Environment

The selected remedy, Alternative 2, will be protective of human health and the environment by providing for the permanent removal of contaminants from the soil. Implementation of the selected remedy will not present unacceptable short-term risks or adverse cross-media impacts.

Compliance with ARARs

EPA expects that the selected remedy for soil will comply with ARARs. The selected remedy will be designed to meet

Federal and State ARARs to limit impacts to groundwater. The Site is within the NJ Pinelands Protection Area and the soil overlies a usable aquifer. Hence the groundwater at the Site is classified as Class IA-PL and clean-up of the groundwater must meet the New Jersey Class IA-PL standards, the New Jersey MCLs or the Federal MCLs, whichever is lower. The soil cleanup goals were developed to prevent contamination of groundwater at levels above the New Jersey Class IA-PL standards. The soil cleanup goals were developed through computer modeling using the SESOIL model. Through use of the SESOIL model it was determined that the concentration of PCE in the soil must be at or below 2.6 mg/kg and the concentration of TCE must be at or below 14.0 mg/kg in order to protect the groundwater. The NJ Soil Remediation Standards will be applied following implementation of the selected remedy to determine the need for Institutional Controls.

Cost Effectiveness

EPA has determined that the selected remedy is cost-effective and represents a reasonable value for the money to be spent. In making this determination, the following definition was used: "A remedy shall be cost-effective if its costs are proportional to its overall effectiveness." (NCP §300.430(f)(1)(ii)(D)).

EPA evaluated the "overall effectiveness" of the two alternatives. No Action would not meet the threshold criteria as it is not protective of human health and the environment. The Soil Vapor Extraction alternative does meet the threshold criteria. In addition, it is cost-effective because it involves the addition of a limited number of extraction wells to the OU1 remedy that is being designed.

The selected remedy, SVE, is cost-effective as it has been determined to provide the greatest overall protectiveness for its present net worth costs.

Utilization of Permanent Solutions and Alternative Treatment Technologies

EPA has determined that the selected remedy utilizes permanent solutions and treatment technologies to the maximum extent that is practicable. The selected remedy

will address soil contamination by permanently removing contamination through treatment. The contamination will be removed from the soil by a Soil Vapor Extraction system. The contaminants will then be trapped on activated carbon. The activated carbon will then be treated to destroy the contaminants or will be disposed of properly.

Preference for Treatment as a Principal Element

The selected remedy meets EPA's statutory preference for the use of remedies that involve treatment as a principal element. The toxicity, mobility, and volume of the contaminants in the soil will be reduced through soil vapor extraction in the soil. The contaminants will be removed from the soil, captured on activated carbon, and either destroyed or disposed of properly. The removal of contaminants meets EPA's policy preference for destructive technologies over those that merely transfer contaminants to another medium.

Five-Year Review Requirements

EPA expects that it will take approximately five years for the SVE system to attain the remedial action objectives and cleanup goals for the soil. Therefore, a statutory five-year review will not be required.

A policy review may take place if it takes more than five years to implement the remedy to ensure that the remedy is, or will be, protective of human health and the environment.

SUMMARY

Based on all available information, EPA and the State of New Jersey believe the selected remedy provides the best balance of trade-offs among the alternative with respect to the nine evaluation criteria. EPA believes that the selected remedy will be protective of human health and the environment, will comply with ARARs, will be cost effective, and will utilize permanent solutions to the maximum

DOCUMENTATION OF SIGNIFICANT CHANGES

The Proposed Plan for the Site was released for public comment on June 10, 2011. The comment period closed on July 11, 2011. The Proposed Plan identified Alternative 2 as the preferred alternative to address soil contamination at the Site. Upon review of all comments submitted, EPA determined that no significant changes to the selected remedy, as it was presented in the Proposed Plan, are warranted.

GLOSSARY

ARARs: Applicable or Relevant and Appropriate Requirements. These are Federal or State environmental rules and regulations that may pertain to the Site or a particular alternative.

Carcinogenic Risk: Cancer risks are expressed as a number reflecting the increased chance that a person will develop cancer if exposed to chemicals or substances. For example, EPA's acceptable risk range for Superfund hazardous waste sites is 1×10^{-4} to 1×10^{-6}, meaning there is 1 additional chance in 10,000 (1×10^{-4}) to 1 additional chance in 1 million (1×10^{-6}) that a person will develop cancer if exposed to a Site contaminant that is not remediated.

CERCLA: Comprehensive Environmental Response, Compensation and Liability Act. A Federal law, commonly referred to as the "Superfund" Program, passed in 1980 that provides for response actions at sites found to be contaminated with hazardous substances, pollutants or contaminants that endanger public health and safety or the environment.

COPC: Chemicals of Potential Concern.

SLERA: Screening Level Ecological Risk Assessment. An evaluation of the potential risk posed to the environment if remedial activities are not performed at the Site.

FS: Feasibility Study. Analysis of the practicability of multiple remedial action options for the Site.

Groundwater: Subsurface water that occurs in soils and geologic formations that are fully saturated.

HHRA: Human Health Risk Assessment. An evaluation of the risk posed to human health should remedial activities not be implemented.

HI: Hazard Index. A number indicative of noncarcinogenic health effects that is the ratio of the existing level of exposure to an acceptable level of exposure. A value equal to or less than one indicates that the human population is not likely to experience adverse effects.

HQ: Hazard Quotient. HQs are used to evaluate noncarcinogenic health effects and ecological risks. A value equal to or less than one indicates that the human or ecological population are not likely to experience adverse effects.

ICs: Institutional Controls. Administrative methods to prevent human exposure to contaminants, such as by restricting the use of groundwater for drinking water purposes.

Nine Evaluation Criteria: See text box on Page 7.

Noncarcinogenic Risk: Noncancer Hazards (or risk) are expressed as a quotient that compares the existing level of

exposure to the acceptable level of exposure. There is a level of exposure (the reference dose) below which it is unlikely for even a sensitive population to experience adverse health effects. USEPA's threshold level for noncarcinogenic risk at Superfund sites is 1, meaning that if the exposure exceeds the threshold; there may be a concern for potential noncancer effects.

NPL: National Priorities List. A list developed by USEPA of uncontrolled hazardous substance release sites in the United States that are considered priorities for long-term remedial evaluation and response.

Operable Unit (OU): a discrete action that comprises an incremental step toward comprehensively addressing site problems. This discrete portion of a remedial response manages migration, or eliminates or mitigates a release, threat of a release, or pathway of exposure. The cleanup of a site can be divided into a number of operable units, depending on the complexity of the problems associated with the site.

Practical Quantitation Level (PQL): means the lowest concentration of a constituent that can be reliably achieved among laboratories within specified limits of precision and accuracy during routine laboratory operating conditions.

Present-Worth Cost: Total cost, in current dollars, of the remedial action. The present-worth cost includes capital costs required to implement the remedial action, as well as the cost of long-term operations, maintenance, and monitoring.

Proposed Plan: A document that presents the preferred remedial alternative and requests public input regarding the proposed cleanup alternative.

Public Comment Period: The time allowed for the members of a potentially affected community to express views and concerns regarding USEPA's preferred remedial alternative.

RAOs: Remedial Action Objectives. Objectives of remedial actions that are developed based on contaminated media, contaminants of concern, potential receptors and exposure scenarios, human health and ecological risk assessment, and attainment of regulatory cleanup levels.

Record of Decision (ROD): A legal document that describes the cleanup action or remedy selected for a site, the basis for choosing that remedy, and public comments on the selected remedy.

Remedial Action: A cleanup to address hazardous substances at a site.

RI: Remedial Investigation. A study of a facility that supports the selection of a remedy where hazardous

substances have been disposed or released. The RI identifies the nature and extent of contamination at the facility and analyzes risk associated with COPCs.

Saturated Soils: Soils that are found below the Water Table. These soils stay wet.

TBCs: "To-be-considereds," consists of non-promulgated advisories and/or guidance that were developed by EPA, other federal agencies, or states that may be useful in developing CERCLA remedies.

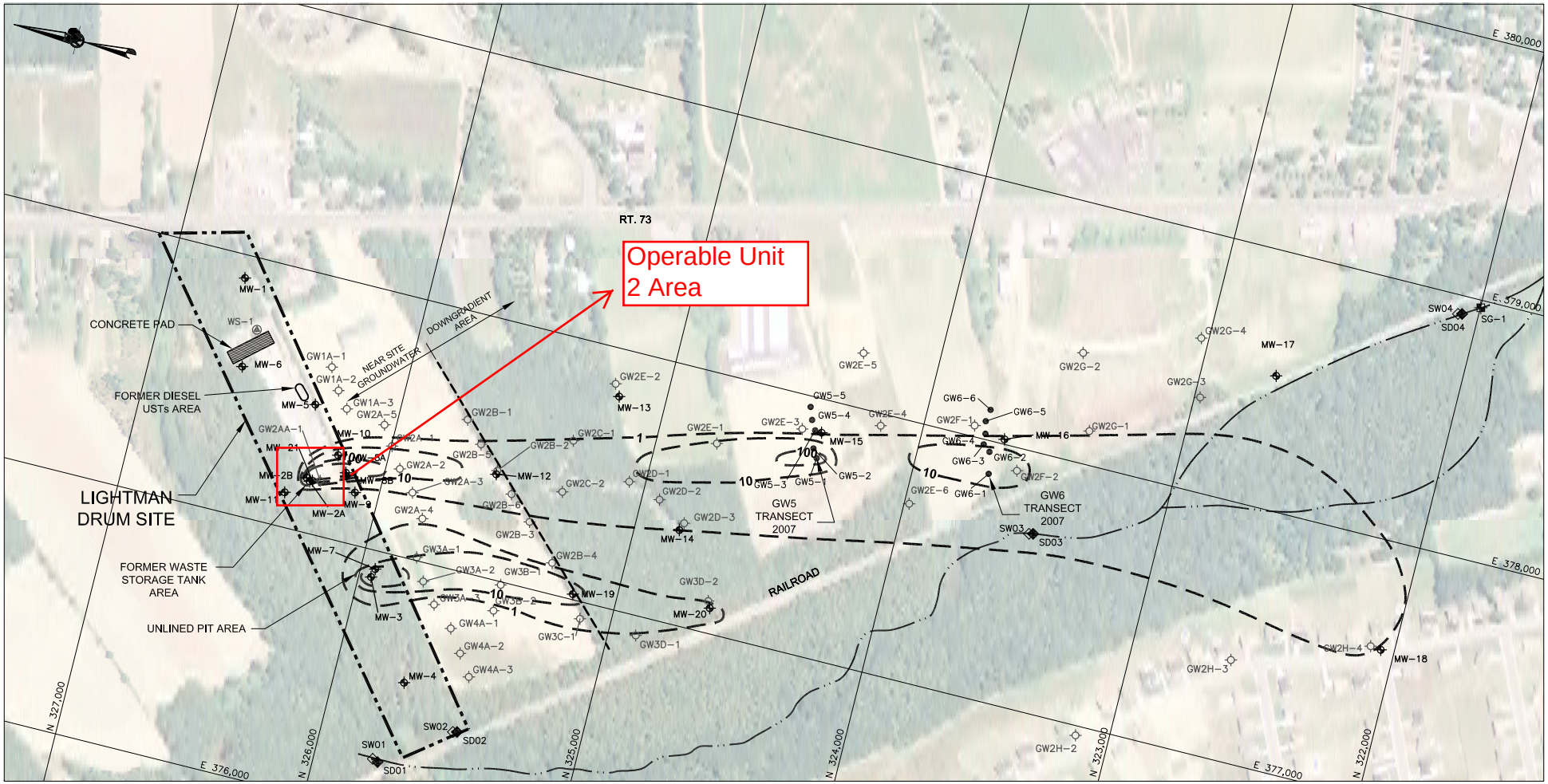
Unsaturated Soils: Soils that are found above the Water Table. Rain or surface water passes through these soils. These soils remain dry:

USEPA: United States Environmental Protection Agency. The Federal agency responsible for administration and enforcement of CERCLA (and other environmental statutes and regulations), and final approval authority for the selected ROD.

VOC: Volatile Organic Compound. Type of chemical that readily vaporizes, often producing a distinguishable odor.

Water Table: The water table is an imaginary line marking the top of the water-saturated area within a rock column.

Appendix I
Figures



LEGEND

- APPROXIMATE PROPERTY LINE – LIGHTMAN DRUM SITE
- GENERAL OUTLINE OF GROUNDWATER PLUME (SEE NOTE 2)
- WS–1 — ONSITE WATER SUPPLY WELL (LOCATION APPROXIMATE)
- MW–11 — MONITORING WELL
- GW3B–1 — GEOPROBE AQUIFER PROFILE BORINGS (LOCATION APPROXIMATE)
- SG–1 — STAFF GAUGE
- SW01 — SURFACE WATER SAMPLE (LOCATION APPROXIMATE)
- SD01 — SEDIMENT SAMPLE (LOCATION APPROXIMATE)
- PUMP BRANCH CREEK (SEE NOTE 3)

NOTE

1.) ND = NOT DETECTED

2.) ISOCONCENTRATION CONTOURS BASED ON GEOPROBE AND MONITORING WELL PCE DATA COLLECTED 2006–2007. DATA FROM MW–2B AND MW–8B WERE NOT CONTOURED AS THEY ARE SCREENED BELOW THE PLUME. WHERE MONITORING WELL DATA FROM 2006 AND 2007 WERE AVAILABLE, 2007 DATA WAS USED.

3.) APPROXIMATE CREEK LOCATION ESTIMATED FROM 1995 AERIAL PHOTO, EPHEMERAL IN VICINITY OF LIGHTMAN PROPERTY.

REFERENCES

1.) AERIAL PHOTOGRAPH TAKEN FROM USDA GEOSPATIAL DATA GATEWAY, DATED 2006.

2.) MONITORING WELLS, STAFF GAUGE AND PIEZOMETERS SHOWN WERE BASED ON SURVEY INFORMATION SUPPLIED BY JAMES M. STEWART, INC.

3.) GEOPROBE PROFILE BORINGS AND SURFACE WATER/SEDIMENT SAMPLING LOCATIONS WERE LOCATED IN THE FIELD BY GOLDER ASSOCIATES, INC. PERSONNEL USING A HANDHELD GPS UNIT AND ARE APPROXIMATE ONLY.

4.) PARCEL BOUNDARIES FROM GIS DATABASE OF NEW JERSEY.

300 0 300
SCALE FEET

REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RVW

PROJECT
LIGHTMAN DRUM SITE
WINSLOW TOWNSHIP, NEW JERSEY

TITLE
SITE CONDITIONS

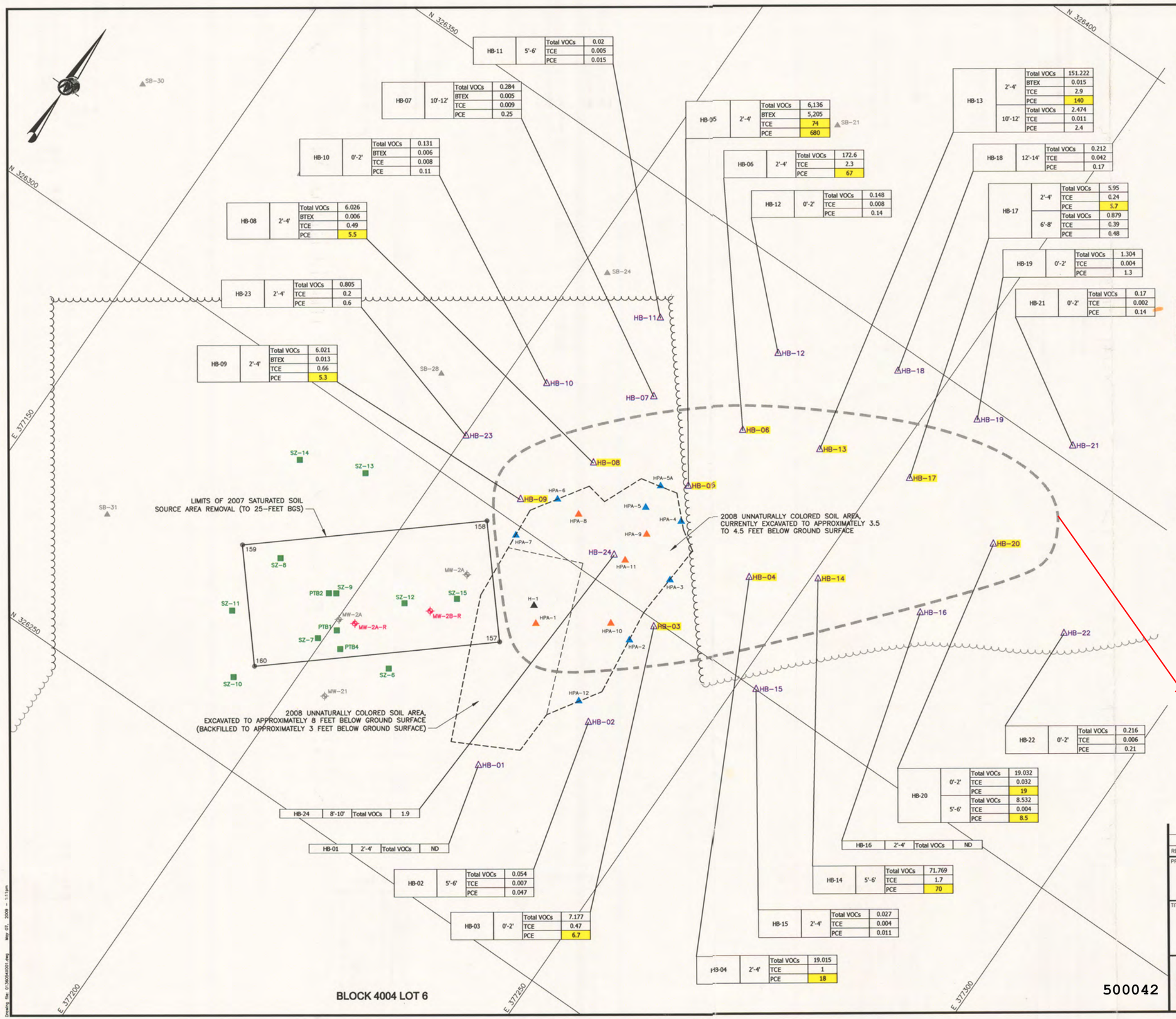
Golder Associates Philadelphia USA

PROJECT No.	013–6054	FILE No.	013054MISC12		
DESIGN	PSF	04/07/09	SCALE	AS SHOWN	REV. 0
CADD	AM	04/08/09			
CHECK					
REVIEW					

FIGURE 1

500041

Drawing file: 013054-Misc12.dwg Apr 08, 2009 - 9:42am



LEGEND

- APPROXIMATE TREELINE
- REMEDIAL INVESTIGATION UNSATURATED SOIL BORING LOCATION (SEPTEMBER AND NOVEMBER 2002)
- 159 — 2007 SOURCE REMOVAL EXCAVATION SURVEY LOCATION
- REMEDIAL INVESTIGATION SATURATED SOIL BORING LOCATION (APRIL AND MAY 2006)
- MONITORING WELL (SEE REFERENCE 3)
- DECOMMISSIONED MONITORING WELL (SEE REFERENCE 3)
- EXCAVATION SIDEWALL SOIL SAMPLE LOCATION FOR HEADSPACE SCREENING (OCTOBER 31, 2008)
- EXCAVATION BASE SOIL SAMPLE LOCATION FOR HEADSPACE SCREENING (OCTOBER 31, 2008)
- EXCAVATION BASE SOIL SAMPLE LOCATION FOR CONFIRMATORY LABORATORY ANALYSES (OCTOBER 31, 2008)
- 2009 SOIL INVESTIGATION BORING (SEE REFERENCE 4)
- INTERPRETED EXTENT OF UNSATURATED SOIL EXCEEDANCES

Total VOCs	= TOTAL CONCENTRATION OF VOLATILE ORGANIC COMPOUNDS [mg/kg]
BTEX	= TOTAL CONCENTRATION OF BENZENE, TOLUENE, ETHYLBENZENE, AND XYLENES [mg/kg]
TCE	= TRICHLOROETHENE CONCENTRATION [mg/kg]
PCE	= TETRACHLOROETHENE CONCENTRATION [mg/kg]
	= EXCEEDS NJDEP DIRECT CONTACT SRS

NOTES

1.) SATURATED SOIL BORING LOCATIONS BASED ON MEASUREMENTS RELATIVE TO SURVEYED MONITORING WELLS.

2.) MONITORING WELLS MW-2A-R AND MW-2B-R REPLACED MONITORING WELLS MW-2A AND MW-2B SUBSEQUENT TO SOIL SOURCE REMOVAL ACTIVITIES IN FEBRUARY 2008. MONITORING WELL MW-21 WAS DECOMMISSIONED IN NOVEMBER 2007.

3.) SOURCE AREA REMOVAL LIMITS BASED ON SURVEY BY B+B HI-TECH SOLUTIONS, LLC.

4.) HEADSPACE SCREENING OF SOIL SAMPLES PERFORMED IN OCTOBER 2008 USING A PPB-RAE PID.

5.) SAMPLE HPA-5 COLLECTED FROM SIDEWALL OF EXCAVATION PRIOR TO EXPANDING EXCAVATION.

6.) CONCENTRATIONS ARE EXPRESSED IN mg/kg. EXCEEDANCES OF NJDEP DIRECT CONTACT SOIL REMEDIATION STANDARD (2008) ARE HIGHLIGHTED.

REFERENCES

1.) BASE MAP TAKEN FROM FILE 2702-01.DWG, TITLED "PLAN OF SURVEY", PROVIDED BY JAMES M. STEWART, INC.

2.) UNSATURATED SOIL BORING AND SOIL SAMPLE LOCATIONS SURVEYED BY JAMES M. STEWART, INC., IN NOVEMBER 2002.

3.) MONITORING WELLS MW-21, MW-2A, AND MW-2B WERE SURVEYED BY JAMES M. STEWART, INC., IN NOVEMBER 2002. MONITORING WELLS MW-2A-R AND MW-2B-R SURVEYED BY B+B HI-TECH SOLUTIONS, LLC., IN MARCH 2008.

4.) VOC INVESTIGATION BORING LOCATIONS, EXCAVATION LIMIT, AND SPOT ELEVATIONS SURVEYED BY JAMES M. STEWART, INC., IN FEBRUARY 2009.

Operable Unit 2 Area

SCALE 6 0 6 12 FEET

REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RVW

PROJECT
LIGHTMAN DRUM COMPANY SUPERFUND SITE
2009 SOIL INVESTIGATION
WINSLOW TOWNSHIP, NEW JERSEY

TITLE
VOCs - UNSATURATED SOIL

NJ Authorization #24GA28029100
Golder Associates
Philadelphia USA

PROJECT No.	013-6054		FILE No.	0136054X001	
DESIGN	JPR	04/08/09	SCALE	AS SHOWN	REV. 0
CADD	MJS	05/07/09			
CHECK	JPR	05/07/09			
REVIEW	PSF	05/07/09			

FIGURE 2

Drawing file: 0136054X001.dwg May 07, 2009 - 1:11pm

Appendix II-A
Technical Tables

Table 1

Summary of Unsaturated Soil Sampling Detects
February 2009 Soil Investigation
Lightman Drum Company Site
Winslow Township, NJ

				Unsaturated			Unsaturated			Unsaturated			Unsaturated			Unsaturated			Unsaturated			Unsaturated			Unsaturated		
			Sample ID	HB-01			HB-02			HB-03			HB-04			HB-05			HB-06			HB-07			HB-07		
			N = Normal, FD = Field Duplicate	N			N			N			N			N			N			FD			N		
			Sample Date	02/09/2009			02/09/2009			02/09/2009			02/09/2009			02/09/2009			02/09/2009			02/09/2009			02/09/2009		
			Start Depth	2			5			0			2			2			2			10			10		
			End Depth	4			6			2			4			4			4			12			12		
Parameter	CAS	Selected Screening Criteria (mg/kg) *	Unit	Result	Qual	Rept Limit	Result	Qual	Rept Limit	Result	Qual	Rept Limit	Result	Qual	Rept Limit	Result	Qual	Rept Limit	Result	Qual	Rept Limit	Result	Qual	Rept Limit	Result	Qual	Rept Limit
1,1,1-Trichloroethane	71-55-6	290	mg/kg							0.005	J	0.01	0.006	J	0.01												
1,1,2-Trichloroethane	79-00-5	2	mg/kg																								
1,1-Dichloroethene	75-35-4	11	mg/kg																								
1,2,4-Trichlorobenzene	120-82-1	73	mg/kg													**140**	J	170	**88**		7.7				0.005	J	0.01
1,2-Dichlorobenzene	95-50-1	5300	mg/kg																5.5	J	7.7						
1,3-Dichlorobenzene	541-73-1	5300	mg/kg										0.003	J	0.01				1.8	J	7.7	0.002	J	0.01	0.004	J	0.01
1,4-Dichlorobenzene	106-46-7	5	mg/kg										0.002	J	0.01				**8**		7.7				0.003	J	0.01
Acetone	67-64-1	70000	mg/kg																								
Benzene	71-43-2	2	mg/kg																								
Carbon Disulfide	75-15-0	7800	mg/kg																								
Carbon Tetrachloride	56-23-5	0.6	mg/kg																								
Chlorobenzene	108-90-7	510	mg/kg													37	J	170									
cis-1,2-Dichloroethene	156-59-2	230	mg/kg																								
Cyclohexane	110-82-7	NA	mg/kg																								
Dichlorodifluoromethane	75-71-8	490	mg/kg										0.002	J	0.01										0.004	J	0.01
Ethylbenzene	100-41-4	7800	mg/kg													410		170									
Freon 113	76-13-1	NA	mg/kg							0.002	J	0.01	0.002	J	0.01										0.004	J	0.01
Isopropylbenzene	98-82-8	NA	mg/kg																								
Methyl Acetate	79-20-9	78000	mg/kg																								
Methyl Cyclohexane	108-87-2	NA	mg/kg																								
Tetrachloroethene	127-18-4	2	mg/kg				0.047		0.01	6.7		1.3	**18**		1.8	**680**		170	**67**		7.7	0.29	J	0.012	0.25	J	1.3
Toluene	108-88-3	6300	mg/kg													95	J	170									
trans-1,2-Dichloroethene	156-60-5	300	mg/kg																								
Trichloroethene	79-01-6	7	mg/kg				0.007	J	0.01	0.47	J	1.3	1	J	1.8	74	J	170	2.3	J	7.7	0.018		0.012	0.009	J	0.01
Trichlorofluoromethane	75-69-4	23000	mg/kg																								
Xylenes, Total	1330-20-7	12000	mg/kg													4700		170							0.005	J	0.01
Total VOCs		NA	mg/kg	0			0.054			7.177			19.015			6136			172.6			0.31			0.284		

*Soil selected screening criteria is the NJ DEP Residential Direct Contact Soil Remediation Standard (11/2008)

NA= Not Available
J = The analyte was detected and is considered estimated
Values greater than screening criteria are indicated in **bold**.

Table 1 (cont'd)

Summary of Unsaturated Soil Sampling Detects
February 2009 Soil Investigation
Lightman Drum Company Site
Winslow Township, NJ

Sample ID				Unsaturated HB-08			Unsaturated HB-09			Unsaturated HB-10			Unsaturated HB-11			Unsaturated HB-12			Unsaturated HB-13			Unsaturated HB-13			Unsaturated HB-13		
N = Normal, FD = Field Duplicate				N			N			N			N			N			N			FD			N		
Sample Date				02/10/2009			02/10/2009			02/10/2009			02/10/2009			02/10/2009			02/10/2009			02/10/2009			02/10/2009		
Start Depth				2			2			0			5			0			2			10			10		
End Depth				4			4			2			6			2			4			12			12		
Parameter	CAS	Selected Screening Criteria (mg/kg) *	Unit	Result	Qual	Rept Limit	Result	Qual	Rept Limit	Result	Qual	Rept Limit	Result	Qual	Rept Limit	Result	Qual	Rept Limit	Result	Qual	Rept Limit	Result	Qual	Rept Limit	Result	Qual	Rept Limit
1,1,1-Trichloroethane	71-55-6	200	mg/kg	0.008	J	0.01	0.01		0.01										0.011		0.01						
1,1,2-Trichloroethane	79-00-5	2	mg/kg																								
1,1-Dichloroethene	75-35-4	11	mg/kg				0.002	J	0.01													0.003	J	0.01	0.003	J	0.01
1,2,4-Trichlorobenzene	120-82-1	73	mg/kg																5.4	J	11	0.008	J	0.01	0.007	J	0.01
1,2-Dichlorobenzene	95-50-1	5300	mg/kg	0.002	J	0.01													0.092		0.01	0.004	J	0.01	0.003	J	0.01
1,3-Dichlorobenzene	541-73-1	5300	mg/kg	0.007	J	0.01													0.22	J	0.01	0.014		0.011	0.016		0.011
1,4-Dichlorobenzene	106-46-7	5	mg/kg	0.002	J	0.01													2.5	J	11	0.007	J	0.01	0.006	J	0.01
Acetone	67-64-1	70000	mg/kg																								
Benzene	71-43-2	2	mg/kg																0.004	J	0.01						
Carbon Disulfide	75-15-0	7806	mg/kg				0.002	J	0.01													0.003	J	0.01	0.003	J	0.01
Carbon Tetrachloride	56-23-5	0.6	mg/kg																			0.002	J	0.01			
Chlorobenzene	108-90-7	510	mg/kg	0.003	J	0.01													0.065		0.01	0.003	J	0.01			
cis-1,2-Dichloroethene	156-59-2	230	mg/kg				0.022		0.01																		
Cyclohexane	110-82-7	NA	mg/kg																			0.003	J	0.01			
Dichlorodifluoromethane	75-71-8	490	mg/kg	0.003	J	0.01	0.004	J	0.01	0.003	J	0.01							0.002	J	0.01	0.007	J	0.01	0.008	J	0.01
Ethylbenzene	100-41-4	7800	mg/kg	0.002	J	0.01	0.002	J	0.01																		
Freon 113	76-13-1	NA	mg/kg	0.003	J	0.01	0.005	J	0.01	0.004	J	0.01							0.002	J	0.01	0.007	J	0.01	0.009	J	0.01
Isopropylbenzene	98-82-8	NA	mg/kg																0.015		0.01	0.003	J	0.01			
Methyl Acetate	79-20-9	78000	mg/kg																								
Methyl Cyclohexane	108-87-2	NA	mg/kg																			0.005	J	0.01	0.003	J	0.01
Tetrachloroethene	127-18-4	2	mg/kg	**5.5**		1.3	**5.3**	J	1.3	0.11		0.01	0.015		0.01	0.14		0.01	**140**		11	0.71	J	1.6	**2.4**	J	0.011
Toluene	108-88-3	6300	mg/kg																0.002	J	0.01	0.002	J	0.01			
trans-1,2-Dichloroethene	156-60-5	300	mg/kg																			0.003	J	0.01			
Trichloroethene	79-01-6	7	mg/kg	0.49	J	1.3	0.66	J	1.3	0.008	J	0.01	0.005	J	0.01	0.008	J	0.01	2.9	J	11	0.024		0.011	0.011	J	0.011
Trichlorofluoromethane	75-69-4	23000	mg/kg	0.002	J	0.01	0.003	J	0.01													0.003	J	0.01	0.005	J	0.01
Xylenes, Total	1330-20-7	12000	mg/kg	0.004	J	0.01	0.011		0.01	0.006	J	0.01							0.009	J	0.01	0.002	J	0.01			
Total VOCs		NA	mg/kg	6.026			6.021			0.127			0.02			0.148			151.222			0.813			2.474		

*Soil selected screening criteria is the NJ DEP Residential Direct Contact Soil Remediation Standard (11/2009)

NA= Not Available

J = The analyte was detected and is considered estimated

Values greater than screening criteria are indicated in **bold.**

Table 1 (cont'd)

Summary of Unsaturated Soil Sampling Detects
February 2009 Soil Investigation
Lightman Drum Company Site
Winslow Township, NJ

				Unsaturated			Unsaturated			Unsaturated			Unsaturated			Unsaturated			Unsaturated			Unsaturated			Unsaturated		
Sample ID				HB-14			HB-15			HB-16			HB-17			HB-17			HB-18			HB-19			HB-20		
N = Normal, FD = Field Duplicate				N			N			N			N			N			N			N			N		
Sample Date				02/10/2009			02/11/2009			02/11/2009			02/11/2009			02/11/2009			02/11/2009			02/11/2009			02/11/2009		
Start Depth				5			2			2			2			6			12			0			0		
End Depth				6			4			4			4			8			14			2			2		
Parameter	CAS	Selected Screening Criteria (mg/kg) *	Unit	Result	Qual	Rept Limit	Result	Qual	Rept Limit	Result	Qual	Rept Limit	Result	Qual	Rept Limit	Result	Qual	Rept Limit	Result	Qual	Rept Limit	Result	Qual	Rept Limit	Result	Qual	Rept Limit
1,1,1-Trichloroethane	71-55-6	290	mg/kg	0.01		0.01							0.004	J	0.01	0.003	J	0.01									
1,1,2-Trichloroethane	79-00-5	2	mg/kg																								
1,1-Dichloroethene	75-35-4	11	mg/kg	0.003	J	0.01																					
1,2,4-Trichlorobenzene	120-82-1	73	mg/kg	0.007	J	0.01	0.003	J	0.01																		
1,2-Dichlorobenzene	95-50-1	5300	mg/kg										0.002	J	0.01												
1,3-Dichlorobenzene	541-73-1	5300	mg/kg	0.016		0.01							0.002	J	0.01	0.006	J	0.01									
1,4-Dichlorobenzene	106-46-7	5	mg/kg	0.004	J	0.01							0.002	J	0.01												
Acetone	67-64-1	70000	mg/kg																								
Benzene	71-43-2	2	mg/kg																								
Carbon Disulfide	75-15-0	7800	mg/kg	0.003	J	0.01																					
Carbon Tetrachloride	56-23-5	0.6	mg/kg																								
Chlorobenzene	108-90-7	510	mg/kg	0.002	J	0.01																					
cis-1,2-Dichloroethene	156-59-2	230	mg/kg																								
Cyclohexane	110-82-7	NA	mg/kg	0.002	J	0.01																					
Dichlorodifluoromethane	75-71-8	490	mg/kg	0.006	J	0.01	0.003	J	0.01																		
Ethylbenzene	100-41-4	7800	mg/kg																								
Freon 113	76-13-1	NA	mg/kg	0.007	J	0.01	0.004	J	0.01																		
Isopropylbenzene	98-82-8	NA	mg/kg																								
Methyl Acetate	79-20-9	78000	mg/kg																								
Methyl Cyclohexane	108-87-2	NA	mg/kg	0.004	J	0.01	0.002	J	0.01																		
Tetrachloroethene	127-18-4	2	mg/kg	70		8.4	0.011		0.01				5.7	J	1.3	0.48	J	1.3	0.17		0.011	1.3		1.3	19		2.6
Toluene	108-88-3	6300	mg/kg																								
trans-1,2-Dichloroethene	156-60-5	300	mg/kg	0.002	J	0.01																					
Trichloroethene	79-01-6	7	mg/kg	1.7	J	8.4	0.004	J	0.01				0.24	J	0.01	0.39	J	0.011	0.042		0.011	0.004	J	0.01	0.032		0.01
Trichlorofluoromethane	75-69-4	23000	mg/kg	0.003	J	0.01																					
Xylenes, Total	1330-20-7	12000	mg/kg																								
Total VOCs		NA	mg/kg	71.769			0.027			0			5.95			0.879			0.212			1.304			19.032		

*Soil selected screening criteria is the NJ DEP Residential Direct Contact Soil Remediation Standard (11/2009)

NA= Not Available

J = The analyte was detected and is considered estimated

Values greater than screening criteria are indicated in bold.

Table 1 (cont'd)

Summary of Unsaturated Soil Sampling Detects
February 2009 Soil Investigation
Lightman Drum Company Site
Winslow Township, NJ

Sample ID N = Normal, FD = Field Duplicate Sample Date Start Depth End Depth				Unsaturated HB-20 N 02/11/2009 5 6			Unsaturated HB-21 N 02/11/2009 0 2			Unsaturated HB-22 N 02/11/2009 0 2			Unsaturated HB-23 N 02/11/2009 2 4			Unsaturated HB-24 N 02/11/2009 8 10		
Parameter	CAS	Selected Screening Criteria (mg/kg) *	Unit	Result	Qual	Rept Limit	Result	Qual	Rept Limit	Result	Qual	Rept Limit	Result	Qual	Rept Limit	Result	Qual	Rept Limit
1,1,1-Trichloroethane	71-55-6	200	mg/kg										0.005	J	0.01			
1,1,2-Trichloroethane	79-00-5	2	mg/kg															
1,1-Dichloroethene	75-35-4	11	mg/kg															
1,2,4-Trichlorobenzene	120-82-1	73	mg/kg													1.6		1.3
1,2-Dichlorobenzene	95-50-1	5300	mg/kg															
1,3-Dichlorobenzene	541-73-1	5300	mg/kg															
1,4-Dichlorobenzene	106-46-7	5	mg/kg															
Acetone	67-64-1	70000	mg/kg	0.028	J	0.01	0.028	J	0.011									
Benzene	71-43-2	2	mg/kg															
Carbon Disulfide	75-15-0	7800	mg/kg															
Carbon Tetrachloride	56-23-5	0.6	mg/kg															
Chlorobenzene	108-90-7	510	mg/kg															
cis-1,2-Dichloroethene	156-59-2	230	mg/kg															
Cyclohexane	110-82-7	NA	mg/kg															
Dichlorodifluoromethane	75-71-8	490	mg/kg															
Ethylbenzene	100-41-4	7800	mg/kg															
Freon 113	76-13-1	NA	mg/kg															
Isopropylbenzene	98-82-8	NA	mg/kg															
Methyl Acetate	79-20-9	78000	mg/kg													0.3	J	1.3
Methyl Cyclohexane	108-87-2	NA	mg/kg															
Tetrachloroethene	127-18-4	2	mg/kg	**8.5**		1.3	0.14		0.011	0.21	J	0.01	0.6	J	1.3			
Toluene	108-88-3	6300	mg/kg															
trans-1,2-Dichloroethene	156-60-5	300	mg/kg															
Trichloroethene	79-01-6	7	mg/kg	0.004	J	0.01	0.002	J	0.01	0.006	J	0.01	0.2	J	0.01			
Trichlorofluoromethane	75-69-4	23000	mg/kg															
Xylenes, Total	1330-20-7	12000	mg/kg															
Total VOCs		NA	mg/kg	8.532			0.17			0.216			0.805			1.9		

*Soil selected screening criteria is the NJ DEP Residential Direct Contact Soil Remediation Standard (11/2008)

NA= Not Available

J = The analyte was detected and is considered estimated

Values greater than screening criteria are indicated in **bold**.

Table 2

Potential ARARs
Lightman Drum Feasibility Study
Winslow Township, NJ

Regulator	Criteria	Citation	Description	Comments
Potential Chemical Specific ARARs				
State of New Jersey Statutes and Rules	Remediation Standards	N.J.A.C. 7:26D Remediation Standards	Establishes direct-contact standards for soils. Used as the primary basis for setting numerical criteria for soil cleanups for ingestion and dermal contact	Not an ARAR for inhalation (USEPA letter, May 12, 2010)
Federal Safe Drinking Water Act	National Primary Drinking Water Standards - Maximum Contaminant Level Goals (MCLGs)	40 CFR 141	The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety and are non-enforceable public health goals.	The NJ groundwater quality standards are applicable for the protection of groundwater quality
Federal Safe Drinking Water Act	National Secondary Drinking Water Standards - Maximum Contaminant Levels (MCLs)	40 CFR 143	The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to MCLGs as feasible using the best available treatment technology and taking cost into consideration. MCLs are enforceable standards.	These standards are less stringent than applicable state standards
Federal Resource Conservation and Recovery Act	Groundwater Protection Standards and Maximum Concentration Limits	40 CFR 264 subpart F	Establishes standards for groundwater protection	These standards are less stringent than applicable state standards
State of New Jersey Statutes and Rules	Drinking Water Standards - MCLs	N.J.A.C. 7:10 Safe Drinking Water Act	Establishes MCLs that are generally equal to or more stringent than the Safe Drinking Water Act MCLs	
State of New Jersey Statutes and Rules	Groundwater Quality Standards	N.J.A.C. 7:9C Groundwater Quality Standards	Establishes standards for the protection of ambient groundwater quality. Used as the primary basis for setting numerical criteria for groundwater cleanups	Includes standards for groundwater protected by the Pinelands Protection Act, N.J.S.A. 13:18A-1 et seq.

Table 2 (cont'd)

Potential ARARs
Lightman Drum Feasibility Study
Winslow Township, NJ

Regulator	Criteria	Citation	Description	Comments
Potential Location Specific ARARs				
New Jersey Flood Hazard Control Act	Floodplain Use and Limitations	N.J.A.C. 7:13 Flood Hazard Area Control		OU-2 Soils do not lie within the 100 year or 500 year floodplain
Federal National Environmental Policy Act	Statement of Procedures on Floodplain Management and Wetlands Protection	40 CFR 6, Appendix A	Establishes policy and guidance for carrying out Executive Order 11988 - to avoid to the extent possible the long and short term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development.	OU-2 Soils do not lie within the 100 year or 500 year floodplain
Federal National Environmental Policy Act	Statement of Procedures on Floodplain Management and Wetlands Protection	40 CFR 6, Appendix A	Executive Order 11990 - Protection of Wetlands - to avoid to the extent possible the long and short term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands	OU-2 Soils do not lie near wetlands
New Jersey Freshwater Wetlands Protection Act		N.J.A.C. 7:7A N.J.S.A. 13:9B-1	Require permits for regulated activity disturbing wetlands	Potentially applicable for construction activities performed in the vicinity of a wetland or waterway (Pump Branch Creek)
Federal Endangered and Non-Game Species Act	Protection of threatened and endangered species	N.J.S.A. 23:2A-1	Standards for the protection of threatened and endangered species	Swamp pink was identified as potentially occurring on or adjacent to the Site; A survey found no evidence of the plant
Federal Endangered Species Act	Protection of threatened and endangered species	16 USC 1531 et seq. 40 CFR 400	Standards for the protection of threatened and endangered species	Swamp pink was identified as potentially occurring on or adjacent to the Site; A survey found no evidence of the plant
Endangered Plant Species List Act	Protection of threatened and endangered species	N.J.S.A. 13:1B et seq.	To develop and adopt a list of plant species that are endangered in New Jersey	Swamp pink was identified as potentially occurring on or adjacent to the Site; A survey found no evidence of the plant

Table 2 (cont'd)

Potential ARARs
Lightman Drum Feasibility Study
Winslow Township, NJ

Regulator	Criteria	Citation	Description	Comments
Potential Location Specific ARARs (con't)				
Federal Fish and Wildlife Conservation Act	Statement of Procedures for non-game Fish and Wildlife Protection	16 USC 2901 et seq.	Established EPA policy and guidance for promoting the conservation of non-game fish and wildlife and their habitats.	Potentially applicable for construction activities performed which may impact non-game fish and wildlife and their habitats
Federal National Historic Preservation Act	Procedures for preservation of historical and archaeological data	16 USC 469 et seq. 40 CFR 6301 ('c)	Establishes procedures to provide for preservation of historical and archaeological data that might be destroyed through alteration of terrain as a result of a Federally licensed activity or program	A Stage IA Cultural Resources Survey indicated low to moderate potential for pre-historic archaeological remains and a low potential for historic archeological remains.
Potential Action Specific ARARs				
New Jersey Soil Erosion and Sediment Control Act	Procedures for controlling erosion and sediment movement	N.J.S.A. 4:24-39 et seq.	To establish soil erosion and sediment control standards for Department of Transportation certification of its projects to the Soil Conservation Districts	Potentially applicable for construction activities
Toxic Pollutant Effluent Standards		40 CFR 129	Establishes effluent standards or prohibitions for certain toxic pollutants	Pollutants regulated not identified as COPCs
Resource Conservation and Recovery Act		42 USC 6901 et seq.	To manage hazardous and non-hazardous waste	
Identification and Listing of Hazardous Wastes		40 CFR 261	Identifies solid wastes which are subject to regulation as hazardous wastes	Potentially applicable to waste streams from treatment options
Standards for Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities		40 CFR 263	Establishes the responsibilities regarding the handling, transportaion, and management of hazardous waste	
Land Disposal Restrictions (LDRs)		40 CFR 268	Establishes Treatment Standards for land disposal of hazardous wastes.	
Hazardous Waste Permit Program		40 CFR 270	Establishes provisions covering basic EPA permitting requirements	
Hazardous Materials Transportation Act (HMTA)		49 USC 1801-1813	Regulates transportation of hazardous materials in commerce	Potentially applicable for removal of treatment waste streams
Hazardous Material Transportation Regulations		49 CFR 107, 171-177	Regulates transportation of hazardous materials	Potentially applicable for removal of treatment waste streams
Clean Air Act (CAA)		42 USC 7401	To preserve air quality and to reduce air pollution	Potentially applicable to waste streams from SVE alternative
National Ambient Air Quality Standards		40 CFR 50	Establishes primary and secondary standards for six pollutants to protect the public health and welfare.	Potentially applicable to waste streams from SVE alternative

Table 2 (cont'd)

Potential ARARs
Lightman Drum Feasibility Study
Winslow Township, NJ

Regulator	Criteria	Citation	Description	Comments
Potential Action Specific ARARs (cont'd)				
National Emission Standards for Hazardous Air pollutants		40 CFR 63	Establishes regulations for specific air pollutants (such as benzene and PCE)	Potentially applicable to waste streams from SVE alternative
State of New Jersey Statutes and Rules	Air Pollution Control	N.J.A.C. 7:27 (Subchapters 8 & 16)	Regulates Air Pollution	
Technical Requirements for Site Remediation		N.J.A.C. 7:26E (Subchapter 8)	Establishes institutional controls for contaminated soils left in place	
Occupational Safety and Health Act (OSHA)		29 USC 651-678	Regulates worker health and safety	

Appendix II-B
Risk Tables

Table 1

Summary of Chemicals of Concern and Medium Specific Exposure Point Concentrations

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: On-site surface soil

Exposure Point	Chemical of Concern	Concentration Detected		Concentration Units	Frequency of Detection	Exposure Point Concentration	EPC Units	Statistic
		Min	Max					
	Tetrachloroethene	0.11	19	mg/kg	7/7	19	mg/kg	(1)

Footnotes:
(1) Defaulted to Maximum detected Concentration because the 95%UCL exceeded the maximum detected concentration.

Scenario Timeframe: Future
Medium: Subsurface Soil
Exposure Medium: On-site subsurface soil

Exposure Point	Chemical of Concern	Concentration Detected		Concentration Units	Frequency of Detection	Exposure Point Concentration	EPC Units	Statistic
		Min	Max					
	Ethylbenzene	0.002	410	mg/kg	3/20	264	mg/kg	(1)
	Trichloroethene	0.004	74	mg/kg	17/20	41	mg/kg	(1)
	Tetrachloroethene	0.011	680	mg/kg	17/20	199	mg/kg	(1)

Footnotes:
(1) 95% Chebyshev (Mean,Sd) UCL

Table 2

Non-Cancer Toxicity Data Summary

Pathway: Oral/Dermal

Chemical of Concern	Chronic/ Subchronic	Oral RfD Value	Oral RfD Unit	Absorp. Efficiency (Dermal)	Primary Target Organ	Combined Uncertainty/ Modifying Factors	Source of RfD: Target Organ	Date of RfD
Ethylbenzene	Chronic	1E-1	mg/kg-day	(1)	Liver/ Kidney	1000/1	IRIS	6/1/91
Tetrachloroethene	Chronic	1E-2	mg/kg-day	(1)	Liver	1000/1	IRIS	3/1/88
Trichloroethene	Chronic	-	mg/kg-day	-	-	-	-	-

Pathway: Inhalation

Chemical of Concern	Chronic/ Subchronic	Inhalation RfC	Inhalation RfC Units	Primary Target Organ	Combined Uncertainty/ Modifying Factors	Source of RfD: Target Organ	Dateof RfD
Ethylbenzene	Chronic	1E+0	mg/m^3	Develop-ment	300/1	IRIS	3/1/91
Tetrachloroethene	Chronic	2.7E-1	mg/m^3	Neuro	-	ATSDR	-
Trichloroethene	Chronic	-	mg/m^3	-	-	-	-

Footnotes:

- : Not available
(1) : EPA Recommendation
(2) : IRIS value
IRIS : U.S. Environmental Protection Agency (USEPA). Office of Health and Environmental Assessment. Environmental Criteria and Assessment Office. Integrated Risk Information Systems (IRIS)
NCEA : Recommendation of the Superfund Technical Support Center (STSC) at the National Center for Environmental Assessment
ATSDR : Agency for Toxic Substances and Disease Registry

Table 3

Cancer Toxicity Data Summary

Pathway: Oral/Dermal

Chemical of Concern	Oral Cancer Slope Factor	Units	Weight of Evidence/ Cancer Guideline Description (3)	Source (4)	Date
Ethylbenzene	1E-2	$(mg/kg/day)^{-1}$	D	CalEPA	8/1/91
Tetrachloroethene	5.4E-1	$(mg/kg/day)^{-1}$	-	CalEPA	
Trichloroethene	5.9E-3	$(mg/kg/day)^{-1}$	-	CalEPA	

Pathway: Inhalation

Chemical of Concern	Unit Risk	Units	Weight of Evidence/ Cancer Guideline Description (3)	Source (4)	Date
Ethylbenzene	2.5E-3	(mg/m3)-1	D	IRIS	8/1/91
Tetrachloroethene	5.9E-3	(mg/m3)-1	-	CalEPA	
Trichloroethene	2E-3	(mg/m3)-1	-	NCEA	

Footnotes:

(1) The inhalation Slope Factor was calculated from inhalation unit risk as described in Supplemental Guidance from Rags: Region 4 Bulletins, Human Health Risk Assessment (Interim Guidance) (November 1995)

(2) - : not applicable or no value

(3) EPA Cancer Classifications are:

Group A: Carcinogen to Humans

Group B: Probably Carcinogenic to Humans; B1 for agents for which there is limited evidence of carcinogenicity from epidemiologic studies; B2 for agents for which there is "sufficient" evidence from animal studies and for which there is "adequate evidence" or "no data" from epidemiologic studies

Group C: Possibly Carcinogenic to Humans

Group D: Not Classifiable as to Human Carcinogenicity

Group E: Evidence of Noncarcinogenicity for Humans

(4) References for Inhalation CSF are:

IRIS: U.S. Environmental Protection Agency (USEPA). Office of Health and Environmental Assessment. Environmental Criteria and Assessment Office. Integrated Risk Information System (IRIS). Cincinnatti, OH

Cal EPA: California Environmental Protection Agency (USEPA). Toxicity Values

NCEA: U.S. Environmental Protection Agency (USEPA). National Center for Environmental Assessment (NCEA) Superfund Technical Support Center. Cincinnatti, OH

Table 4
Risk Characterization Summary – Non-Carcinogens

Scenario Timeframe: Future
Receptor Population: Construction Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Concern	Non-Carcinogenic Risk			
				Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Soil	Surface Soil	On-Site Surface Soil	Tetrachloroethene	6E-3		5.5E-4	6.6E-3
						Soil Hazard Index Total =	6.6E-3

Scenario Timeframe: Future
Receptor Population: Construction Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Concern	Non-Carcinogenic Risk			
				Ingestion	Inhalation	Dermal	Exposure Routes Total
Subsurface Soil	Subsurface Soil	On-Site Subsurface Soil	Ethylbenzene	8.5E-3	7.7E-4	5.7E-3	1.5E-2
			Tetrachloroethene	6.4E-2	5.8E-3	3.4E-2	1E-1
			Trichloroethene	-	-	-	-
						Soil Hazard Index Total =	1.2E-1

Scenario Timeframe: Current/Future
Receptor Population: Industrial/Commercial Worker (Outdoor)
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Concern	Non-Carcinogenic Risk			
				Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Soil	Surface Soil	On-Site Surface Soil	Tetrachloroethene	1.9E-3	3.4E-2	3.7E-4	3.6E-2
						Soil Hazard Index Total =	3.6E-2

Scenario Timeframe: Current/Future
Receptor Population: Trespasser (Ages 7-12)
Receptor Age: Pre-Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Concern	Non-Carcinogenic Risk			
				Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Soil	Surface Soil	On-Site Surface Soil	Tetrachloroethene	1.5E-3	7.1E-3	8.9E-4	9.5E-3
						Soil Hazard Index Total =	9.5E-3

Scenario Timeframe: Current/Future
Receptor Population: Trespasser (Ages 13-18)
Receptor Age: Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Concern	Non-Carcinogenic Risk			
				Ingestion	Inhalation	Dermal	Exposure Route Total
Surface Soil	Surface Soil	On-Site Surface Soil	Tetrachloroethene	1.4E-3	1.1E-2	1.1E-3	1.4E-2

Table 5
Risk Characterization Summary – Carcinogens

Scenario Timeframe: Future
Receptor Population: Construction Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Concern	Carcinogenic Risk			
				Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Soil	Surface Soil	On-Site Surface Soil	Tetrachloroethene	4.7E-7		4.3E-8	5.1E-7
						Total Risk =	5.1E-7

Scenario Timeframe: Future
Receptor Population: Construction Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Concern	Carcinogenic Risk			
				Ingestion	Inhalation	Dermal	Exposure Routes Total
Subsurface Soil	Subsurface Soil	On-Site Subsurface Soil	Ethylbenzene	1.3E-7	2.1E-7	1.2E-8	3.5E-7
			Tetrachloroethene	5E-6	7.7E-7	4.5E-7	6.2E-6
			Trichloroethene	1.1E-8	4.2E-8	1.7E-11	5.3E-8
						Total Risk =	6.6E-6

Scenario Timeframe: Current and Future
Receptor Population: Industrial/Commercial Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Concern	Carcinogenic Risk			
				Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Soil	Surface Soil	On-Site Surface Soil	Tetrachloroethene	3.6E-6	1.9E-5	7.1E-7	2.3E-5
			Ethylbenzene		5.1E-6		5.1E-6
			Trichloroethene		1.1E-6		1.1E-6
						Total Risk =	3E-5

Scenario Timeframe: Current and Future
Receptor Population: Trespasser
Receptor Age: Pre-Adolescent (7-12 years)

Medium	Exposure Medium	Exposure Point	Chemical of Concern	Carcinogenic Risk			
				Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Soil	Surface Soil	On-site Surface Soil	Tetrachloroethene	6E-7	8E-7	3.4E-7	1.7E-6
						Total Risk =	1.7E-6

Scenario Timeframe: Current and Future
Receptor Population: Trespasser
Receptor Age: Adolescent (13-18 years)

Medium	Exposure Medium	Exposure Point	Chemical of Concern	Carcinogenic Risk			
				Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Soil	Surface Soil	On-Site Surface Soil	Tetrachloroethene	5.3E-7	1.2E-6	4.3E-7	2.2E-6
						Total Risk =	2.2E-6

Appendix III
Responsiveness Summary

RESPONSIVENESS SUMMARY
Lightman Drum Superfund Site, Operable Unit 2
Winslow Township, Camden County, New Jersey

INTRODUCTION

As required by Superfund policy, this Responsiveness Summary provides a summary of the public's comments and concerns regarding the Proposed Plan for the Lightman Drum Superfund Site (Site) and the U.S. Environmental Protection Agency's (EPA) responses to those comments and concerns. At the time of the public comment period, EPA proposed a response action to address contaminated soils at the Lightman Site, which have been designated as Operable Unit 2 (OU2). All comments summarized in this document have been considered in EPA's final decision for the selection of a remedial alternative for the soil.

This Responsiveness Summary is divided into the following sections:

I. BACKGROUND OF COMMUNITY INVOLVEMENT AND CONCERNS: This section provides the history of community involvement and concerns regarding the Lightman Site.

II. COMPREHENSIVE SUMMARY OF MAJOR QUESTIONS, COMMENTS, CONCERNS AND RESPONSES: This section contains summaries of oral comments received by EPA at the June 22, 2011 public meeting, and EPA's responses to these comments, as well as responses to written comments received during the public comment period.

The last section of this Responsiveness Summary includes attachments which document public participation in the remedy selection process for this Site. They are as follows:

Attachment A contains the Proposed Plan that was distributed to the public for review and comment;

Attachment B contains the public notice that appeared in the Courier-Post; and

Attachment C: contains the transcript of the public meeting.

Attachment D: contains the written comments received by EPA during the public comment period.

I. BACKGROUND OF COMMUNITY INVOLVEMENT AND CONCERNS

In 2001, in the beginning of the Remedial Investigation phase of the project, EPA met with residents and local officials to explain the investigation plans and to give the community a chance to express concerns.

On June 16, 2009 EPA released a Proposed Plan and supporting documentation for the groundwater alternatives to the public for comment. EPA made these documents available to the public in the Administrative Record at that time. On June 25, 2009, EPA held a public meeting at the Winslow Township Municipal Building. After full consideration of all public comments received, a Record of Decision was issued by EPA in September 2009 which selected a remedy to address contaminated groundwater at the Site which includes: air sparging/soil vapor extraction; extraction and treatment of groundwater hot spots; monitored natural attenuation; and institutional controls. The engineering design of the groundwater remedy is underway.

On June 10, 2011, EPA released its Proposed Plan and supporting documentation for OU2, which included remedial alternatives to address soil contamination at the Site. EPA made these documents available to the public in the Administrative Record repositories maintained at the Camden County Library, South County Branch, 35 Coopers Folly Road, Atco, NJ, as well as at the EPA Region 2 office (290 Broadway, New York, NY). EPA published a notice of availability regarding these documents in the Courier Post Newspaper on June 10, 2011. At the same time, EPA opened a public comment period which ran from June 10 through July 11, 2011. On June 22, 2011, EPA held a public meeting at the Winslow Township Municipal Building to inform local residents and officials about the Superfund process, to present the preferred alternative for Site soils, solicit oral comments and to respond to any questions.

II. COMPREHENSIVE SUMMARY OF MAJOR QUESTIONS, COMMENTS, CONCERNS, AND RESPONSES

PART 1: Verbal Comments

This section summarizes comments received for the public during the public comment period along with EPA's responses.

A. SUMMARY OF QUESTIONS AND EPA'S RESPONSES DURING THE PUBLIC MEETING CONCERNING THE LIGHTMAN DRUM SUPERFUND SITE, JUNE 25, 2009

A public meeting was held on June 22, 2011 at 6:30 in the Municipal Building, 125 South Route 73, Braddock, NJ. In addition to a brief presentation of the investigation findings, EPA presented the Proposed Plan and preferred alternative for the Site, received comments from meeting participants, and responded to questions regarding the remedial alternatives under consideration. Attachment C includes the transcript of the public meeting.

A summary of comments raised by the public following EPA's presentation are categorized by relevant topics as follows and presented below:

a. Issues related to soil cleanup and the Proposed Plan and soil remediation;
b. Issues related to the groundwater contamination at the Site, which was the subject of a September 2009 ROD;
c. Issues related to Site impacts on local private and municipal wells;
d. Issues related to real estate and public notification; and
e. Concerns related to other sites in the area.

a. Issues Related to the Proposed Plan and Soil Remediation

Comment 1: On page 4 of EPA's Proposed Plan, there is a statement that properties surrounding the Site are currently zoned for industrial use. While that is correct, there are residential properties in the vicinity of the

Site. I think it may be misleading to say that all of the surrounding properties are zoned industrial.

EPA Response: The comment was noted.

Comment 2: The risk assessment that was done used current soil contaminant levels. I think it would be reassuring to the residents of the area if the risk numbers could be rerun with projected contaminant concentrations after cleanup because it may be that the risk would be below EPA and NJDEP standards and be acceptable. People would like to know that there will be no unacceptable risks once cleanup is done.

EPA Response: The cleanup goals were developed to assure that acceptable risks are achieved when the goals are reached. The cleanup levels are protective of human health and the environment and are protective of groundwater.

Comment 3: If the cleanup goals are met, the estimated additional cancer risk would be below one times ten to the minus six.

EPA Response: That is correct.

Comment 4: Page 10 of the Proposed Plan states that the cleanup may not achieve the NJDEP cleanup criteria for residential direct contact, although the cleanup would achieve the nonresidential direct contact cleanup goal. The Proposed Plan further states that a deed notice may be required to assure that future use of the property will not be residential if the residential direct contact cleanup criteria are not met. The Township would like to go on record that in its opinion, it should be mandatory that a deed notice be placed on the property if cleanup levels don't meet the New Jersey residential direct contact criteria.

EPA Response: The cleanup goals for site contaminants in soils were derived to be protective of both groundwater and industrial workers, since the property is currently zoned for industrial use. These levels are slightly higher than levels that would be protective for future residential use at the property. That being the case, it is possible that cleanup goals may be exceeded and may meet residential levels. In that case, no deed notice would be necessary. If the selected cleanup goals are met, but residential

standards are not met, then EPA will require a deed notice for the property to assure that future use of the property remains industrial.

Comment 5: How were contaminated soils previously excavated at the Site disposed of? Where was the soil disposed of?

EPA Response: The soil removed from the Site as part of a Removal Action was sampled and disposed of at an approved facility. The soils were transported to one of the approved landfills in southern New Jersey. EPA approved of the disposal facility prior to disposal.

b. **Issues Related to Groundwater Contamination**

Comment 6: Has EPA determined the extent and direction of the contaminated groundwater plume?

EPA Response: Yes, EPA has determined the extent of the groundwater plume from the Site and the direction of flow. (This was shown to the commenter on a map during the meeting.) EPA is overseeing the sampling of all groundwater this summer to update the status of the plume.

Comment 7: As you pump air into the groundwater plume, during implementation of the groundwater remedy, is there the potential for contamination to spread or come back up through the well? Is it likely that contamination could move south of the Site, onto my private property or the natural fed spring that runs through my property?

EPA Response: The air sparging and soil vapor extraction treatment systems will be operated on or near the Lightman Drum Site property. The contaminated groundwater is near the surface at the Site property and gets deeper as it migrates further downgradient to the south. By the time the groundwater gets to the area of the creek you mentioned, the contamination zone is about 80 feet below the creek and it is overlaid by clean water. So there is no interaction between the contaminated groundwater and the creek and the groundwater contamination will not impact surface water. Surface water was sampled during the remedial investigation and was not contaminated.

Comment 8: In your groundwater design, please clarify which wells are for air sparging and which ones are monitoring wells. Also, how many wells will the system include and is the system going to include huts with a pumping station? I am concerned. How will the air sparging system to treat groundwater impact different areas of my property?

EPA Response: A schematic map was shown to the commenter to identify proposed locations for air injection wells as part of the Operable Unit 1 groundwater remedy implementation. The plans are not final and the system can be designed to be minimally intrusive on your property, which is located adjacent to the Lightman Drum Property. Currently, the estimate is that about 15 wells would be placed on your property. We have quite a bit of flexibility and will work with you to limit impacts on your property in designing the groundwater treatment system.

Comment 9: There are hot spots in the groundwater that are presumably migrating along with the rest of the water in that area. There may be periods in the future where the concentration of contaminants in the groundwater may come back up based on the movement of these hot spots of contamination.

EPA Response: EPA will monitor the movement of contaminants in groundwater during the cleanup through a groundwater monitoring program. This will include collection of data over time and analysis of the trends in movement of the groundwater plume. EPA has planned a site-wide groundwater sampling event for the summer of 2011.

c. **Issues Related to the Site's Impact on Local Private and Municipal Wells**

Comment 10: Is the groundwater plume impacting the municipal well field in the area (in particular, Municipal Well No.8)?

EPA Response: The influence of pumping at the municipal well field has had an impact on the direction of flow at the leading edge of the groundwater plume emanating from the Site. However, the plume has not impacted the well field.

Comment 11: Is the municipal well contaminated and if not, does it have the potential to be contaminated in the future? If so, will Superfund pay for the cleanup of the well? How long ago was the municipal well tested?

EPA Response: No, contamination from the Lightman Drum Site has not reached or impacted the municipal well field. The water authority responsible for the municipal well field is required to sample the wells on a regular basis by the State. EPA's planned cleanup actions at the site are intended to address groundwater contamination and limit the continued migration of the groundwater plume.

Comment 12: With respect to the groundwater plume, EPA's previous Record of Decision indicated that groundwater is traveling at a rate of 0.2 feet per day and would take 37 years to get from the current edge of the plume to Municipal Well No. 8. That plume delineation was based on well sampling in 2006 and 2007. According to the New Jersey Geological Survey's modeling of the groundwater travel time near Well No. 8, there is less than twelve years of travel time between the plume and the well. The USGS also estimates that the average rate of groundwater movement is 0.7 feet per day. It is possible that the rate of flow is accelerated near the municipal wells as the gradient will increase. This is pointed out because the Township thinks that there should be more urgency placed on getting the sentinel well system designed and installed because the municipal well field is a critical part of the Township's water supply. A sentinel well system should also be designed to cover individual private wells.

EPA Response: Wells are in place and will be sampled regularly to assure that we know where the plume is and can take any appropriate action. The furthest downgradient well has very low concentrations and we do not believe that the municipal wells are at risk of being impacted by Site contamination. Future, regular monitoring will be performed to confirm the status of the plume. A round of sampling of all monitoring wells will take place in July 2011.

With respect to travel time of contaminants, the New Jersey Geological Survey and EPA estimates of travel time may be different because EPA's calculation takes into account factors such as natural attenuation, degradation and retardation of contaminants within the groundwater. The

New Jersey Geological Survey may be considering only the travel time of a particle of water, and may not have taken into account contaminants. There is a difference in the rate of movement of groundwater and the rate at which contaminants move within an aquifer.

Comment 13: There are some homes that are on individual private wells. There is no reason to think that the Site contamination is migrating towards those wells to the extent that it would affect those wells. However, what is the mechanism to provide for periodic monitoring of those wells? Will funds be available to extend municipal water to those homes if necessary?

EPA Response: EPA will continue to monitor the groundwater plume over time. We will monitor the edge of the plume as well. If private wells become impacted, the State has a program where they can provide Point of Entry Treatment Systems on individual wells. That is a short-term way to address risks until a long-term solution can be developed. This is not expected to be required at this Site.

d. **Issues Related to Real Estate and Public Notification**

Comment 14: I have an irrigation well. The Site cleanup does affect my property value. How long will the groundwater cleanup take to complete? Will you be providing certification when the cleanup is complete and can such a certification be attached to the deed?

EPA Response: Irrigation wells were recently sampled in the vicinity of your property and no contamination was detected. The groundwater contamination in the vicinity of your property is near the leading edge of the plume. The contamination is very deep at this point and underlies clean water. Note that the levels in this area are very low. As the cleanup progresses, we expect the contamination to decrease over time. Once construction is completed, we expect to be operating the air sparging/soil vapor extraction system as well as the extraction and treatment portion of the remedy for about 5 years. Long-term sampling of the groundwater will be ongoing until it is confirmed that cleanup standards are met.

Comment 15: Will the EPA be issuing the equivalent of NJDEP letters of “No Further Action” to document when the

Site has been cleaned up? The NJDEP has traditionally issued "No Further Action" letters for soils on a site where soils have been remediated and groundwater cleanup is ongoing. This type of document could be useful to residents when selling their homes.

EPA Response: EPA does not issue No Further Action letters, however, we can provide the community with Site Updates or Fact Sheets indicating the status of the cleanup over time. Once soils have been completely remediated, we can document that in writing to the community.

Comment 16: When I purchased my property, I signed a document indicating that I understood there was a problem at the Lightman Drum Site. If I sell my home in the future, is this document attached to the deed?

EPA Response: Your property is not impacted by the Site at this time and EPA does not anticipate requiring any type of deed notice for your property.

Further Response from a Meeting Attendee: To clarify, residents were asked to sign an acknowledgement that they were told of the Lightman Superfund Site being located in the general vicinity of their property. These acknowledgements are not attached to or part of the deeds.

Comment 17: Are groundwater contamination levels in the White Cedars section below the drinking water standards for Site contaminants? Does the soil in that area meet the cleanup standards?

EPA Response: The White Cedars section is not impacted by contamination from the Lightman Drum Superfund Site.

Comment 18: When will the remedial design of the groundwater system be completed? Will the Township receive copies of the remedial design reports for the groundwater remediation system when they are finalized?

EPA Response: The Township can review any remedial design documents that it requests and its input is welcome. Currently, a workplan has been developed for remedial design field work and that will be provided to the Township. That document contains a detailed schedule for remedial design. Field work under that workplan will start

this summer. EPA will send the Township a copy of the Remedial Design Work Plan.

e. **Concerns Related to other Sites**

Several attendees discovered that their concerns related to other industrial sites in the area and not the Lightman Drum Site. It was clarified by EPA and NJDEP representatives that Jerome Lightman, the owner of the Superfund Site which is the subject of this meeting, has had some responsibility for other contaminated sites, which were not the subject of the meeting. The exact location of the Lightman Drum Superfund Site was shown to the attendees and it was explained that other cleanup actions are taking place on other properties in this town, but were not the subject of the meeting. The NJDEP representative attending the meeting, James DeNoble, agreed to follow up with one attendee with respect to another site he was concerned about.

PART 2: Written Comments

E-mail and Letter and from Carol Winell of G.E.O, Inc. (June 20, 2011) by e-mail and letter

Comment 1: The commenter is the CEO of G.E.O., Inc and sent a description of the Soil Vapor Extraction system her company sells and asks that it be considered for use at the Lightman Drum Site.

EPA Response: The study of the Site was performed by a group of Potentially Responsible Parties (PRPs or PRP Group), under EPA oversight. When PRPs perform work at a Superfund site, they generally select the contractors and vendors needed to perform the work. After the remedy is selected by EPA, the PRPs will be given an opportunity to perform the selected remedy under the terms of a legal agreement. If they choose to do so, they will select contractors, subcontractors, and vendors necessary to complete the work. If no agreement is reached and EPA performs the work, federal rules would apply to the selection of contractors.

E-mail from Ioana Munteanu-Ramnic from New York State Department of Environmental Conservation (June 21, 2011)

Comment 2: The commenter made suggestions to make the air sparging system more efficient.

EPA Response: It appears that the comment relates to the previously selected OU1 groundwater remedy, which includes an air sparging component. The air sparging technology is not part of the proposed OU2 soil remedy, which is the subject of public comment period. The commenter's suggestions will be reviewed by EPA in its ongoing oversight of the OU1 remedial design activities.

E-mail from Tom Madison at OP-Tech (June 22, 2011)

Comment 3: The commenter asked if the work at the Lightman Drum Site would be "…publically bid or let out under one of the existing federal contracts…"?

EPA Response: The investigations and work leading up to the selection of the remedy for Operable Unit 2 at the Site has been performed, under Order, by a group of PRPs. EPA has performed oversight of all activities. Subsequent to the final selection of a remedy, EPA will provide the PRPs with the opportunity to implement the remedy under the terms of a legal agreement. If an agreement is reached and the PRPs implement the remedy, they will select the contractors that needed to implement the remedy. If no legal agreement is reached, EPA may order the PRPs to implement the work, or EPA may perform the work itself.

E-mail from Nicole Bushey (July 11, 2011) at Sealand Enviro, LLC

Comment 4: The commenter inquired as the status of the Lightman Drum Company project. The commenter also explained that Sealand Enviro, LLC is an environmental services company.

EPA Response: EPA provided a copy of the Proposed Plan to the commenter, which explains the status of the Site cleanup. EPA also referred the commenter to EPA's appropriate web page for additional Site information.

Attachment A
Proposed Plan

Superfund Program
Proposed Plan

U.S. Environmental Protection Agency, Region 2

Lightman Drum Superfund Site Operable Unit Two
June 2011

EPA ANNOUNCES PROPOSED PLAN

This Proposed Plan identifies the Preferred Alternative to address subsurface soil contamination in a specific area (Operable Unit Two (OU2)) at the Lightman Drum Superfund Site (Site) in Winslow Township, Camden County, New Jersey, and provides the rationale for this preference. Alternatives have been developed to address subsurface soil contaminated primarily with Volatile Organic Compounds (VOCs), such as the chlorinated hydrocarbons trichloroethene (TCE) and tetrachloroethene (PCE) and, to a lesser extent, nonchlorinated hydrocarbons such as ethylbenzene and xylenes.

The U.S. Environmental Protection Agency's (EPA) Preferred Alternative to address subsurface soil contamination is Alternative 2, Soil Vapor Extraction in the affected area.

This Proposed Plan includes summaries of the cleanup alternatives evaluated for the Site subsurface soils. This document is issued by EPA, the lead agency for Site activities, and the New Jersey Department of Environmental Protection (NJDEP), the support agency. EPA, in consultation with NJDEP, will select the final remedy for the subsurface soils after reviewing and considering all information submitted during a 30-day public comment period. EPA, in consultation with NJDEP, may modify the preferred alternative or select another response action presented in this Proposed Plan based on new information or public comments. Therefore, the public is encouraged to review and comment on all the alternatives presented in this document.

EPA is issuing this Proposed Plan as part of its community relations program under Section 117(a) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA, commonly known as Superfund). This Proposed Plan summarizes information that can be found in greater detail in the Remedial Investigation (RI) and Risk Assessment for OU2 and the Focused Feasibility Study (FFS) for OU 2 Reports and other documents contained in the Administrative Record for the Site.

MARK YOUR CALENDAR

PUBLIC COMMENT PERIOD:
June 10, 2011 – July 11, 2011
EPA will accept written comments on the Proposed Plan during the public comment period.

PUBLIC MEETING: June 22, 2011
EPA will hold a public meeting to explain the Proposed Plan and all of the alternatives presented in the Feasibility Study. Oral and written comments will also be accepted at the meeting. The meeting will be held in the Municipal Building, 125 South Route 73, Braddock, NJ at 6:30 PM.

For more information, see the Administrative Record at the following locations:

U.S. EPA Records Center, Region 2
290 Broadway, 18th Floor.
New York, New York 10007-1866
(212) 637-4308
Hours: Monday-Friday - 9 am to 5 p.m., by appointment.

Camden County Library, South County Branch
35 Coopers Folly Road
Atco, NJ 08004
Hours M-F 10am – 9pm, Sat 10am – 6pm

SITE DESCRIPTION

The Site covers approximately 15 acres in Winslow Township, Camden County, New Jersey (Block 4404, Lot 6) and falls within the New Jersey Pinelands Protection Area. The Site is approximately 300 feet wide and is bordered by Route 73 to the east and the railroad formerly owned by Pennsylvania Railroad to the west (Figure 1). Currently, the portion of the Site nearest to Route 73 is operated by United Cooperage, a drum brokerage business, which stores drums and tractor trailers at the Site. There is a small septic system on the Site and a well used for nonpotable purposes.

SITE HISTORY

Prior to 1974, the Site was used for agriculture. Beginning in 1974, the Lightman Drum Company operated an industrial waste hauling and drum reclamation business there. In 1978, NJDEP issued a one-year Temporary Operating Authorization that allowed for the

storage of various wastes including chemical powders, pesticides, waste oil, oil sludges, paints, pigment, thinner, ink residues, ketones, alcohols, and mixed solvents. The permit was not renewed.

In 1987, NJDEP collected soil samples which revealed the presence of various organic and inorganic compounds at the Site. A more extensive investigation of the soil and groundwater took place under an NJDEP Administrative Order from 1989 to 1990. During this investigation, about 80 soil samples were collected and 12 deep and shallow monitoring wells were installed. These samples were concentrated in known storage areas. These known areas are as follows:

Underground Diesel Fuel Tanks
Two fiberglass underground tanks (750 and 1,500 gallons) were installed in 1976 in the south-central portion of the Site. They were used for diesel fuels until the early 1980s and were removed in 1990. Soil samples collected by NJDEP in the vicinity of the tanks showed low levels of petroleum hydrocarbons and one detection of TCE.

Unlined Waste Disposal Pit
An Unlined Waste Disposal Pit was located in a small depression in a wooded area in the west-central portion of the Site. This pit was accessed by a dirt road leading from Lightman Drum Company's main operations area. As part of the NJDEP investigation of the Site, it was reported that the pit was used for the disposal of industrial wastes including waste paint and possibly oil in 1976. The Lightman Drum Company reportedly removed the waste from this area shortly after it was deposited. There are no other records.

Former Waste Storage Tanks
Two 5,000-gallon underground storage tanks were formerly located in the north-central area of the Site. The tanks were reportedly used to store waste paint pigments, ink sludges, and thinners. The tanks operated under the NJDEP Temporary Operating Authorization. NJDEP observed the removal of the tanks in 1984.

Warehouse
Drums were stored in a warehouse located in the eastern part of the Site until a fire destroyed the warehouse in 1985. Only the concrete foundation slab remains.

Drum Storage Areas
There were various drum storage areas throughout the active portion of the Site. The investigated areas included the main storage areas along the southern property boundary, west of the former diesel tanks, and along the northern tree line east of the former waste storage tanks.

The NJDEP studies showed the presence of elevated levels of VOCs and Semi-Volatile Organic Compounds (SVOCs) in the groundwater and VOCs, SVOCs pesticides, and inorganic compounds in the soil.

In May 1999, NJDEP requested that EPA perform a Hazard Ranking System Evaluation. As a result of the evaluation, EPA placed the Site on the National Priorities List on October 22, 1999. At that time, EPA became the lead agency for Superfund remediation activities at the Site.

In November 2000, EPA issued an Administrative Order requiring a group of Potentially Responsible Parties (PRPs) to conduct a Remedial Investigation and Feasibility Study. Following review of the initial results, installation of additional wells and piezometers (groundwater sampling sites) was approved. Additional soil samples were collected in May 2006, and additional groundwater transect and monitoring well data were collected in 2007. This RI was completed in 2009.

A second Administrative Order (Removal Order) was issued by EPA in 2007, under which the PRPs removed over 480 cubic yards of contaminated soil from the unsaturated and saturated zones in the vicinity of the former Underground Waste Storage Tanks.

In October and November of 2008, while the contaminated soils were being removed, areas of stained, unnaturally colored soils were identified. These soils were also removed under the Removal Order. During removal of these unnaturally colored soils an area of VOC-contaminated soil was identified and samples were collected in February 2009 (Figure 2).

OU1 Remedial Investigation

The OU1 investigation was a site-wide investigation that was conducted between 2000 and 2009 by a group of PRPs under EPA's oversight. The sediments were characterized through eight samples from four locations. Fifty-eight subsurface soil borings were installed and samples from these borings were analyzed. The groundwater was characterized through 243 temporary well points, and subsequently, by sampling 23 monitoring wells. In 2009, the PRPs submitted a Remedial Investigation Report, Risk Assessment, and Feasibility Study for OU1.

These studies showed that groundwater contamination at the Site emanates from the former Waste Storage Tanks Area (eastern plume) and the Unlined Pit Area (western plume). These plumes are shown on Figure 1.

As a result of the OU1 studies, EPA determined that there was no unacceptable risk to human health and the environment from the Site surface water, sediments, and soils. However as mentioned above, one area of soil was identified during the removal activities (Figure 2) which were conducted from 2008 to 2009. EPA decided to further evaluate the newly discovered on-site area of VOC-contaminated soils as Operable Unit 2 (OU2).

In September 2009, EPA issued a Record of Decision (ROD) for the groundwater (OU1). A complete description of the remedial investigation and feasibility study for OU1 can be found in the Administrative Record established for the Site. The results of the OU2 studies are the subject of this Proposed Plan and are discussed in the Site Characteristics section, below.

Groundwater Remedy

The main elements of the selected OU1 groundwater remedy are:

- Air Sparging and Soil Vapor Extraction of near-site groundwater contaminants from near the Former Waste Storage Tank Areas (east plume) and Former Unlined Pit Areas (west plume);

- Extraction and treatment of contaminated groundwater found in "hot spots" in the downgradient areas of the east and west groundwater plumes. Treated groundwater will be reinjected;

- Monitored Natural Attenuation for the remaining portions of the plume; and

- Establishment of a Classification Exception Area, which is an institutional control, to minimize the potential for exposure to contaminated groundwater until the aquifer meets the cleanup goals.

In June 2010, EPA issued an Administrative Order to the PRP Group, requiring the engineering design and construction of the groundwater remedy. Work under the terms of the Administrative Order are underway.

This Proposed Plan describes the cleanup alternatives identified for the OU2 soils at the Lightman Drum Site.

SITE CHARACTERISTICS

The entire Site is located within the New Jersey Pinelands Protection area. In general, the topography of the area is flat. The majority of the Site is wooded with a 0.8-acre area of wetlands at the westernmost portion of the property. There is farm and woodlands to the north and a wooded area as well as commercial development to the south. There are a few residences and small businesses located along Route 73.

The Site and adjacent properties are zoned for industrial use, though a portion of the corridor along Route 73 southeast of the Site is zoned as minor commercial. The Windsor Township administrative code requires that all properties within 200 feet of the municipal water main be connected to the public water supply system and use of private wells for drinking water is prohibited. Pre-existing wells may be used for nonpotable purposes if they do not contain contaminants. The nearest municipal well, well #8, is located about 7,500 feet southwest (downgradient) of the Site. The well draws water from about 140 feet below the ground surface and pumps at 1,000 gallons per minute. This well has been used sporadically since August 2007 and is tested regularly by the local water authority.

According to the Delaware Valley Regional Planning Commission, over 34,000 people live in Winslow Township as of 2007, and approximately 8,000 people live within a 3-mile radius of the Site.

The results of investigations conducted at the Site indicate that the area is underlain by well-drained sandy soils with poor filtering capacity. Active areas of the Site have a thin layer of relatively impermeable fill. The soil is underlain by the Cohansey-Kirkwood aquifer system which is used extensively as the water supply in the area of the Site.

The Cohansey-Kirkwood aquifer system, which dips eastward toward the Atlantic Ocean is a relatively uniform unconfined aquifer consisting of yellowish brown coarse to fine-grained sand. Groundwater within the aquifer flows primarily to the south in the vicinity of the Site. The base of the Cohansey-Kirkwood formation is defined as the top of a clay bed lying at the base of the Kirkwood at 100 feet below the ground surface.

Depth to groundwater on the property is approximately 10 feet below the ground surface (bgs).

VOC-contaminated Soils

During removal of the unnaturally colored soils in 2008 and 2009, an area of VOC-contaminated soils was identified. In February 2009, samples were collected and analyzed. PCE and TCE were the primary compounds found to be present in these soils. PCE was detected in 24 samples taken from 21 borings at concentrations ranging from 0.011 milligrams/kilogram (mg/kg) in boring HB-15 at 2-4 feet bgs to 680 mg/kg in boring HB-

05 at 2-4 feet bgs. TCE was detected in 24 samples taken from 21 borings at concentrations ranging from 0.002 mg/kg in boring HB-21 at 0-2 feet bgs to 74 mg/kg in boring HB-05 at 2-4 feet bgs. Low levels of aromatic compounds, primarily the noncholorinated hydrocarbon compounds ethylbenzene and total xylenes, were detected in 6 of the 24 borings

The results of the soil sampling indicates that unsaturated soils containing elevated levels of VOCs are located up to 12 feet bgs and the contaminant concentrations decrease with depth. The areal extent of the VOC-contaminated soils is relatively small, approximately 2,100 square feet (0.05 acre). This area of VOC contamination is shown on Figure 2.

Potential risks were evaluated in a Human Health Risk Assessment. A summary of the results of the Risk Assessment is in a following section of this Proposed Plan.

WHAT IS A "PRINCIPAL THREAT"?

The NCP establishes an expectation that EPA will use treatment to address the principal threats posed by a site wherever practicable (NCP Section 300.430(a)(1)(iii)(A)). The "principal threat" concept is applied to the characterization of "source materials" at a Superfund site. A source material is material that includes or contains hazardous substances, pollutants or contaminants that act as a reservoir for migration of contamination to ground water, surface water or air, or acts as a source for direct exposure. Contaminated ground water generally is not considered to be a source material; however, Non-Aqueous Phase Liquids (NAPLs) in ground water may be viewed as source material. Principal threat wastes are those source materials considered to be highly toxic or highly mobile that generally cannot be reliably contained, or would present a significant risk to human health or the environment should exposure occur. The decision to treat these wastes is made on a site-specific basis through a detailed analysis of the alternatives using the nine remedy selection criteria This analysis provides a basis for making a statutory finding that the remedy employs treatment as a principal element.

PRINCIPAL THREATS

This Proposed Plan addresses soil contamination, which is acting as a source of groundwater contamination. Contamination in Site soils is not at levels that are considered to be a direct contact risk to human health. The soils are also not considered principal threat wastes. However, addressing these wastes will have a positive impact on the planned groundwater remediation, as it is a remaining source of groundwater contamination on-Site.

SCOPE AND ROLE OF THE ACTION

EPA is addressing the cleanup of this Site through an immediate action to address an imminent threat to human health, and two phases of long-term cleanup.

EPA issued a Removal Order in 2007 to require excavation of contaminated soils in the saturated zone near the Former Waste Storage Tanks Area. The excavation has been completed and over 480 cubic yards of contaminated source material were removed. During the removal action, unnaturally colored soils were observed, and after investigation, these soils were removed. In early 2009, another nearby area of VOC-contaminated soils was also identified and characterized.

The Site has two Operable Units. Operable Unit 1 addresses the groundwater contamination and is in the remedy design phase. Operable Unit 2 will address the VOC-contaminated soils and is the subject of this Proposed Plan.

SUMMARY OF SITE RISKS

As part of the OU2 RI/FFS, EPA conducted a baseline risk assessment to estimate the current and future effects of contaminants on human health and the environment. A baseline risk assessment is an analysis of the potential adverse human health and ecological effects of releases of hazardous substances from a site in the absence of any actions or controls to mitigate such releases, under current and future land, groundwater and surface water/sediment uses. The baseline risk assessment includes a human health risk assessment (HHRA).

The cancer risk and non-cancer health hazard estimates in the HHRA are based on current reasonable maximum exposure scenarios and were developed by taking into account various health protective estimates about the frequency and duration of an individual's exposure to chemicals selected as chemicals of potential concern (COPCs), as well as the toxicity of these contaminants. Cancer risks and non-cancer health hazard indexes (HIs) are summarized below.

Human Health Risk Assessment

The site and surrounding properties are currently zoned industrial. Future land use is expected to remain the same. The baseline risk assessment began by selecting COPCs in the soil that would be representative of site risks from the soil. The chemical of concern (COCs) for the site is PCE.

The baseline risk assessment evaluated health effects that could result from exposure to soil. Based on the current zoning and anticipated future use, the risk assessment focused on a variety of possible receptors, including current/future commercial/industrial workers (outdoor), current/future adolescent and pre-adolescent trespassers and current/future construction workers. A complete discussion of the exposure pathways and estimates of risk

can be found in the Revised Remedial Investigation and *Risk Assessment Operable Unit 2* for the site in the information repository.

Summary of Risks to Current/Future Commercial/Industrial Workers

Cancer risks and non-cancer health hazards were evaluated for exposure to soil. The excess lifetime cancer risk estimate is 3×10^{-5}, which is within EPA's acceptable levels of risk. Note: this value is in excess of the NJDEP lifetime cancer risk of 1×10^{-6}. The calculated HI is 0.6, which is below EPAs threshold value of 1. The risk is primarily attributed to PCE.

Summary of Risks to Current/Future Construction Workers

Cancer risks and non-cancer health hazards were evaluated for exposure to soil. The excess lifetime cancer risk estimate is 7×10^{-6}, which is within the acceptable risk range. Note: this value is in excess of the NJDEP lifetime cancer risk of 1×10^{-6}. The calculated HI is 0.7, which is below EPAs threshold value of 1. The risks are primarily attributed to PCE.

Summary of Risks to Future Trespassers

Cancer risks and non-cancer health hazards were evaluated for exposure to soil, surface water and sediment for the adolescent and pre-adolescent trespasser. The excess lifetime cancer risk estimates for the adolescent and pre-adolescent trespasser are 3×10^{-6} and 2×10^{-6} respectively, which are within EPA's acceptable risk range. Note: these values are in excess of the NJDEP lifetime cancer risk of 1×10^{-6}. The calculated HIs for the adolescent and pre-adolescent trespasser are 0.2 and 0.1 respectively, which are below EPA's threshold value of 1. The risks are primarily attributed to PCE.

The results of the human health risk assessment indicated that the risks and hazards are within the risk range or below EPA's hazard threshold value of 1 to the potentially exposed populations from direct exposure to soil. These risk estimates are based on the reasonable maximum exposure scenarios and were developed by taking into account various conservative assumptions about the frequency and duration of an individual's exposure to soil, as well as the toxicity of the chemicals of concern. The chemical in the soil that contributes most significantly to the cancer risk and non-cancer hazard is PCE.

Summary of Risks to the Groundwater

Although EPA believes there is no unacceptable human health risk from exposure to the soils, the soils continue to be a source of contamination to the groundwater. Analysis of samples collected from the soils showed elevated levels of PCE and TCE; up to 680 mg/kg of PCE and up to 74 mg/kg of TCE. Based on computer modeling, these levels of PCE and TCE in soils can results in contamination levels in the groundwater which are above the groundwater cleanup levels (NJDEP Class I-PL standards) set in the OU1 ROD. Therefore, PCE and TCE are COCs and the soils pose a risk to the groundwater if the contamination remains at the current levels.

Conclusions of the Risk Assessment

It is EPA's current judgment that the Preferred Alternative identified in this Proposed Plan, is necessary to protect public health or welfare or the environment from actual or threatened releases of hazardous substances into the environment.

WHAT IS RISK AND HOW IS IT CALCULATED?

A Superfund baseline human health risk assessment is an analysis of the potential adverse health effects caused by hazardous substance releases from a site in the absence of any actions to control or mitigate these under current- and future-land uses. A four-step process is utilized for assessing site-related human health risks for reasonable maximum exposure scenarios.

Hazard Identification: In this step, the contaminants of concern at the site in various media (i.e., soil, groundwater, surface water, and air) are identified based on such factors as toxicity, frequency of occurrence, and fate and transport of the contaminants in the environment, concentrations of the contaminants in specific media, mobility, persistence, and bioaccumulation.

Exposure Assessment: In this step, the different exposure pathways through which people might be exposed to the contaminants identified in the previous step are evaluated. Examples of exposure pathways include incidental ingestion of and dermal contact with contaminated soil. Factors relating to the exposure assessment include, but are not limited to, the concentrations that people might be exposed to and the potential frequency and duration of exposure. Using these factors, a "reasonable maximum exposure" scenario, which portrays the highest level of human exposure that could reasonably be expected to occur, is calculated.

Toxicity Assessment: In this step, the types of adverse health effects associated with chemical exposures, and the relationship between magnitude of exposure (dose) and severity of adverse effects (response) are determined. Potential health effects are chemical-specific and may include the risk of developing cancer over a lifetime or other non-cancer health effects, such as changes in the normal functions of organs within the body (e.g., changes in the effectiveness of the immune system). Some chemicals are capable of causing both cancer and non-cancer health effects.

Risk Characterization: This step summarizes and combines exposure information and toxicity assessments to provide a quantitative assessment of site risks. Exposures are evaluated based on the potential risk of developing cancer and the potential for noncancer health hazards. The likelihood of an individual developing cancer is expressed as a probability. For example, a 10^{-4} cancer risk means a "one-in-ten-thousand excess cancer risk"; or one additional cancer may be seen in a population of 10,000 people as a result of exposure to site contaminants under the conditions explained in the Exposure Assessment. Current Superfund guidelines for acceptable exposures are an individual lifetime excess cancer risk in the range of 10^{-4} to 10^{-6} (corresponding to a one-in-ten-thousand to a one-in-a-million excess cancer risk). For noncancer health effects, a "hazard index" (HI) is calculated. An HI represents the sum of the individual exposure levels compared to their corresponding reference doses. The key concept for a noncancer HI is that a "threshold level" (measured as an HI of less than 1) exists below which noncancer health effects are not expected to occur.

REMEDIAL ACTION OBJECTIVES

Remedial action objectives (RAOs) were developed for soils to address the human health risks and environmental concerns posed by Site-related contamination.

Soil Remedial Action Objective:

- Reduce the concentrations of PCE and TCE in the soil to levels at which they will no longer be a source of groundwater contamination.

To achieve this RAO, cleanup goals for subsurface soils at the Site were identified. The Site lies within the New Jersey Pinelands Protection Area. Subsurface soil cleanup standards that will be protective of groundwater were developed by using the SESOIL model. The cleanup goals that were calculated through the model are 2.6 mg/kg for PCE and 14 mg/kg for TCE. If any contaminants migrate from the soil into the groundwater, they will be remediated under the OU1 groundwater remedy.

SUMMARY OF REMEDIAL ALTERNATIVES

Presumptive Remedy

Soil Vapor Extraction (SVE) is the Presumptive Remedy for VOC contamination in unsaturated soils. Presumptive Remedies were developed by EPA to accelerate the cleanup of sites, as well as to focus the feasibility study efforts. These are "preferred technologies for common categories of sites, based on historical patterns of remedy selection and EPA's scientific and engineering evaluation of performance data…" (OSWER directive 9355.0-63FS, July 1996).

The soils in the OU2 area are sandy and are contaminated primarily with VOCs. SVE is an appropriate technology to treat such soils. The Presumptive Remedy process differs from the usual remedy process only in that EPA will be considering a reduced number of remedial alternatives. In this case, EPA is considering just two remedial alternatives; No Action, and Soil Vapor Extraction.

Excavation

Excavation and removal of the contaminated soils were considered during the Focused Feasibility Study. It is not being considered as a remedial alternative because:

- Removal and off-Site disposal introduces short-term risks not likely to be present during extension of the OU1 SVE remedy;

- Implementation may be complicated by construction of the OU-1 groundwater remedy; and

- Costs would be significantly higher to excavate the area of contamination and dispose of soils off-Site as compared to extending the SVE system that is incorporated into the OU-1 remedy.

Alternatives

Alternative 1 – No Action

The No Action Alternative was retained, as required by the National Contingency Plan (NCP), and provides a baseline for comparison with other alternatives. No remedial actions would be implemented as part of the No Action Alternative. Furthermore, this alternative would not involve any monitoring of groundwater or institutional controls. Contaminants in the soil would continue to migrate into the groundwater.

Total Capital Cost	$0
Operation and Maintenance	$0
Total Present Net Worth	$0
Time frame	0 years

Alternative 2 –Soil Vapor Extraction

This alternative would address contaminated soils through the construction and operation of a Soil Vapor Extraction system located within the area of the delineated VOC-contaminated soils.

Soil Vapor Extraction is an in-situ technology for the removal of volatile and some semi-volatile compounds from soils. Soil Vapor Extraction is appropriate for this Site because the contaminants in the soil are volatile compounds, meaning that they easily move from the soil into the vapor phase, and can easily move into the pore spaces of the sandy soils at the Site.

For this alternative, extraction wells would be drilled into the soils above the groundwater table. Since the soils are sandy at the Site, the vapors in the pore spaces could be removed by placing the area under a vacuum and suctioning out the vapors through the extraction wells. The vapors would then pass through an activated carbon filter and be removed. The activated carbon would be regenerated or disposed of properly.

Part of the OU1 remedy for the site-wide groundwater contamination consists of construction of an Air Sparging and Soil Vapor Extraction system in an area that is close to the VOC-contaminated soil.

Therefore, it is likely that the Soil Vapor Extraction system alternative for OU2 soils would be built as an extension of the OU1 Air Sparging and Soil Vapor Extraction System . It is estimated that this would entail adding one or two more extraction wells to OU1 Soil Vapor Extraction System currently being designed.

The time frame presented below for construction of this alternative does not include the time for pre-design investigations, remedial design, or contract procurements. It is estimated that Alternative 2 would take approximately five years to achieve the cleanup goal. If this alternative were to take longer than five years to achieve the remediation goal, a review would be conducted every five years (Five-Year Review) after the initiation of the remedial action. The five-year reviews would continue until the remediation goal is achieved.

More information on the SVE technology can be found at the following EPA sponsored web site.

http://www.cluin.org/download/citizens/citsve.pdf

Total Capital Cost	$45,000
Operation and Maintenance	$51,252
Total Present Net Worth	$97,000
Time frame	5 years

EVALUATION OF REMEDIAL ALTERNATIVES

Nine criteria are used to evaluate the different remedial alternatives individually and against each other in order to select the best alternative. This section of the Proposed Plan profiles the relative performance of both alternatives against the nine criteria, noting how it compares to the other option under consideration. The nine evaluation criteria are discussed below. A more detailed analysis of the presented alternatives can be found in the Focused Feasibility Study report.

THE NINE SUPERFUND EVALUATION CRITERIA

1. Overall Protectiveness of Human Health and the Environment evaluates whether and how an alternative eliminates, reduces, or controls threats to public health and the environment through institutional controls, engineering controls, or treatment.

2. Compliance with Applicable or Relevant and Appropriate Requirements (ARARs) evaluates whether the alternative meets federal and state environmental statutes, regulations, and other requirements that pertain to the site, or whether a waiver is justified.

3. Long-term Effectiveness and Permanence considers the ability of an alternative to maintain protection of human health and the environment over time.

4. Reduction of Toxicity, Mobility, or Volume (TMV) of Contaminants through Treatment evaluates an alternative's use of treatment to reduce the harmful effects of principal contaminants, their ability to move in the environment, and the amount of contamination present.

5. Short-term Effectiveness considers the length of time needed to implement an alternative and the risks the alternative poses to workers, the community, and the environment during implementation.

6. Implementability considers the technical and administrative feasibility of implementing the alternative, including factors such as the relative availability of goods and services.

7. Cost includes estimated capital and annual operations and maintenance costs, as well as present worth cost. Present worth cost is the total cost of an alternative over time in terms of today's dollar value. Cost estimates are expected to be accurate within a range of +50 to -30 percent.

8. State/Support Agency Acceptance considers whether the State agrees with the EPA's analyses and recommendations, as described in the RI/FS and Proposed Plan.

9. **Community Acceptance** considers whether the local community agrees with EPA's analyses and preferred alternative. Comments received on the Proposed Plan are an important indicator of community acceptance.

Overall Protection of Human Health and the Environment

The No Action Alternative (Alternative 1) is not considered protective of human health and the environment, because it does not prevent the current and future migration of soil contaminants into the groundwater.

The Soil Vapor Extraction (SVE) Alternative (Alternative 2) is protective. It provides for active treatment in the soil source area to remove VOCs in soils which continue to act as a source of groundwater contamination in a reasonable timeframe.

Compliance with Applicable or Relevant and Appropriate Requirements (ARARs)

Both alternatives would eventually meet remedial goals for soils.

The No Action Alternative would meet goals through natural attenuation processes, whereby VOCs in soils would continue to migrate to groundwater and eventually cease acting as a source. This would take a significant amount of time and no monitoring would be performed under the No Action Alternative to monitor this.

Alternative 2 would meet the soil cleanup goals and the chemical-specific ARARs. The SVE Alternative includes active remediation and would achieve remediation goals by reducing the levels of VOCs in the soils to meet the site-specific standards.

Note that the SESOIL model was used to establish the soil cleanup goals for PCE and TCE at the Site and is consistent with the methodology specified in the NJ Remediation Standards (N.J.A.C. 7:26D Remediation Standards). The NJ Impact to Groundwater Soil Remediation Standards are To Be Considered (TBC) Criteria. The soil cleanup goals for volatile compounds derived using the model are considered to be protective of the groundwater at this Site.

The SVE alternative would also comply with location- and action-specific ARARs such as the Federal National Environmental Policy Act or the New Jersey Soil Erosion and Sediment Control Act.

Long-Term Effectiveness and Permanence

The No Action Alternative would not be effective in the long-term because no actions will be taken to address the contamination. Some attenuation of contaminants can be expected over time, but this would not be measured or monitored under Alternative 1.

Alternative 2, SVE, would be effective for removal of soil contamination in the source area. Since it is expected that the full remediation would take place within 5 years, it will be both effective in the long-term and permanent.

Reduction of Toxicity, Mobility, or Volume Through Treatment

The No Action Alternative would not treat the contaminants and would not reduce their toxicity, mobility, or volume.

Alternative 2 would remove the majority of the contaminants in the soils through SVE treatment, thereby greatly reducing the volume of the contaminants. During the operation of the SVE system, the contaminants would be under a vacuum, which will prevent them from migrating.

Short-Term Effectiveness

The No Action Alternative includes no construction or monitoring and would have no short-term impacts at the Site.

Alternative 2, SVE, has some short-term impacts because it would be necessary to construct parts of the remedy on the property in the former industrial area. However, the impacts are expected to be minimal because construction would consist of adding one or two extra extraction wells to the SVE portion of the OU1 groundwater remedy, which is expected to be under construction at the same time. The OU1 remedy will include treatment of contaminated vapors removed from the groundwater. The vapors removed by the SVE system in the OU2 area will by treated by the same system. Therefore, short-term impacts related to the construction of the OU2 SVE system will be minor.

Once the SVE system is operating, any vapors extracted would be under vacuum in a sealed system and would be captured by absorption onto activated carbon. The construction of the activated carbon treatment portion of the remedy, as well as the ongoing operation and maintenance of the carbon treatment, is not included in Alternative 2, but rather will be performed under the planned OU1 remedy for groundwater.

The SVE technology is estimated to operate for approximately 5 years to address Site soils.

Implementability

The No Action Alternative requires no implementation.

Alternative 2, SVE, would be easy to implement because it uses standard services and equipment. In addition, it is expected that soil vapor extraction to address soils would be constructed as an extension of the Air Sparging and Soil Vapor Extraction System selected as a portion of the OU1 remedy, thus further simplifying implementation. It should be noted that a treatability study will be performed shortly for SVE and air sparging, to develop data to be used in the implementation of the OU1 remedy for groundwater. This work can be used to aid in the implementation of the OU2 SVE system for soils, but will not need to be repeated as part of the OU2 remedy.

Cost

There are no costs associated with the No Action Alternative.

The estimated present worth cost for the SVE Alternative is $97,000. This cost includes only the cost of adding the extra one or two wells onto the already selected OU1 groundwater remedy. The major design costs, mobilization costs, cost of the activated carbon to trap the VOC vapors, etc. were included in the OU1 Remedy and will cover the additional work needed to implement SVE for soils as part of the OU2 remedy.

State/Support Agency Acceptance

The State of New Jersey agrees with the preferred alternative in this Proposed Plan.

Community Acceptance

Community acceptance of the preferred alternative will be evaluated after the public comment period ends and will be described in the Responsiveness Summary of the Record of Decision for this Site. The Record of Decision is the document that formalizes the selection of the remedy for a site.

SUMMARY OF THE PREFERRED ALTERNATIVE

Alternative 2, Soil Vapor Extraction, is the preferred remedial alternative for soil contamination at this Site.

Alternative 2 will consist of the installation of several vapor extraction wells within the unsaturated soils zone. The vapors in the soils will be removed by the soil vapor extraction system and captured on activated carbon. It is estimated that the soil vapor extraction system needed to address the contaminated soils would consist of adding one or two extraction wells to be located on the Lightman property. The soil vapor extraction wells needed to address soils are expected to be installed and operated as an extension to the larger Air Sparging and Vapor Extraction System, which is part of the OU1 groundwater remedy. The planned carbon treatment of the contaminated vapors removed from groundwater as part of OU1 is expected to be sufficient to treat any additional vapors removed from OU2 soils. This substantially reduces the cost of constructing the soil vapor extraction remedy for OU2, making this alternative very cost effective.

The soil vapor extraction technology is a presumptive remedy appropriate for treating the type of contaminated soils present on Site. It is a proven technology, and easy to implement. In addition, it is expected to be very

effective in treating Site soils to meet the cleanup criteria for all contaminants which are 14 mg/kg for TCE and 2.6 mg/kg for PCE. Implementation of Alternative 2 at the Site is expected to result in the elimination of Site soils as an ongoing source of groundwater contamination, allowing the OU1 groundwater remedy to restore groundwater to appropriate cleanup standards in less time.

After the SVE system has finished operating, the soils will be sampled to confirm that the contamination levels are at or below the remediation goals. If necessary, EPA will take appropriate action.

The cleanup goals of 14 mg/kg for TCE and 2.6 mg/kg for PCE are protective of groundwater and are more stringent than the NJDEP Soil Remediation Standards for non-residential use. Residential standards are more stringent, but may be met through remediation. If residential standards are not met, a deed notice may be required to assure that future use of the property will not be residential.

Consistent with EPA Region 2's Clean and Green policy, EPA will evaluate the use of sustainable technologies and practices with respect to any remedial alternative selected for the Site.

As is EPA's policy, Five-Year Reviews will be conducted, if appropriate, until remediation goals have been met.

COMMUNITY PARTICIPATION

EPA provided information regarding the cleanup of the Lightman Drum Superfund Site to the public through public meetings, the Administrative Record file for the Site and announcements published in the Courier-Post newspaper. EPA encourages the public to gain a more comprehensive understanding of the Site and the Superfund activities that have been conducted there.

For further information on EPA's preferred alternative for the Lightman Drum Superfund Site:

Renee Gelblat	Natalie Loney
Remedial Project Manager	Community Relations
(212) 637-4414	(212) 637-3639

U.S. EPA
290 Broadway, 19th Floor
New York, New York 10007-1866

The dates for the public comment period; the date, the location and time of the public meeting; and the locations of the Administrative Record files are provided on the front page of this Proposed Plan.

GLOSSARY

ARARs: Applicable or Relevant and Appropriate Requirements. These are Federal or State environmental rules and regulations that may pertain to the Site or a particular alternative.

Carcinogenic Risk: Cancer risks are expressed as a number reflecting the increased chance that a person will develop cancer if exposed to chemicals or substances. For example, EPA's acceptable risk range for Superfund hazardous waste sites is 1×10^{-4} to 1×10^{-6}, meaning there is 1 additional chance in 10,000 (1×10^{-4}) to 1 additional chance in 1 million (1×10^{-6}) that a person will develop cancer if exposed to a Site contaminant that is not remediated.

CERCLA: Comprehensive Environmental Response, Compensation and Liability Act. A Federal law, commonly referred to as the "Superfund" Program, passed in 1980 that provides for response actions at sites found to be contaminated with hazardous substances, pollutants or contaminants that endanger public health and safety or the environment.

COPC: Chemicals of Potential Concern.

SLERA: Screening Level Ecological Risk Assessment. An evaluation of the potential risk posed to the environment if remedial activities are not performed at the Site.

FS: Feasibility Study. Analysis of the practicability of multiple remedial action options for the Site.

Groundwater: Subsurface water that occurs in soils and geologic formations that are fully saturated.

HHRA: Human Health Risk Assessment. An evaluation of the risk posed to human health should remedial activities not be implemented.

HI: Hazard Index. A number indicative of noncarcinogenic health effects that is the ratio of the existing level of exposure to an acceptable level of exposure. A value equal to or less than one indicates that the human population is not likely to experience adverse effects.

HQ: Hazard Quotient. HQs are used to evaluate noncarcinogenic health effects and ecological risks. A value equal to or less than one indicates that the human or ecological population are not likely to experience adverse effects.

ICs: Institutional Controls. Administrative methods to prevent human exposure to contaminants, such as by restricting the use of groundwater for drinking water purposes.

Nine Evaluation Criteria: See text box on Page 7.

Noncarcinogenic Risk: Noncancer Hazards (or risk) are expressed as a quotient that compares the existing level of exposure to the acceptable level of exposure. There is a level of exposure (the reference dose) below which it is unlikely for even a sensitive population to experience adverse health effects. USEPA's threshold level for noncarcinogenic risk at Superfund sites is 1, meaning that if the exposure exceeds the threshold; there may be a concern for potential noncancer effects.

NPL: National Priorities List. A list developed by USEPA of uncontrolled hazardous substance release sites in the United States that are considered priorities for long-term remedial evaluation and response.

Operable Unit (OU): a discrete action that comprises an incremental step toward comprehensively addressing site problems. This discrete portion of a remedial response manages migration, or eliminates or mitigates a release, threat of a release, or pathway of exposure. The cleanup of a site can be divided into a number of operable units, depending on the complexity of the problems associated with the site.

Practical Quantitation Level (PQL): means the lowest concentration of a constituent that can be reliably achieved among laboratories within specified limits of precision and accuracy during routine laboratory operating conditions.

Present-Worth Cost: Total cost, in current dollars, of the remedial action. The present-worth cost includes capital costs required to implement the remedial action, as well as the cost of long-term operations, maintenance, and monitoring.

Proposed Plan: A document that presents the preferred remedial alternative and requests public input regarding the proposed cleanup alternative.

Public Comment Period: The time allowed for the members of a potentially affected community to express views and concerns regarding USEPA's preferred remedial alternative.

RAOs: Remedial Action Objectives. Objectives of remedial actions that are developed based on contaminated media, contaminants of concern, potential receptors and exposure scenarios, human health and ecological risk assessment, and attainment of regulatory cleanup levels.

Record of Decision (ROD): A legal document that describes the cleanup action or remedy selected for a site, the basis for choosing that remedy, and public comments on the selected remedy.

Remedial Action: A cleanup to address hazardous substances at a site.

RI: Remedial Investigation. A study of a facility that supports the selection of a remedy where hazardous substances have been disposed or released. The RI identifies the nature and extent of contamination at the facility and analyzes risk associated with COPCs.

Saturated Soils: Soils that are found below the Water Table. These soils stay wet.

TBCs: "To-be-considereds," consists of non-promulgated advisories and/or guidance that were developed by EPA, other federal agencies, or states that may be useful in developing CERCLA remedies.

Unsaturated Soils: Soils that are found above the Water Table. Rain or surface water passes through these soils. These soils remain dry:

USEPA: United States Environmental Protection Agency. The Federal agency responsible for administration and enforcement of CERCLA (and other environmental statutes and regulations), and final approval authority for the selected ROD.

VOC: Volatile Organic Compound. Type of chemical that readily vaporizes, often producing a distinguishable odor.

Water Table: The water table is an imaginary line marking the top of the water-saturated area within a rock column.

LEGEND

- APPROXIMATE PROPERTY LINE – LIGHTMAN DRUM SITE
- GENERAL OUTLINE OF GROUNDWATER PLUME (SEE NOTE 2)
- WS-1 ONSITE WATER SUPPLY WELL (LOCATION APPROXIMATE)
- MW-11 MONITORING WELL
- GW3B-1 GEOPROBE AQUIFER PROFILE BORINGS (LOCATION APPROXIMATE)
- SG-1 STAFF GAUGE
- SW01 SURFACE WATER SAMPLE (LOCATION APPROXIMATE)
- SD01 SEDIMENT SAMPLE (LOCATION APPROXIMATE)
- PUMP BRANCH CREEK (SEE NOTE 3)

NOTE

1.) ND = NOT DETECTED

2.) ISOCONCENTRATION CONTOURS BASED ON GEOPROBE AND MONITORING WELL PCE DATA COLLECTED 2006–2007. DATA FROM MW–28 AND MW–8B WERE NOT CONTOURED AS THEY ARE SCREENED BELOW THE PLUME. WHERE MONITORING WELL DATA FROM 2006 AND 2007 WERE AVAILABLE, 2007 DATA WAS USED.

3.) APPROXIMATE CREEK LOCATION ESTIMATED FROM 1995 AERIAL PHOTO, EPHEMERAL IN VICINITY OF LIGHTMAN PROPERTY.

REFERENCES

1.) AERIAL PHOTOGRAPH TAKEN FROM USDA GEOSPATIAL DATA GATEWAY, DATED 2006.

2.) MONITORING WELLS, STAFF GAUGE AND PIEZOMETERS SHOWN WERE BASED ON SURVEY INFORMATION SUPPLIED BY JAMES M. STEWART, INC.

3.) GEOPROBE PROFILE BORINGS AND SURFACE WATER/SEDIMENT SAMPLING LOCATIONS WERE LOCATED IN THE FIELD BY GOLDER ASSOCIATES, INC. PERSONNEL USING A HANDHELD GPS UNIT AND ARE APPROXIMATE ONLY.

4.) PARCEL BOUNDARIES FROM GIS DATABASE OF NEW JERSEY.

300 0 300
SCALE FEET

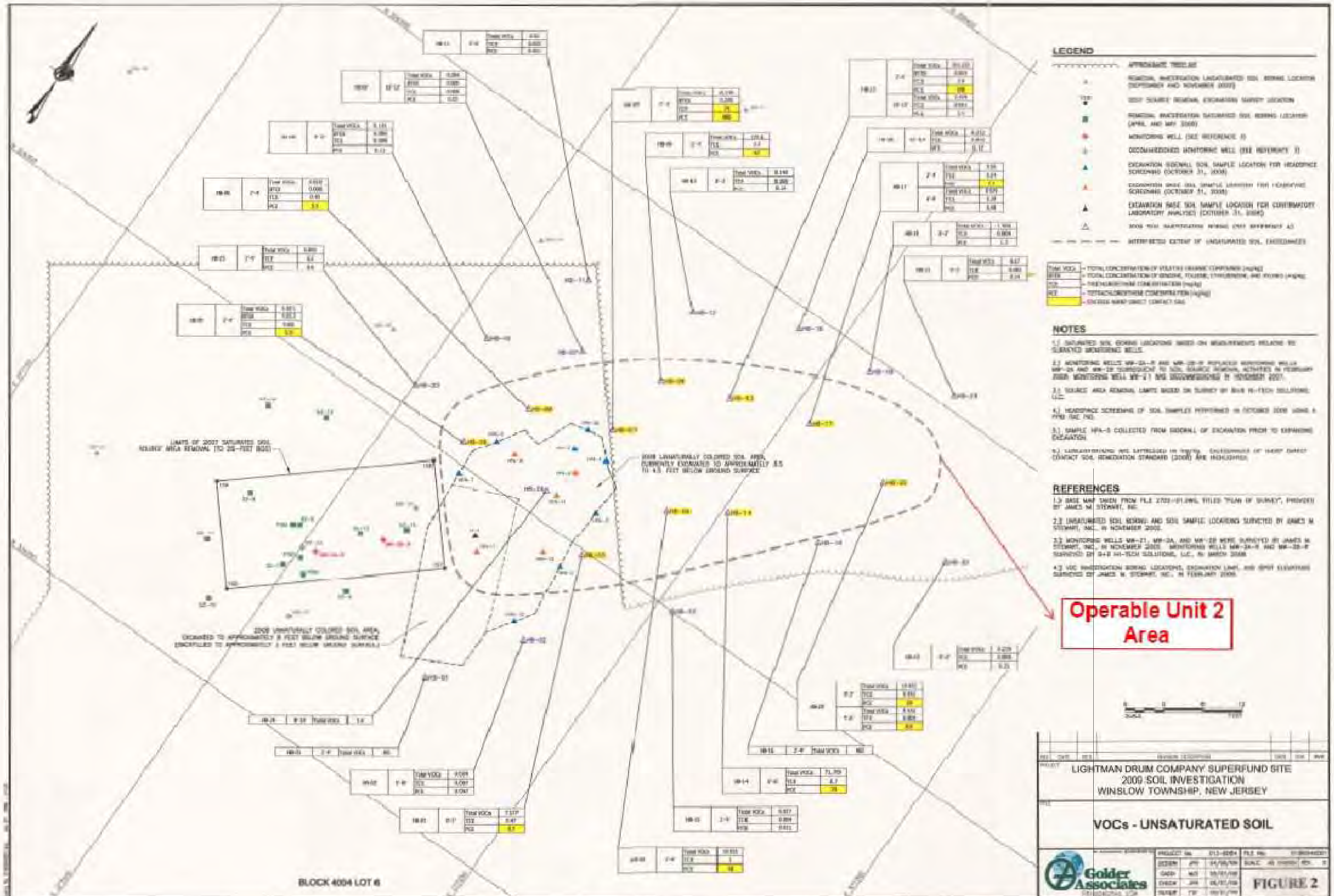
LIGHTMAN DRUM SITE
WINSLOW TOWNSHIP, NEW JERSEY

SITE CONDITIONS

500082

Golder Associates

FIGURE 1


LEGEND
NOTES
REFERENCES
Operable Unit 2
Area
BLOCK 4004 LOT 6
LIGHTMAN DRUM COMPANY SUPERFUND SITE
2009 SOIL INVESTIGATION
WINSLOW TOWNSHIP, NEW JERSEY
VOCs - UNSATURATED SOIL
Golder Associates
FIGURE 2

500083

Attachment B
Public Notice

City man fatally shot in East Camden park

CAMDEN — A 19-year-old Camden man died Wednesday evening after being shot in a park in East Camden.

Kevin Miller was shot between Eutaw and Benson streets at about 7 p.m., according to the Camden County Prosecutor's Office.

Miller was taken to Our Lady of Lourdes Medical Center in Camden and was pronounced dead there around 8:40 p.m. Authorities have released no details of a possible motive or suspect in the shooting.

Police are asking anyone with information about the crime to contact Camden County Prosecutor's Office Investigator Lance Saunders at (856) 225-8400 or Camden Police Detective Janell Simpson at (856) 757-7420.

OSHA cites Burlco firm for safety violations

CINNAMINSON — The U.S. Occupational Safety and Health Administration has cited a Cinnaminson firm for more than a dozen safety and health violations.

Integrated Laminate Systems faces 14 workplace violations, including exposing employees to methylene chloride. Proposed penalties total $49,000.

Exposure to methylene chloride can lead to cancer and cardiac distress, OSHA says.

The company is at 1301 Industrial Highway and manufactures storage cabinets for dental offices. The firm employs 42 people, OSHA says.

PATCO announces changes for cards

Starting next week, PATCO riders with electronic Freedom Cards will be able to manage their accounts online.

Riders can check their balance and add value to their Freedom Cards from a home computer instead of using ticket machines at the train station.

About 70 percent of the riders on the Hi-Speedline use Freedom Cards, a convenience for regular users that allows them to bypass lines at ticket machines on a daily basis. Created in 2009, the cards also carry discounts for goods and services in the region.

The new service can be accessed at www.patcofreedomcard.org.

Testing will also begin soon on a system that would allow riders to use their credit cards directly to board a train, eliminating the need for a special transit card.

Winslow fire official earns state award

The state American Legion has named Deputy Chief Michael Scardino of the Winslow Fire Department state firefighter of the year.

The Winslow resident received the award Thursday at the American Legion convention in Wildwood.

A former fire marshal for Camden County, Scardino is now in charge of the Winslow department's inspection program and fire investigations.

He was a volunteer firefighter in Winslow from 1992 until his hiring as the local fire marshal in 2002. He was promoted to deputy chief in 2006.

Clinton to honor 3 city schools for programs

Former President Bill Clinton will recognize three Camden schools for their obesity prevention programs for students at the Clinton Presidential Center on Monday.

The Woodrow Wilson High School exercise and healthy snack programs, the Lanning Square School aerobic exercise program and the Cramer College Preparatory Lab School healthy choices, exercise, dance and cooking programs will be honored.

They will be among 275 schools nationwide to be recognized by the William J. Clinton Foundation and The Alliance for a Healthier generation, founded by the American Heart Association for transforming their campuses into healthier places for students and staff.

Death of police K-9 is not heat-related

GALLOWAY — Officials don't believe the heat is responsible for the death of a New Jersey police dog.

The Galloway Township Police Department says K-9 Blaze collapsed after starting a training session indoors Wednesday.

Doctors at a veterinary hospital said the 6-year-old German shepherd's temperature indicated the death was not heat-related.

Blaze had been a patrol dog since 2007 and was the partner of Officer Scott Winneberger. Police say the dog was responsible for numerous criminal apprehensions and drug detections.

Blaze is the second Galloway Township police dog to die this year. K-9 Sabre died of cancer in April.

State Senate OKs bill banning 'bath salts'

TRENTON — The state Senate has passed a bill outlawing synthetic drugs known as "bath salts."

The bill makes it a crime to possess or sell the chemicals used to make the drugs.

Marketed as bath salts or incense, they're snorted by users and mimic the effects of cocaine and methamphetamines. They can cause health issues ranging from increased blood pressure and heart rate to hallucinations and suicidal thoughts.

The bill must also pass the Assembly and be signed by the governor before becoming law.

In April, New Jersey's attorney general classified the chemicals used to make the drug as controlled dangerous substances.

A law passed by the Kansas Legislature to ban bath salts took effect on Saturday.

Pitman will feature bike races, live music

PITMAN — Bicycle races and live music will take center stage Saturday in Pitman.

The day kicks off at 8 a.m. with the 2nd annual Tour de Pitman. There will be races of 25 miles and 56 miles on a course that goes through the business district along Broadway and around the borough.

After the races, the borough's 3rd annual Music and Arts Festival will be held from noon to 7 p.m..

The music starts at noon in Ballard Park. Performers include Revolver, a Beatles tribute band, singer/songwriter Jim Six, Cat Daddy and Stone Baby. The Pitman High School Sounds of Jazz will perform in Pitman Grove. Borough restaurants are planning specials for the day.

— Staff, wire reports

EPA IS HOSTING A PUBLIC MEETING FOR THE LIGHTMAN DRUM COMPANY SUPERFUND SITE

The U.S. Environmental Protection Agency invites you to attend a public meeting to discuss EPA's proposed remedy to address subsurface soil contamination at the Lightman Drum Company Superfund Site in Winslow Township, New Jersey. EPA's preferred remedy, which is described in the Proposed Plan, is Alternative 2, Soil Vapor Extraction in the affected area.

The public meeting will be held at the:

Municipal Building
128 South Route 73
Braddock, NJ 08037
Wednesday, June 22, 2011
at 6:30 PM

Before selecting the final remedy, EPA will consider oral comments presented at the public meeting and written comments received during the thirty (30) day comment period. The comment period for the proposed plan runs from **June 10, 2011** to **July 11, 2011**. Copies of the Proposed Plan and the Administrative Record for the site are available at the following locations.

Camden County Library
South County Branch
35 Coopers Folly Road
Atco, NJ 08004
856-753-2537
http://southco.camden.lib.nj.us

US EPA Records Center
290 Broadway, 18th Floor
New York, New York 10007-1866
212-637-4308
By Appointment Only

Or you can access a copy of the proposed plan at:

http://www.epa.gov/region02/superfund/npl/lightmandrumcompany/pdf/final_proposed_plan.pdf

Written comments should be sent to: Renee Gelblat, Remedial Project Manager, U.S. EPA, Region 2, 290 Broadway, 19th Floor, New York, NY 10007-1866, (v) 212-637-4414, fax 212-637-4429

Or you can e-mail your comments to:

gelblat.renee@epa.gov

If you have any questions regarding the information session you can, e-mail Ms. Natalie Loney, Community Involvement Coordinator at:

loney.natalie@epa.gov

or call Ms. Loney: (212) 637-3639 or toll-free at 1-800-346-5009.

Attachment C
Transcript of Public Meeting

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
- -x

LIGHTMAN DRUM COMPANY SUPERFUND SITE

PUBLIC MEETING

- -x

Municipal Building Courthouse
125 South Route 73
Braddock, New Jersey

June 22, 2011
6:30 p.m.

P R E S E N T:

NATALIE LONEY,
EPA, Community Involvement Coordinator

RENEE H. GELBLAT,
EPA, Remedial Project Manager

OTHER REPRESENTATIVES:

NICOLE BUJALSKI,
EPA, Hydrogeologist

JAMES DeNOBLE,
NJ DEP, Project Manager

P. STEPHEN FINN,
Golder Associates, Inc., Engineer

JUDY McPHERSON,
EPA, Human Health Risk Assessor

KIM O'CONNELL,
Section Chief,
EPA Southern New Jersey Remediation Section

MS. LONEY: Okay. We're going to get started. My name is Natalie Loney. I'm the Community Involvement Coordinator with EPA on the Lightman Drum Superfund Site.

Today we're going to be presenting the proposed plan for remediation at the site. And with me today are some representatives from EPA.

Kim O'Connell. Kim is the Section Chief of New Jersey Remediation Branch.

Next to Kim is Renee Gelblat. Renee is the Remedial Project Manager for the site.

We also have two other folks from the EPA present, Judy McPherson. Judy is the Human Health Risk Assessor. And next to Judy is Nicole Bujalski, who's a hydrogeologist working on the site.

In addition, we have Steve

Finn. Steve Finn is from Golder Associates, the contractor working on the site. He'll be doing part of the presentation.

And last but not least is Jim DeNoble. He's with New Jersey Department of Environmental Protection.

Just to go over the way the meeting is going to work, we're going to do our formal presentation, explaining a little bit of the site history, moving on to what we found in our remedial investigation/feasibility study, and then on to what EPA is proposing as a remedy for the site.

This is a public meeting, and we have a stenographer present. And, so, all of this is being recorded. At the end of our presentation, there will be an opportunity for question and answer. And since the comment

period --

I forgot the date.

MS. GELBLAT: July 11.

MS. LONEY: There is a thirty-day comment period on our proposal. So, you have an opportunity to comment tonight and it will be taken down as part of the record, or if you'd like to submit written comments to us at a later date, you can do so until July 11. That's the close of the comment period. So, you have any time between now and July 11 to send in comments to us.

This looks like a somewhat confusing slide, but it's relatively straightforward. I just would focus on this area.

What this is, I'm trying to bring you up to speed of where we are right now in the lifecycle of the Superfund site. Generally, a Superfund site is the site of discovery. In the initial phase,

contamination may be identified and it's brought to the attention of the Environmental Protection Agency. And we use something called a preliminary assessment and site inspection to determine if the site contamination warrants it being listed on the Superfund list.

This process takes place under the NPL ranking, where sites are actually scored. And if they receive the right number, they are actually placed on the Superfund list. Being placed on the Superfund list affords the site the opportunity to be cleaned up using Superfund dollars if there is no responsible party that is either in existence or viable to clean up the site. Or if there is a viable and liable responsible party, those monies would be used to remediate the site.

We've passed all of these

stages in this particular site. It's listed, obviously, as a Superfund site.

There is something called a remedial investigation and feasibility study, where we actually look at the nature and extent of contamination at a site and look at feasible options for addressing that contamination.

We completed that phase and now we're somewhere right in the middle here, where we are now presenting what EPA believes is the best option for remediating the site.

So, at that point, we present all of the research and information to the community, explain what we believe the best remedy will be, and open it up for public comments.

Once the comment period is closed, all of the comments we receive tonight and any written

comments that we may receive up until July 11, those are all memorialized in a document called a responsiveness summary.

What we do is we respond to all of those comments in writing put together in a document called a ROD, Record of Decision, which is just as it says; it is a decision the EPA has made based on all of the information that we've brought in from the community plus all of the research that we've done in looking at the site.

Once we complete the record of decision, this document is public, it will be placed in the site repository which I believe is --

At which library is it?

MS. GELBLAT: The local public library.

MS. LONEY: It should be in that document. It will be in the library.

And then once the ROD -- once we've gotten past the ROD phase, we go into the remedial design and then finally into the construction, operation, and maintenance of the site. So, we're right about here, the public comment phase.

So, I'm going to turn the floor over to Renee, and she's going to bring you up to speed in terms of the site history, what we found.

And then you're going to be presenting as well about some of the technical aspects of the site, where the contamination is, and what the EPA believes is the best remedy.

We're going to ask that you hold your questions until the end. If you do have a question or would like to make a comment, we would ask that when you are recognized, please state your name for the

record so that we can have that in the transcript for this meeting.

Thank you.

MS. GELBLAT: Thanks.

I'll go through a site overview. Some of you remember pretty much two years ago almost to the day we were here talking about the Lightman site, so this first part may look familiar to you here.

The site is fifteen acres. This is the site. This runs between Route 73 and the railroad. The eastern side is now United Cooperage, western side is wetlands through here. It's all in New Jersey Pinelands. The area is zoned industrial. And Winslow Township requires connection to a public water supply for drinking water.

Here's another view of the site.

Before 1974, this was all

agricultural area, and in 1974, Lightman Drum started their waste operations business. They did waste hauling and drum reclamation. They'd take in drums, consolidate the contents into underground storage tanks. And, unfortunately, they leaked, which caused a bit of a problem.

In 1989 to 1990, New Jersey Department of Environmental Protection investigated it, there was an administrative order, and they found the following: There were diesel fuel tanks, which have been removed; unlined waste disposal pit with underground waste storage tanks, which have also been removed.

So, DEP continued their investigation, and they found soil and groundwater contamination. And in May 1999, they asked EPA to do the evaluation. We came in, we did the evaluation, and we put it

on the National Priorities List, which made it a Superfund site.

In November of 2000, we issued an administrative order to potentially responsible parties and began the investigation.

We reviewed all the site history, all the previous studies done, took samples from soil and groundwater. This was a big sitewide study. As a result, we found that there was a problem only with the groundwater that needed remediation.

So, in 2009 we were here in June, and by September we wrote the record of decision for the remedy, which includes air sparging and soil vapor extraction near the property, which is by these areas of contamination. The dotted lines are the extent of the contamination, so the air sparging and soil extraction right there.

We're going to pump and

treat the groundwater hot spots, these areas here. And the rest of the groundwater plume, we're going to watch it as it naturally attenuates, which is a natural process that will break down the plume. And there will be some institutional controls.

And if there's still contamination causing problems with groundwater, we will put a restriction on putting any drinking water wells, which the Township has anyway.

And the design work for the groundwater remedy which we decided on in December 2009 is underway. This coming Monday, we're going to do a round of groundwater sampling in all the wells, and we'll do a pilot test for the air sparging and soil vapor extraction systems, and, hopefully, get started after that.

And if you remember, this is

what we ended up with. This shows the contamination. These are the hot spots. This is where the air sparging soil vapor extraction system is going in.

The system that's coming in right here, air sparging, we're going to blow air into the ground to force contamination to come up into the soil that isn't wet. And the soil vapor extraction system puts a vacuum on it and pulls the contamination out. We're going to put perforated pipe in, blow air in, bring the contamination up, and then vacuum it out.

There is a handout back there that has a really nice simple picture of how it's done.

So, I'll give this over to Steve Finn. He's going to tell what happened with the contaminated soil area we found and what the problem is that we're going to talk about tonight.

MR. FINN: Thanks, Renee.

Renee to this point has been talking about the groundwater at the plume on the site, the most extensive area of contamination. The contamination expands beyond the boundaries of the Lightman Drum Company property and EPA made their decision of how that is going to be addressed as appropriate.

What I'm going to be talking about is the soil contamination piece, what's been done about that, and what the plan is to complete that work.

That soil contamination is on the Lightman Drum Company site itself. So, there's a little bit of a history here to what's been going on with the soil. I'll walk through that, first of all.

Back in 2007, EPA issued an order to address contaminated soil in the area where there had

previously been underground storage tanks. Renee mentioned that Lightman's operation involved placing waste in underground storage tanks that, unfortunately, leaked. She also mentioned the tanks were removed back.

But what was discovered much more recently is that the groundwater contamination originated from an area where those tanks had been and there was still contaminated soil present below the water table on the Lightman site, a continuing source of contamination of groundwater.

Back in 2007, EPA entered into an agreement to get those soils removed as the first step to protecting groundwater in the future. In fact, 480 cubic yards of soil were removed after that, about 25 feet down.

Just as a point of reference, the groundwater in the

area is about twelve feet below ground. So, soil was taken out below that down to about 25 feet down.

And if I go to the next slide, I'll show you a picture of that actually happening.

So, this is on the Lightman site itself. You see this area they put in the pilings to isolate this area and excavate the soil down to about 25 feet, which was taken offsite and replaced with clean material. So, that was the first activity as far as the soils were concerned.

Once this work was being done, there were a couple of other discoveries. The first one was that most of the surface dug up at the site -- there was some, frankly, rather strange colored soil. Most soils around here are brown, yellowish brown. And we ran into soils that were bright

red and purple and things like that, which clearly had come from the previous operations on the site.

Those top soils were tested. They were found to contain metals, lead particular, at levels that were not protective of human health.

So, although this original remedy was designed to remove soils below the water table, when they found these soils, they were removed at that time.

The second discovery at this site was there was another area where we had what we refer to as volatile organic compounds, VOCs, that were next to the area where we were already excavating but which we needed to understand more about.

And EPA at that time, rather than delay the work or delay the decision on groundwater and so on,

decided to separate that out and say we will look at that separately.

So, what I'm going to talk about now is the investigation of this area, then Renee will discuss the decision made on how to address the soil.

Having identified these soils, an investigation was done to understand the nature of that contamination and then what were we going to do about it.

This area where these soils are is right in the middle of the Lightman property. Here's Route 73, here's the railroad. Right about in the middle of the Lightman property there's this small area of VOC-impacted soils. And it is small, smaller than the room you're sitting in right now. We didn't know that when we started investigating it.

A total of 24 soil borings

were taken in this area. I'll show you a map. Those were continuously sampled. Each of the samples as they came out of the ground were screened with instruments to detect the presence of volatile organics and in the most impacted zones so we could know exactly what types of contaminants were present and what the concentrations of them were.

The idea of this program with the 24 borings was to be able to define how far did the contamination extend horizontally in each direction and how far did it go vertically, to try to define the extent in both directions. We were able to do that with that program.

What we found was that we had an area of about 2,100 square feet; less than the size of this room. It was adjacent to the area where the groundwater cleanup was

going to be conducted.

That area was the maximum extent, and the impact got smaller as we got deeper down and extended down to twelve feet below ground.

The contaminants that we found, the two ones that were of most concern, both because of their concentration, how much we had of them, and then because of their potential toxic effects were two things: Tetrachloroethene, which is abbreviated TCE; and perchloroethylene, which is abbreviated PCE. That's what's used for dry cleaning. When you get your clothes dry cleaned, this is the chemical actually used.

The other contaminant of major concern was trichlorethylene, which is actually quite similar. That would be used in industrial settings for degreasing or other jobs that used that in the past,

industry used that in the past. So, these are the contaminants of most concern.

In addition to that, we found some lower levels of ethylbenzene and xylene. Those are two constituents of gasoline, by the way.

So, those were the contaminants that we identified to be of concern.

This is the investigation that we did. And each of these triangles represents one of these 24 locations where we investigated. The purple triangles are where we found contaminants present, and the numbers here actually represent concentrations of PCE, the chemical that had the highest concentrations.

You'll see they're defined by this area here and one isolated here. We define this area here,

and all the way around the periphery we have all these green points which is how horizontally we defined it. And we did the same thing in a vertical direction as well to define the vertical.

So, having defined that, we then needed to establish what levels did we need to clean this soil up to to clean the site?

And the way we went about that was, first of all, to look at levels which EPA has published for these kind of settings. And that led us to clean up criteria for PCE of 2.6 milligrams per kilogram.

That's 2.6 parts per million. So, for every part of PCE, you got a million parts of soil. So, it's a pretty low concentration. But these are chemicals that even at very low concentrations can be harmful.

That's the standard EPA had

in their screening levels.

TCE is not as toxic as PCE. That's 14 milligrams per kilogram. Most goals from the EPA are actually more stringent than the standard the state uses for industrial areas.

There was one more consideration that was very important to us. Not only do we want to be protective of people coming into contact with these soils, we also need to be protective of the groundwater.

If we leave these soils in the ground, rainwater infiltrates through, and carries contaminants down to the groundwater. That's how groundwater got contaminated in the first place. So, we have to clean up to protect groundwater.

And in this area, we're in the Pinelands, a protected area, and it has very stringent

standards, more stringent than any other in the State of New Jersey.

So, we had to look at were these standards going to be protective of groundwater quality in the long term?

We do that by using a computer model that looks at SESOIL. That stands for seasonable soil. What that does is basically models what happens when the rain falls on these soils throughout the year. It looks at it throughout all the seasons. That's why it's called seasonal soil.

It uses local climate data for this area, it looks at the local soil types, measures certain parameters in the ground here at the Lightman site that are important to how this process works. And we put those into the model in order to check whether these standards would be

protective of groundwater quality in the long-term.

I think my last slide -- I think I've said most of the things already.

The goals of our cleanup standard are to protect the quality of groundwater, stimulate natural leaching of contaminants used in the model. And the bottom line was when we were through doing that, is it consistent with EPA standards, which we've looked at preliminarily?

It turned out that they will be protective of groundwater quality here in the Pinelands in combination with the work we're already doing for the groundwater. So, we're satisfied we have the right wells to meet the standard for contamination and the right wells for the cleanup.

I'll give it back to Renee, who can talk about the approach to

actually doing the cleanup.

MS. GELBLAT: Thank you.

So, after we do a study, we investigate to find out what we have, where is it, how much is there, where is it going. We do a risk assessment. That asks the question is the amount we have going to cause a problem to anybody?

So, we did this by evaluating the pathways, which is how does it get through to somebody and who are the somebodys that it could effect?

So, we looked at current and future exposures to the soil itself, meaning people actually touching the soil. If there are commercial, industrial, outdoor site workers that worked on the property, if they were construction workers, if they came in just to do a short-term project, or based on what we found

on the site if they're pre-adolescent or adolescent trespassers who are coming on the site and partying in the woods.

And we found that if you actually touch the soil, none of these groups would have an unacceptable risk.

However, the amount in the groundwater -- sorry, the amount in the soil, which is underneath the surface, which is why it's not at risk for people being exposed, would leach into the groundwater and cause it to contaminate at a level above what's appropriate for the Pinelands. So, we need to clean up the soil so it doesn't contaminate the groundwater.

So, the next step is to do a feasibility study, which is we look at all the technologies that could accomplish the goals.

So, we have the objective to reduce the concentrations of PCE

and TCE in the soil to levels at which they will no longer be a source of groundwater contamination. Basically, getting rid of it as much as you can.

We looked at two alternatives. One was no further action. We always look to at no further action to answer the question what happens if we don't do anything?

And the other is to look at soil vapor extraction, which works very well for VOCs in sandy soil, which is what we have here, and has the added advantage of you could hook it into the system we were going to build anyway, which is why even though $97,000 is a lot of money, it really is pretty cheap for cleaning up a Superfund site.

We looked at nine criteria. Two are the threshold criteria. Is it protective of human health

and environment? Is it in compliance with all state and federal regulations?

There's balancing criteria. Will it be long-term effective? Will it be effective in the short term? Will it reduce toxicity, mobility, or volume of the contaminants? How easy is it to implement? And how much does it cost?

Then there are the modifying criteria, which is an opportunity to modify what you've chosen based on what the support agencies care about. And we already have the support of the State of New Jersey.

And last one is for the community to let us know if they have any questions or concerns. And that's why we're here today and that's what the public comment period is for.

So, we chose alternative

two. Not doing anything would not be protective.

We're going to build a soil vapor extraction system and build as an extension to the existing air sparging soil extraction system that we're going to use to clean up the groundwater.

And based on the results of the SESOIL modeling, the soil will be remediated to fourteen milligrams per kilogram for PCE and 2.6 milligrams per kilogram for TCE.

This is the schematic of where we think we'll put the wells. These blue wells are the air sparging system, the red wells are going to be the soil vapor extraction wells for the groundwater, and this little piece over here is what we're going to add on to make it work also for the soil, I think with this one well in there, but if you had come

in and you lead the feasibility study, you might put two to three wells. Like I said, in August we're going to do a pilot study and we're going to figure out exactly how many wells we're going to need and where to put them.

So, if you want more information than you have in the proposed plan that we gave you, this is the website. You go to the website, it will take you to a page, and on the right side is a column that says various things, but if you click on additional documents, you can get the proposed plan, you can get the feasibility study, you can get the remedial investigation. Or you can go to the public library and obtain a copy of all this.

And by July 11, we need the comments from you. You can send them to me any way you can; you can call them in, you can fax them

in, you can e-mail me, you can mail it in, you can come into the office and talk if you'd like. We take our comments any way people want to send them.

That's our presentation.

Does anybody have any comments? Questions?

MS. METZNER: My name is Sue Ann Metzner.

Have you determined the extent and direction of the plume of the water that is contaminated?

MS. GELBLAT: Well, the plume we did two years ago when we did the groundwater. And this was the plume.

They will be out there on Monday starting to take more samples, a sample from all the wells you see on that map.

MS. METZNER: Could you just show me where Route 73 is on that map?

MS. GELBLAT: This is Route

73. This is the railroad track.

MS. METZNER: Okay.

So, it's flowing more to the back of the property?

MS. GELBLAT: It's flowing this way.

There's actually a municipal well that we think is pulling on it a little bit. That's why it's making the bend.

MS. METZNER: Is that Well No. 8?

MS. GELBLAT: The monitoring well --

MR. FINN: That's correct, yes.

The Township's Well No. 8 is somewhere down near the floor.

MS. METZNER: And you say that's having an effect?

MS. GELBLAT: We think that's why instead of going this way, it's starting to turn. Maybe.

We're monitoring all these

wells.

MR. FINN: This well is further down here. You can't quite see it. This has a very low concentration. In fact, the last time we sampled it we didn't detect any contamination in this well.

But as Renee said, we'll be back out next week sampling all the wells.

MR. SORIANO: My name is Mario Soriano.

I live on Brooklyn Road near Lakedale. And it's one in there, one tank of Lightman Drum Company. They're working on it. They got the blue things on it.

MS. METZNER: Excuse me.

I don't believe that is Lightman Drum.

MR. SORIANO: I work for them, and it was Lightman Drum Company. It's right next to Certainteed.

MS. METZNER: We have it on the State DEP list under Enterprise Drum, the name Enterprise Drum, rather than Lightman Drum.

I'm not saying it's not a connection, but I'm just saying it's under a different name and maybe that's why it should be explored.

MR. SORIANO: They started working on it. They got cleaned up around there. They put the blue things all the way up.

MS. METZNER: That's not the EPA doing that.

MR. SORIANO: Yes, it is.

MS. GELBLAT: Is it a State site?

MR. DeNOBLE: Jerome Lightman was responsible for a number of drum sites not only in New Jersey but also in Philadelphia, even up to North Jersey.

It's possible the dataminer -- we have the dataminer on our website. You can put in the name of a site and see it. I'm not familiar with that particular case.

MR. SORIANO: When I would get my paycheck from them, it said Lightman Drum Company from Elizabeth, New Jersey on the mail.

MR. DeNOBLE: Yes, he's got quite a legacy of drum companies, his family.

MS. GELBLAT: Tonight, we're only talking about this particular site.

MR. SORIANO: How come they're working on that one too?

MS. GELBLAT: I don't know.

MR. DeNOBLE: There may be an investigation going on. I'm not familiar with that one.

My involvement has been with what we call the Lightman site.

MR. SORIANO: My water --

since they start working on it, my water's coming out dark, black. And it covers my filter. I have two filters now, and it covers them up.

I had to call the company to come and change them most of the time. And they're $165, those filters.

MS. METZNER: Is there any way, sir, that you could check the DEP site for Enterprise Drum?

MR. DeNOBLE: Sure. I'll find out.

And maybe a case manager or something working on it --

MR. SORIANO: They won't tell us nothing. I keep asking, nobody wants to say anything.

They put a brand new fence all around the place, three or four miles all around.

MR. DeNOBLE: If you could write down your phone number and I'll give you my number and we'll

try to find out where that site is and who's responsible for it.

MS. METZNER: Do you have the address?

MR. SORIANO: 200 --

UNIDENTIFIED MALE: I thought we were here for another site.

MS. METZNER: From another barrel company? No, it's not on the Superfund site list. To be on a Superfund site makes it the highest level of attention.

MS. GELBLAT: It's a federal site.

UNIDENTIFIED FEMALE: We're here for something else. This is not the same company we're talking about, not the same address.

We're talking about a place that's on the corner of Lakedale and New Brooklyn Road. And it's all fenced in right now and there's always trucks in there.

MR. SORIANO: Coming in and

out, they have the pipe.

UNIDENTIFIED MALE: Is that this?

MS. LONEY: No.

UNIDENTIFIED FEMALE: We're going to leave.

MS. O'CONNELL: This site is on the National Priorities List. This is a Superfund site.

That sounds like an unrelated site. It's probably being cleaned up under the State authority. So, you know, maybe the State can find out --

UNIDENTIFIED FEMALE: We live in that neighborhood. We live in the neighborhood of both of these.

We were curious if we should have our well checked by the EPA.

MS. GELBLAT: Are you in this?

UNIDENTIFIED MALE: Yes.

MS. GELBLAT: We checked your well a year and a half ago.

UNIDENTIFIED FEMALE: Nobody checked my well.

MS. GELBLAT: You're in this development?

MS. METZNER: No, they're not.

(Pause in proceedings)

UNIDENTIFIED MALE: We're going home. Doesn't have anything to do with us.

MS. METZNER: If you want to give this gentleman your phone number...

MS. GELBLAT: Yes?

MR. BENECARI: My name is Vince Benecari.

During the soil extraction, that process with the air being pumped, will the sites or the wells, the test wells, will they be continually sampled to see if things are being pushed up into it?

MS. GELBLAT: Steve's going to be the one to build the system.

MR. FINN: The soil vapor extraction works by pulling the air through the soil, vaporizing the contaminants which are then pulled out of the ground. Once they're pulled out of the ground, this goes in to remove those contaminants. Most likely, that treatment system will use a sophisticated carbon filter that removes those contaminants so they don't leach out into the air.

MR. BENECARI: The question I guess is as you're pumping the air down into the plume itself and pushing upward out of the soil, the plume, being as wide as it is or long as it is, does it have potential of pushing up through the well?

Or even in this area where there's the natural fed spring that runs through my property, will that push the air up into the water, the contaminants?

Does it have a chance of flowing south, which is south of the site, on my private property?

MR. FINN: I understand your question better now. Thank you.

Two things to comment on. One, the ejection of air, the air sparging soil vapor extraction, that's happening up here at the Lightman Drum Company. We're not really here to talk a lot about groundwater tonight.

The contamination of the groundwater gets deeper as we go further downgrade, further to the south. It's near to the surface here where the tanks were and then it's in a zone -- it's actually only about ten feet thick, but that gets progressively deeper.

So, by the time we get down here -- and you mentioned the creek that runs through here -- the actual contaminated zone is about eighty feet below the creek

at that point and it's overlaid by clean water. So, there's no interaction. It's way underneath.

So, in terms of would it infect the surface water, no. The surface water was sampled up here and down here on occasions to check that back when we did the investigation of the site.

MR. STONE: Kevin Stone.

My question is can we go back a couple slides, back to your proposal with the air injections?

Right here.

MS. GELBLAT: That's the schematic.

MR. STONE: Looking at that schematic here, where is the monitor wells as far as what's in there right now versus the air sparging wells?

The air sparging are all the blue in there?

MR. FINN: Yes.

This is your property?

MR. STONE: Yes.

Right now, it looks like a lot of grenades on my property.

MR. FINN: Thank you for all your cooperation so far. We really appreciate it.

This is the air sparging well on your property right here. This, as Renee said, is the schematic. What we're looking at here at this point in this schematic, there will be air injection points on that part of your property.

This is the part of the property you use for storage.

MR. STONE: That is the display area. You guys have been wonderful to work with as far as not taking away from the esthetics of the property.

But when these things go in, is there a hut that goes with it to pump air or is it just a pipe in the ground?

How does the air system...

MR. FINN: The wells go here in the ground. There has to be a supply of air coming through those and air being removed back with the contamination in it.

MR. STONE: Are these going to be aluminum Quonset huts with a pumping station?

MR. FINN: We can make it much less intrusive that that and we would want to do that.

MR. STONE: Is that a proposal?

What is it, fifteen of them?

MR. FINN: Something like that, yes. It's not finalized.

As Renee said, we'll be performing pilot tests on the Lightman property in August, so that will help us decide.

MR. STONE: I didn't know how it would affect as far as asphalt area versus open dirt area, so forth on the property.

MR. FINN: We have quite a bit of flexibility to work with you to make sure this works.

MR. STONE: I have a lot of tension looking at these pictures.

MR. FINN: I understand that. I would feel the same way if it was my property.

MR. STONE: How was that contaminated soil disposed of?

Once it left the trucks, where did it end up?

MR. FINN: It was tested, first of all, and then a disposal facility was selected. I believe it was somewhere here in South Jersey, I forget exactly where now. But it was based upon the levels of contamination and the permit for that facility that enabled them to accept and manage that waste. So, if I'm correct, it went to one of the appropriate landfills in South Jersey. I can find out exactly.

But that was something we did in cooperation with EPA, by deciding what facility was going to be approved.

MR. KOROSTOWSKI: John Korostowski. My name is spelled back there on the paper. 105 Sweet Bay Avenue, Sicklerville. I live in White Cedars --

Can I come up here, please?

MS. GELBLAT: Sure.

MR. KOROSTOWSKI: Partially where this is effecting.

I don't know which one is Sweet Bay here. But I know one is -- could be this. It's probably this one here.

As this flows out, does it decrease in intensity?

MS. GELBLAT: Yes.

This line is one part per billion, here it's a hundred, here it's ten, here it's one. So, yes, it's decreased in intensity and goes deeper and deeper.

So, it's about eighty feet underground right here and there's about fifty or sixty feet of clean water sitting on top of it. And since all your homes are on municipal wells, it doesn't effect your drinking water.

And we checked the nine irrigation wells. There's something with irrigation wells --

MR. KOROSTOWSKI: Yes.

MS. GELBLAT: We checked those and didn't find any problems.

MR. KOROSTOWSKI: That's what I was wondering, because I do have an irrigation well. And it probably goes down fifty, sixty feet at the most, maybe eighty feet, but only draws from about thirty, forty I guess.

MS. GELBLAT: Yeah, this is under that.

MR. KOROSTOWSKI: I'm here.

Will you be putting out

certifications when this is complete?

And how long will it take to complete?

Because, as you can imagine, this certainly does effect our property values going forward. It's all about money at the end of the day. You want to make sure that your house has the correct value, that it's not diminished.

Maybe you can comment on that a little bit and also how long that will take and if the certification that can come or be attached to the deed.

Because I know when we signed to purchase those homes, we signed that we understood that there was a site there, the Lightman Drum site.

If you can address that, I'd appreciate that.

MR. FINN: A couple of things. This well that we have

right here was put here specifically to look at where is the contamination going. When we first put it in, it had a very low concentration. When it was sampled most recently, the irrigation wells in this area, we did not detect contamination here at all. We would kind of expect that because -- I showed the photographs -- as we're moving, the source of contamination back here at the Lightman Drum site, what we would expect over time is that this contamination will decline. And the first place it will decline will be down here. So, we're not totally surprised to see that. As Renee said, we'll be back next week sampling all the wells, including this one.

So, the contamination was always deep and it was always low and it's getting lower.

In terms of the groundwater

cleanup up here, how long will that take to occur? We're estimating feasibility studies, we could be operating the system up here something like five years.

There may be some additional pumping of groundwater in this area we're working on this year. The operation period for that's a little less certain but probably about the same time. That's roughly what we're looking at.

MS. GELBLAT: That's the main remediation. As long as there's something here, we'll be back here quarterly, maybe eventually twice a year, maybe once a year monitoring this until there's nothing there anymore. So, we could be here for a long time just coming in once a year, sampling the wells, and seeing if there's a problem.

MR. KAPLAN: My name is Paul Kaplan.

The municipal well, the Township has a lot of issues with contaminated wells.

Is that well contaminated or does it have the potential to be contaminated later?

MS. GELBLAT: The municipal well down here?

MR. KAPLAN: That's drawing the water to it.

And will the Superfund pay for the cleanup of that well?

MS. GELBLAT: If it can be shown that the contamination started here, yes. But right now, it's nowhere near it and we're doing everything we can to, as Steve said, stop it here and have it start back up.

That's what this whole remedy and the soil remedy is all for, is to prevent it from getting any closer to that well than it is now. But it's not there yet.

MR. FINN: If I could add to

that, I know from my conversations with the municipal authority here, they regularly test the wells for the types of contaminants that we see at the Lightman Drum site. Well 8, that one down there, has not shown anything. He assured me of that a number of times.

I do know that you're absolutely right, the system has had various problems. I know there was a problem last year with e. coli in the municipal supply here.

MR. KAPLAN: Actually, that was a false alarm.

MR. FINN: Well, glad to hear it. There was a potential issue for that.

So, those things happen, but the contaminants from the Lightman site are not showing up.

MR. KAPLAN: How long ago was the last test?

MR. FINN: I believe they're

required by the State to test on a regular basis.

MR. KOROSTOWSKI: What we might conclude is that all the way down at the farthest point, where I was pointing to in White Cedars, that that level is below the standard that you're trying to get up to?

MS. GELBLAT: Yeah.

MR. KOROSTOWSKI: It's below the fourteen and the three or whatever.

MS. GELBLAT: Those numbers are for the soil.

MR. KOROSTOWSKI: Yes.

MS. GELBLAT: The Pine Barrens numbers for here are 19 ppb for both contaminants in the water. But if we're cleaning here to 14 and 2.6, it will be clean enough that it won't cause the water underneath it to become contaminated.

MR. KOROSTOWSKI: So, it's

at acceptable levels for water and also for ground?

MS. GELBLAT: Yes.

MR. BLAIR: My name is Ben Blair. I work for Churchill Consulting Engineers. We're the Township engineer.

And I've got a few comments that deal with the groundwater. And I'm not going to talk about the groundwater issues, I know that's really not the purpose of this public meeting here tonight, it's really to talk about the soil cleanup. And I just have a couple comments with respect to the summary of the proposed remedial action to address the soil.

First of all, this is maybe a little picky, and I hope you won't be offended, but on Page 4 of this document, there's a statement that the surrounding properties are currently zoned industrial.

That may be technically correct because I suppose separating Lightman Drum from these properties down here, there is a railroad track that I guess would be considered industrial. But this is all residential zoning along here.

And I think it may be a little misleading to say that all of the surrounding properties are zoned industrial. People that live there are certainly concerned about it.

MS. GELBLAT: The contaminated soils all sit on industrial property.

MR. BLAIR: Oh, I know.

But this is talking about the surrounding properties, not the site itself. This is just a general comment.

Another comment, I think the risk assessment that was done was done using the current soil

contaminant levels and assessing the risk to the various possible workers, possible construction workers, possible trespassers.

This was all based on the current soil conditions, I believe, in the risk assessment, and it stated that the estimated risk exceeds the DEP's criteria of one times ten to the minus six for acceptable lifetime cancer risk.

I think it would be perhaps reassuring to the residents that live in the area if those numbers could be rerun with the projected contaminant concentrations after the cleanup, because it may well be that the risk would be at or below the DEP criteria as well as what the EPA finds acceptable.

And I'm sure the people would like to know if, again, if not for the economics of it, that there is really no question about whether there's any associated

risks, unacceptable risks once the cleanup is done.

MS. McPHERSON: I'm Judy McPherson, the risk assessor for EPA.

The cleanup goals established for the site are actually based upon one times ten to the minus six. So, if the cleanup goals are met and the concentrations are below, then they would be acceptable and, you know, protective of human health and the environment.

And they're also going to be protective of impact to groundwater because at that point, concentrations in the soil would not be impacting the groundwater at that point above levels of concern. The levels of concern -- well, the cleanup goals have been based upon very protective cleanup goal for people and drinking as well as in contact with the soils.

MR. BLAIR: So, basically, what you're saying is that if the cleanup goals for the soil are met, the estimated or additional cancer risk would be below one times ten to the minus six.

MS. McPHERSON: Correct.

MR. BLAIR: Which I think is good news for people who live in the area and, hopefully, that's the way it will turn out. But I think a document should maybe more clearly reflect that because it's not really stated in there.

MS. McPHERSON: As Steve said, the estimated time for the treatment would be about five years. But if the cleanup goals aren't met, obviously the treatment system would continue until those cleanup goals are met because we are just estimating based upon the estimated time that the treatment system would run. But if the cleanup goals haven't

been met in five years, we'll still be using the SVE system and air sparging wells.

Correct, Steve?

MR. FINN: Correct.

MR. BLAIR: That's understood.

MS. McPHERSON: Okay. Great.

MR. BLAIR: Good news for everybody in the Township.

MR. KOROSTOWSKI: Would something be attached to our -- when I purchased the property, I signed that I understood there was a problem with the Lightman Drum Company.

As this thing proceeds, say I sold my house or at some time in the future I want to sell it. This is already attached -- I don't know, to the deed or it has to be shown in the sale that there was this issue when the house was built?

Is there something that will be coming from your agency or coming from -- somehow that you addressed it and goes to the Township that would be attached to my deed or whatever it might be showing remediation to this so it would not impact the sale of my house, or is it something that I have to pursue or something that I have to assume?

I'm hoping that that's not the case.

Or is that beyond your scope?

MS. O'CONNELL: It is beyond us.

The only time we require deed notices is if our site is impacting somebody's property and the deed notice is needed to protect that person.

So, you're -- I believe your home is not on the site. You're located in the vicinity of the

site, but it's not on the site, it's not in an area that's impacted by the cleanup.

So, I don't know what is on your deed, but we would not make any requirements to put anything on or take anything off your deed.

But, of course, we're in regular contact with the Township regarding the progress of the site. Eventually -- and this may be some years -- our goal would be to complete the cleanup, meet all of our soil and groundwater cleanup levels, and remove the site from the NPL. That's a long-term thing, though, especially with groundwater. Groundwater cleanups are not quick. They take years, dozens of years often.

And we're attacking the groundwater contamination through several technologies, including pump and treat, air sparging, SVE, and some of the plume will be

allowed to attenuate and be monitored. So, that will take many years, but eventually the site will come off the NPL, off the Superfund list. And that's a public thing with a public comment period and the site is no longer a Superfund site.

In the meantime, we would be periodically updating the public, periodically updating the Township with respect to the progress being made at the site. We can update you at any time you request an update as well.

I don't know what's on your deed, but it's not anything that we had required. It might be the developer or the real estate person informed you that your home is within whatever it is, two miles or something, of the Superfund site and that it will remain that way until the site is off the list.

But that does not speak to the specific risks that may or may not exist. There's no exposure rate for you on your property, so there's no immediate risks. But your home is located within X number of miles of a Superfund site and will be until that site is taken off the NPL, but it doesn't speak to the risk.

MR. BLAIR: Can I just interject something in this discussion?

The DEP still today, although moving forward, is going to stop issuing letters of no further action. I'm sure EPA Region 2 is familiar with the DEP NFA letters.

I think what this gentleman is really looking for is kind of the equivalent coming out of this process of an NFA letter that kind of documents the fact that the site has been cleaned up.

And we understand that groundwater will take longer to address than soils, but the DEP that's traditionally issued NFA letters for soils on a site where soils have been remediated and groundwater is ongoing. And I think that what those residents over there in White Cedars and anyplace else in the immediate vicinity of the site would like to see is some kind of a document coming out of this process that basically says, like the DEP NFA letters used to say, that the soils have been eventually cleaned up, because that would be something they could then attach or real estate agents could use when selling your homes and so on.

MS. O'CONNELL: We don't do NFA letters, but certainly --

MR. BLAIR: I know you don't.

MS. O'CONNELL: -- we can

provide the community with any type of update, we can do a site update and we can state the status. We can do that annually or as needed when it comes to the end of the soil remediation and we have met our soil cleanup goals.

We can notify the Township or we can do a fact sheet if that's helpful to the community to state exactly what the progress is. That's not a problem.

MR. BLAIR: But the homeowners are going to eventually want to see -- it's not something addressing progress but stating that the site has been remediated with respect to soils.

MS. O'CONNELL: We can state that in a letter or a progress report or some type of document.

That will be a fact some day, that the soil will be remediated, we will have met our cleanup goals, and we can make

that public. That's not -- that will be a fact eventually. And when that fact is -- when we meet that goal, we can notify the public of that.

MS. GELBLAT: I've commonly gotten calls from realtors and people who want to buy property in an area by a Superfund site.

We can also write you a letter saying -- say you want to sell your home next year, saying this is what's going on at this point in time, we're here, this is what's going on, this is what we finished.

We can do that.

MS. METZNER: Can I add to this?

The requirement, what John signed, as all the residents did there, was an acknowledgment that they were told about the Superfund site and this being within the general vicinity of that.

It was the request of the Planning Board of the developer. Because I sit on the Planning Board, and we have had some experience with some developers who don't do full disclosure to potential buyers, and, so the Planning Board has gotten into that position where they'll make part of their approval of the development a requirement that the developer has to notify.

And we wanted something signed because, you know, you may find it difficult to believe, but people lie and will say they made disclosure and the homeowners either weren't told of it or didn't understand the impact of it, which is why the Planning Board asked for disclosure to be made.

And your signature just indicated that you understood that the Superfund site was within

whatever it is and could potentially affect you and your development.

I don't think it would in any way effect your ability -- it wasn't associated with the deed, it was an acknowledgment that you signed. And that won't be -- we felt it had to be revealed and that's why you have it, but I don't believe it has any relationship to your deed or any restrictions on your deed that would in any way prohibit your sale of the property.

MR. KOROSTOWSKI: I'm just hoping that it won't.

MS. METZNER: Well, we don't want you to find out because we don't want you to move.

MR. KOROSTOWSKI: That's not my intent.

But at some time in the future, it will happen that I will put the house up for sale, and

negative impact is definitely an economic situation that I'd really not like to approach in a percentage fashion.

So, understanding that this thing is moving forward and everybody agrees and at some point down the road it will be remediated, some type of letter going forward.

I had to go ahead and sign something. I want the government to sign something that says it's done, that's all.

Thank you. And thank you for explaining probably what I couldn't have.

MR. BLAIR: The last comment I have on the proposed soil remediation plan relates to a statement on Page 10 under the summary of the preferred alternative.

On Page 10, there's an acknowledgment that the cleanup

may not achieve the DEP's cleanup criteria for residential direct contact, although the goal would achieve the nonresidential direct contact cleanup goal.

And then it says that a deed notice may be required to assure that future use of the property will not be residential if the residential direct contact cleanup criteria are not met.

And the Township would like to go on the record that in its opinion, a deed notice, not that it may be required, that it would be required. It would be mandatory to have a deed notice on that property if it doesn't meet the residential direct contact criteria in the State of New Jersey.

MS. O'CONNELL: I just want to explain the reason why the language is in there where it says it may be required.

The cleanup levels, if they're met, will meet industrial direct contact numbers, so there would be no risk to any workers coming in direct contact and they will be protective of groundwater.

The numbers that are selected may not be protective for future residential use. It's not a residential property now and it's not expected to be a residential property. However, the cleanup technology may exceed those numbers, the numbers that have been selected. So, when the cleanup is completed, the levels will be looked at. If the residential levels have been met, there will be no need for --

MR. BLAIR: I understand if the residential direct contact cleanup criteria are met, then a deed notice won't be required.

MS. O'CONNELL: Yes.

MR. BLAIR: What that

statement says is that the residential direct contact cleanup criteria may not be met in which case a deed notice may be required.

MS. O'CONNELL: Right.

MR. BLAIR: I think that if they are not met, that a deed notice would be required.

MS. O'CONNELL: We can clarify that in the final decision document, but you're correct.

MR. BLAIR: So, now I'm going to -- I kind of apologize for this, but I think there are important issues to bring to the record as far as the ROD that was issued for the groundwater remediation.

And the primary issue is the issue of, say, the sentinel wells that were part of the approved plan. In the record of decision, it was stated that the groundwater is traveling at a rate of point

two feet per day and would take 37 years for it to get from where it is now at the terminus of the plume to Well No. 8.

That plume delineation was based on well sampling, I believe, in 2006 and 2007. So we're here now, we're about four years after that, after the delineation of the terminus of the plume.

So, at point two feet per day, maybe it's down here. I don't know, that's just a guess based on point two feet per day identified in the ROD.

This is the Well 8 wellhead protection area, the termination of the travel time to the well from varying distances. This was prepared by the New Jersey Geological Survey for every public well in the State of New Jersey.

The twelve-year radius travel time already intersects the leading edge of the plume. So,

according to the New Jersey Geological Survey's modeling of groundwater travel around this particular well, there's less than twelve years of travel time between the plume and the well.

I point this out only because from the Township's perspective, we think there should be perhaps more urgency placed on getting the sentinel system designed and installed and in operation because this is a very critical part of the Township's water supply.

MS. GELBLAT: First of all, this well is actually sampled when we did the residential sampling in 2010. And we'll have a newer number by next week to see what's going on there.

And the whole point of doing the sampling next week is to start the design of the system. I know it seems like a long time, but

between 2009 and 2010 we had to put the legal documents in order for the new phase of the work to begin. We can't start the work the day we sign the ROD. We have to negotiate a new order with the PRPs and so they'll pay for that and, unfortunately, takes more time than we would like.

But you have here 2010, we'll be out here next week, and this is when we're going to really start moving on the project.

MR. BLAIR: That's good.

MS. GELBLAT: Steve, we're doing twice a year sampling or four times a year sampling?

How often once the project is fully --

MR. FINN: With the sentinel wells, I think the frequency with which those wells will be sampled depends upon the concentrations.

The last time that Well 8 was done it was completely normal,

so that's always encouraging and good news in terms of protection of Well 8. But we will be back next week, and the expectation is that there will probably be other sampled wells beyond Well 8 in place, and they're specifically there to give us an early warning.

So, your concern is well taken.

MR. BLAIR: I'm sure, and that's nice to hear, but the fact is that New Jersey Geological Survey thinks that the travel time from here to here is twelve years and that the average rate of movement is point seven feet per day, not point two feet per day.

It's entirely possible that the point two feet per day is what the velocity of groundwater flow is back up in here, but once you get into an area where the flow is influenced by the well, it will accelerate that because the

gradient will increase.

MR. FINN: That's correct, the rate of groundwater flow is slowest here and then gets progressively quicker as you get near the well.

I think what we're encouraged about is that the concentrations here were very low and now aren't really detectable. It would seem that the risk of Well 8 doesn't really exist, but it's going to be monitored.

MR. BLAIR: Well, that's what the Township wants.

Right now the concentrations of contaminants there at the head of the plume is low or nondetect, and that's good.

There are these hot spots in that groundwater that were back here back in 2006 and 2007, and they're presumably migrating along with all the rest of the water in that area.

And, so, there may be periods in the future where the concentration of contaminants in the groundwater may come back up again depending on where those hot spots go and how long it takes to get there and how much bacteria produce the concentrations and so on.

It's not as if a nondetect result today assures that there's never going to be a problem in the future, I don't think.

MR. FINN: That's why the program, the monitoring program, is in place.

MR. BLAIR: That's why we're urging you to get it up and running.

MS. GELBLAT: We'll start checking those hot spots the first week in August.

MR. BLAIR: Another issue is that down here there are some homes that are on individual

private wells. And I don't know, I mean, there's no reason to think that this contamination is migrating towards those wells to the extent today, at least, that it would affect those homes.

But the Township's question is what mechanism is there, if anything, to provide for periodic monitoring of the water quality in those wells and in the future if they are impacted by Lightman Drum site?

Will funds be available to extend municipal water to those homes in order to get them off of contaminated groundwater?

Again, this is a hypothetical in the future, if it happens.

MS. O'CONNELL: We'll be monitoring the plume, so our goal is to make sure we always have a sentry well or wells at the edge of the plume so that we are

watching the plume closely and know what it is and isn't doing.

The program, if for some reason private wells -- it's not expected based on what we know, but if for some reasons private wells became impacted, the State has a program where they will provide POETS, or Point of Entry Treatment Systems, on individual wells. That's the short-term way that EPA -- DEP addresses those concerns until it's determined where it's coming from, if it's coming from the site.

If there needed to be an extension of the water supply, that's generally a record of decision and that's a longer term project. We're not expecting that at all, but there is a program where the State would provide private property owners individual treatment systems if there turns out to be a problem. That would

be a short-term way to address that.

Again, it's not expected, and as we get into the design and remedial action of the groundwater treatment system, we'll be watching that plume very closely and we will be able to see what it's doing at the leading edge. And if it's doing anything we don't expect it to be doing, we should be seeing it.

MR. BLAIR: A sentinel well system maybe should be laid out and designed and operated with recognition that there are some homes on -- individual private wells down in this area and that they should be covered by the sentinel well system.

I think that POETS probably wouldn't be necessary because there's municipal water in the area and it would be much quicker just to extend that water into

those areas rather than deal with POETS.

MS. O'CONNELL: You mean to construct a water line where one isn't?

MR. BLAIR: Right.

MS. O'CONNELL: That's not generally so quick, but --

MR. BLAIR: There was a big groundwater contamination problem over in this area, and the resolution of that was just to extend water into that area since it was available in the area. I'm sure the decision would be the same down here.

But it is important that that -- that the sentinel well system recognize that they're there and they need to be monitored.

MS. O'CONNELL: We would agree with that comment.

And what would be done, we'd probably have to be dealing with

the community on that, but we agree with your comment.

MS. BUJALSKI: I'm Nicole Bujalski. I want to make a quick comment about the travel time.

I understand New Jersey Geological Survey probably did a great and accurate job, but they're only taking into account a water particle.

The calculation that we did involves natural attenuation and degradation and retardation of these specific chemicals that we're talking about.

So that's why you're seeing a difference, probably, in travel time.

MR. BLAIR: I don't know how much different they really are. Their calculations, they're considering the influence of Well No. 8 was point seven feet per day and your calculations were point two feet per day, and I'm not sure

even where on the site or where in the area that point two feet per day was based on, whether it was out here at the head of the plume or somewhere else within the study area.

MR. FINN: I think Nicole's point, though, is there's a difference between the rate at which groundwater moves, which is what the Geological Survey was calculating, and the rate at which contaminants move and what kind they are.

MR. BLAIR: There's a retardation factor, I agree.

MR. FINN: Exactly, so that's part of the reason for the difference in the calculation.

MR. BLAIR: The last comment I have, again, going back, it relates to the groundwater remediation system, and that is that there was an administrative order issued just a year ago

requiring the engineering design and construction of the groundwater remedy.

And the Township would like to know when that design will be completed.

You said there's going to be some actual field testing in August.

MS. GELBLAT: First week of August, yeah.

MR. BLAIR: So, the Township would like to know when the design will be completed and when the system will be installed and placed into operation.

And, also, will the Township receive copies of the design and the design reports for the groundwater remediation system for its review once it's finalized?

MS. GELBLAT: They're public domain documents. So, if you let us know that you want copies of those documents, we can make sure

you get copies.

MR. BLAIR: We're letting you know.

MS. O'CONNELL: Also, this is not exactly the subject of the meeting tonight, but we have a remedial design work plan which we've approved and work is about to start this summer. So, you are certainly welcome to have a copy of the work plan which has a schedule in it for the completion of the design. You know, schedule is subject to change, but that's our framework that we're working within now.

So, we'd be happy to work with you at whatever level you want to work at throughout the design, and your input is welcome. So, we can send you that work plan and send you design reports and hear from you with whatever you want to say.

MR. BLAIR: Okay. That's

great.

And I'll put all of these comments and questions and so on in a letter to Renee, like we did two years ago.

MS. GELBLAT: And we'll give you one set of answers.

MR. BLAIR: That's it. That's all I have.

MS. GELBLAT: Anybody else?

MS. LONEY: No further questions?

Thank you all for coming out to the meeting. Again, the comment period closes on July 11. So, please, you can submit comments to Renee. As she said, leave it on her voicemail, e-mail it to her, mail it to her, and/or fax it to her.

So, thank you all for coming. Make sure you sign in on the sign-in sheet, and safe trip home.

(Time noted: 7:52 p.m.)

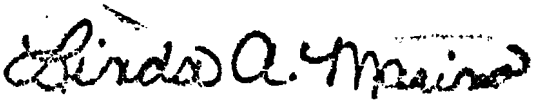
C E R T I F I C A T E

STATE OF NEW YORK)
) ss.
COUNTY OF NEW YORK)

I, LINDA A. MARINO, RPR, CCR, a Shorthand (Stenotype) Reporter and Notary Public of the State of New York, do hereby certify that the foregoing transcription of the public meeting, taken at the time and place aforesaid, is a true and correct transcription of my shorthand notes.

I further certify that I am neither counsel for nor related to any party to said action, nor in any way interested in the result or outcome thereof.

IN WITNESS WHEREOF, I have hereunto set my hand this 30th day of June, 2011.



LINDA A. MARINO, RPR, CCR

Attachment D
Written Comments

Lightman Drum Co. Superfund Site, Winslow Township, New Jersey
Carol Winell
to:
Renee Gelblat
06/20/2011 04:38 PM
Hide Details
From: "Carol Winell" <cwinell@geoinc.org>

To: Renee Gelblat/R2/USEPA/US@EPA

History: This message has been replied to and forwarded.

2 Attachments

Landfill Remediation with Refrigerants and Chlorinated Solvents.doc GEOincStatementofQualifications2011US.pdf

Dear Ms. Gelblat:

Good Afternoon. After reviewing the Cleanup Plan prepared for Lightman Drum Co. Superfund Site, I would like to propose soil vapor extraction utilizing C3 Technology® as the fastest and most cost effective method of VOC source removal. C3 Technology® extracts VOC vapors and condenses those VOCs into a non-aqueous phase liquid, which may be eligible for recycling or reuse. At a project very similar to Lightman Drum Co. Superfund Site (Cooper Drum Superfund Site), EPA's Region 9 recently concluded that C3 Technology® was the most feasible soil vapor extraction option.

C3 Technology® is a green and sustainable SVE solution. Chlorinated solvents are condensed and collected as NAPL, meaning that no fugitive emissions are created (catalytic and thermal oxidation) and solvents are not simply transferred to granular activated carbon. C3 Technology® has successfully removed over 1,300,000 gallons of chlorinated solvents from private client and

CERCLA sites. Our systems are currently operating at the following NPL Sites: State Road 114 (Levelland, TX), Cooper Drum (Southgate, CA) and Hassayampa Landfill (Hassayampa, AZ).

I will be near and around New York from June 22 through July 1, and would like to meet with you and your colleagues to discuss the benefits of C3 Technology® for the recovery of VOCs from the Lightman Drum Co. Superfund Site. A relevant Case Study and G.E.O.'s Statement of Qualifications are attached for your review. I hope we are able discuss the potential application of C3 Technology®, as well as this Site's long term vapor treatment needs, in the near future.

Best regards.

Carol Winell
President

GEO, Inc.
1612 Jenks
Corona, CA 92880

p. [714] 283-1682
c. [714] 412-8709
f. [714] 637-2460

www.geoinc.org

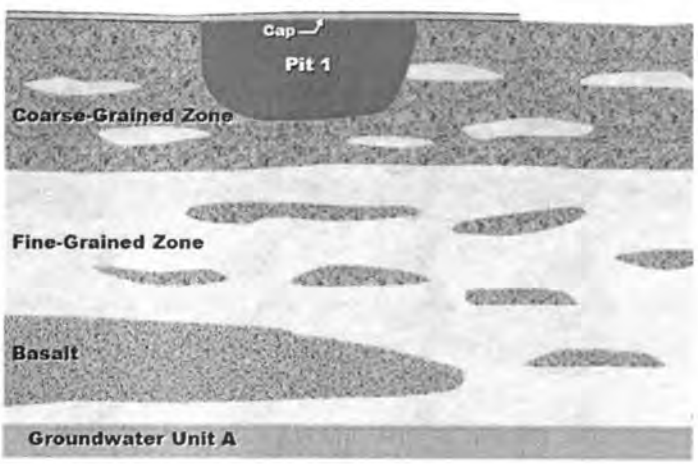
Landfill Remediation of Chlorinated Solvents and Refrigerants

Landfill in Arizona

PROJECT DESCRIPTION

Between 1979 and 1980, industrial and hazardous wastes were disposed of at the Site in a series of unlined pits, each of which was used for a particular type of waste disposal. It is reported based on evaluations of manifests that approximately 3.4 million gallons of hazardous liquid wastes and between 3,700 and 4,100 tons of solid wastes were disposed of in the pits at the Site. Of particular focus is Pit 1 (50 feet long, 50 feet wide and had a depth of approximately 20 ft), which accepted a mixture of organic and oil wastes. The bulk of environmental impacts to soil and groundwater at the Site are related to wastes disposed at Pit 1.

SITE GEOLOGY



The Site's vadose zone consists of an upper coarse-grained zone (CGZ) and a lower fine-grained zone (FGZ). The CGZ generally extends from ground surface to approximately 30 feet below ground surface (ft bgs) and consists predominantly of interbeddedsilty sand, gravelly sand, and sandy gravel. The FGZ generally extends from depths of approximately 30 to 60 ft bgs and is comprised of silt and clay units with varying amounts of sand and gravel. Beneath the FGZ exists a basaltic lava flow unit that is variable in thickness. Currently, additional FGZ vadose zone is present beneath the basalt unit; this portion of the subsurface was saturated during the initial SVE operation in the 1990s. Two groundwater units, Unit A and Unit B, have been defined at depth beneath the basalt unit.

CONTAMINANTS OF CONCERN

Initial investigations conducted in the 1980s, concluded that Site groundwater and soil were impacted by volatile organic compounds (VOCs), primarily 1,1,1 trichloroethane (TCA), 1,1-dichloroethene (1,1-DCE) and trichlorotrifluoroethane (Freon 113). As a result of these initial investigations, the site was added to the National Priorities List (NPL) in 1987, becoming a federal Superfund site. Numerous investigations of soil, soil vapor, and groundwater have since been conducted.

Concentrations were measured at up to 20,000 mg/kg of totalVOCs; individual compounds consisted primarily of 1,1,1 TCA, 1,1-DCE and Freon 113.

VAPOR TREATMENT SYSTEM DESIGN

The following design factors were considered during the selection of the best-available technology for the Site:

- Capable of treatment of elevated VOC vapor concentrations (up to 1,200,000 ug/L);
- Flow rate (estimated required flow rate of 200 scfm at the manifold)
- Vacuum (estimated operating vacuum of 10-14 in Hg)
- Contaminant characteristics (presence of Freon and other compounds that have

SYSTEM PERFORMANCE AND RESULTS

In March 2006, eleven FGZ SVE wells in the vicinity of Pit 1 were piped into the SVE system. Initial mass removal calculations indicated recovered solvent was generated at a rate of 2 gallons per hour. Combined soil vapor flow rates to the C3 Technology treatment system are approximately 150 SCFM. After approximately 6 months of operation, rates of solvent recovery dropped to approximately 0.4 gallons per hour. To enhance mass removal efforts, three sub-basalt wells were piped into the SVE system in December 2006 and August 2007. Flow rates from these wells were limited due to the thin vadose zone beneath the basalt and the potential for groundwater mounding, but the product rate increased (a maximum of 0.6 gallons per hour was initially observed). In December 2007, the majority of the system vacuum was focused on select FGZ and sub-basalt wells, which had exhibited the highest VOC concentrations. During December 2007, it is estimated that the daily VOC mass removal rate increased from approximately 0.25 to over 0.4 gallons per hour. From 28 March 2006 through 31 December 2007, a total of approximately 5,200 gallons of solvents, approximately 28.5 tons, have been recovered.

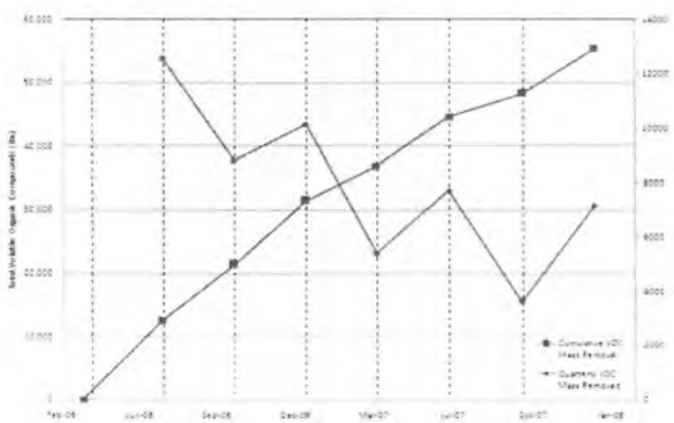


Figure 4: The cumulative and quarterly mass totals removed by the re-started SVE system from March 2006 to December 2007.

Over the 21 months of operation, the vadose zone VOC plume has been significantly reduced in size and concentration. Corresponding decreases in Unit A groundwater concentrations and a reduction in influent mass to the GRS have also been observed.

SUMMARY AND CONCLUSIONS

The use of C3 Technology at the Site is a cost-effective, socially-responsible off-gas treatment technology during the "mass-removal" phase of SVE. The remote geography of the site dictated that it was more cost effective to use the recovered solvents in fuel blending processes rather than recycling.

G.E.O. Inc.

GOOD EARTHKEEPING ORGANIZATION

SOIL VAPOR
EXTRACTION
AND CHEMICAL
RECOVERY
UTILIZING VAPOR
CONDENSATION

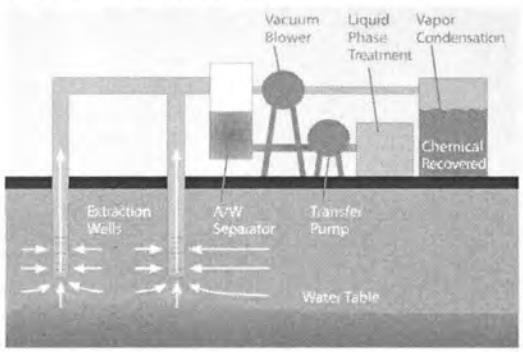
STATEMENT OF QUALIFICATIONS

500181

C3 TECHNOLOGY

C3 Technology developed by G.E.O. is a combination of cryogenic cooling and compression processes with a proprietary regenerative adsorption technology that efficiently recovers volatile organic compounds (VOCs) and hydrocarbons from the off-gas vapor stream of soil vapor extraction (SVE) or dual phase extraction (DPE) systems. Condensed chemical is recovered as a non-aqueous phase liquid (NAPL) that is temporarily containerized in appropriate vessels for recycling or proper disposal. Generally, greater than 99.9% of the VOCs are recovered from the vapor stream. Dependent upon the contaminant and State or local agency, final effluent may be polished with granular activated carbon (GAC).

OFF-GAS TREATMENT VIA SOIL VAPOR EXTRACTION



PROCESS DESCRIPTION

- Soil gas is drawn into the system and delivered to the air compressor.
- Entrained liquids from extraction wells are separated at the water knockout tank. Separated liquids are securely drummed and transported off-site or captured with GAC and discharged to the sewer or storm drain in accordance with all local and state regulatory requirements.
- Process air is compressed to approximately 150 pound per square inch (psi) by the compressor.
- Water vapor is removed from the process stream at the air-to-air heat exchangers as it is cooled to ambient temperature.
- The vapor stream is further cooled to approximately -40° C in the refrigerated heat exchangers, where the chemical constituents are condensed and separated from the vapor stream.
- The vapor stream is then sent to the regenerative adsorber, which removes any residual VOCs and directs it back to the inlet stream.
- System effluent vapor stream [<1.0 parts per million by volume (PPMV)] is finally polished utilizing granular activated carbon (GAC) prior to discharge to atmosphere.

GEO currently manufactures standard units of 100, 200, 300, 500 and 1,000 CFM or CMH systems.

CASE STUDIES

Performance studies of select projects

Location	Constituents of Concern	Initial Concentrations in ppmV	Remediation Time	Condensate Recovered in pounds (lbs)	System Flow Rate (SCFM)
California	Gasoline	12,000	3 months	21,600	200
Texas	Gasoline	98,000	7 months	715000*	1,500
California	Gasoline	8,000	1 month	6,000	300
California	Gasoline and Chlorinated Solvent	19,000	4 months	20,000+	300
California	PCE, TCE, DCE	25,000	30 days	7,500	100
California	1,1-DCA, R-113, cis 1,2-DCE, Methelene Chloride	16,000	1 year	16,000	200
Arizona	CFCs, 1,1-DCE, Methelene Chloride, TCE	24,000	1 year	60,000	200
California	BTEX, MTBE, TCA, DCA, MeCl	26,000	32 days	14,080	200
California	PCE	18,000	1 year	13,500	200
California	PCE, TCE	9,000	1,5 years	12,500	100
California	TCE, Methelene Chloride	27,000	3 months	15,120	200

Notes:
CFCs= Chlorofluroca
1,1-DCE = Dichloroet
* 110,000 gallons

HCFCs= Hydrochlorofluorocarbons
R-113= Freon 113

PCE= Tetrachloroethelene
cis 1,2-DCE= cis 1,2 Dichloroethelene

TCE= Trichloroethelene
1,1,1-TCA= 1,1,1 Trichloroethelene

500182

G.E.O. INC - THE COMPANY

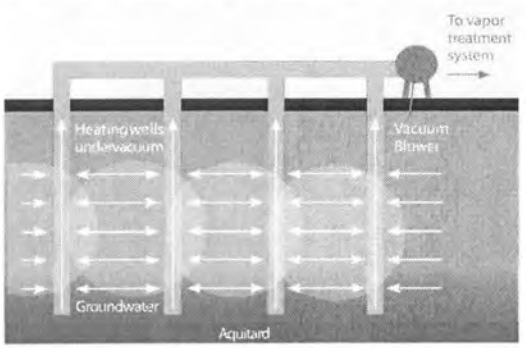
Graduated cylinder with DNAPL underlying water condensate

200 cubic meter / hr pilot unit blower, compressor and after cooler

G.E.O. Inc. was founded in 1989 as an environmental remediation equipment and services supplier specializing in the manufacturing and operation of in-situ vapor extraction equipment for the removal of volatile organic compounds (VOCs) from the subsurface.

G.E.O. provides a range of client support services tailored to various project needs, such as air, water and soil sampling, and gas chromatograph analysis of soil gas samples for performance tracking. G.E.O. Inc. provides all equipment necessary to perform the scope of work required including trucks, vapor recovery systems, hand tools, electronic test equipment, instrument calibration systems, and lab grade portable gas chromatograph.

IN-SITU THERMAL HEATING COMBINED WITH SOIL VAPOR EXTRACTION

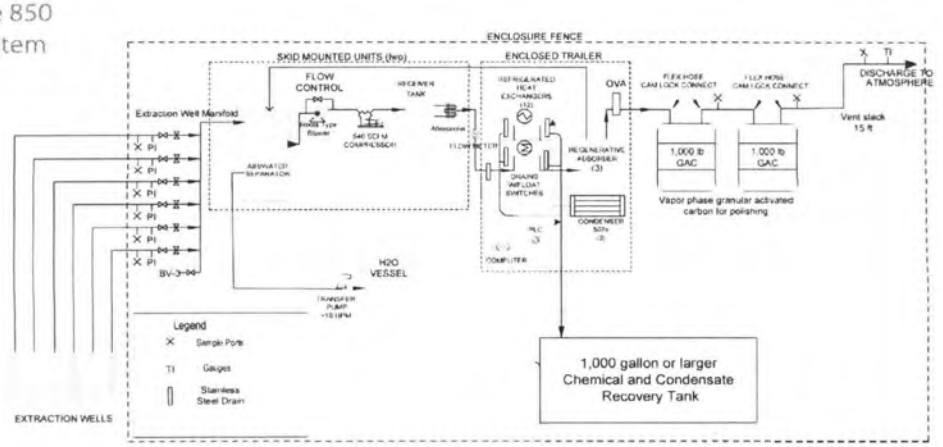


COMPATIBLE WITH OTHER TECHNOLOGIES INCLUDING:

- Soil Vapour Extraction
- Ozone Sparging
- Air Sparging
- Dual Phase Extraction
- Groundwater recirculation with In-well air stripping
- In-Situ Thermal / Resistance Heating
- Tank degassing
- Process Vapour Treatment

SOIL VAPOR EXTRACTION PROCESS FLOW DIAGRAM

Example 850 CMH system



500183

EXPERIENCE

G.E.O. has performed successfully on jobs ranging in size from Superfund sites to small dry cleaners and fuel stations. International engineering firms and Fortune 500 companies are among satisfied clients. G.E.O. has performed successfully for more than 20 years on a variety of sites across the United States and growing internationally.

Subsequent clean-up projects have demonstrated system effectiveness in the following applications:

- SVE
- DPE/MPE
- Airsparge/SVE
- In-Situ Thermal Heating and ERH

G.E.O. Inc. also provides mobile units specifically designed for vapor extraction site qualification and testing (SQT). The SQT units (pilot test systems) generate the data essential for design and implementation of the full-scale system. Various location permits are available for up to one year in selected regions.

G.E.O. Inc. technical staff training utilizes both in-house programs and equipment supplier training schools to achieve and maintain requisite operation certification and credentials on a variety of approved environmental remedial and monitoring systems. All G.E.O. field personnel have successfully completed and maintain certified currency in Hazardous Waste Operations and Emergency Response requirements per OSHA 29 CFR 1910.120.

QUALIFICATIONS

- Woman owned business - 8A certification in process
- Successful operation and perfect safety record since 1989
- G.E.O. Inc. team has over 100 years of collective manufacturing and environmental industry experience
- Registered professionals on staff
- Professional Service Management Team and Technical Support Staff
- OSHA 40-hour Safety Trained Staff
- 100% client satisfaction is job #1

MISSION

G.E.O. Inc. is dedicated to providing superior off-gas treatment technology and service to our clients in an effort to provide more sustainable remediation solutions and make a cleaner and safer environment. Concern for our local community environments and for the well being of local residents continues to guide our desire for continuous improvement and research and development for long lasting success and growth.

VISION

G.E.O. Inc. strives to advance technology and improve efficiency in off-gas treatment and remediation, while guaranteeing the most sustainable operating Soil Vapor Extraction technology available. Our company is constantly adapting to meet the diverse needs of an expanding client base, while never sacrificing quality or service. Our exemplary record and innovative thinking have made G.E.O. Inc. the most sought after source for remediation of elevated concentrations of solvents and fuels from soil and shallow groundwater through vapor extraction technology.

G.E.O. Inc.
301 Cessna Circle · Corona · CA 92880 · Ph 877 800 9324

www.geoinc.org
info@geoinc.org

500184

Lightman Drum Co., Superfund Site in NJ- I have few questions
Ioana Munteanu-Ramnic
to:
Renee Gelblat
06/21/2011 11:21 AM
Hide Details
From: "Ioana Munteanu-Ramnic" <ixmuntea@gw.dec.state.ny.us>

To: Renee Gelblat/R2/USEPA/US@EPA

History: This message has been replied to.

Good morning Renee,

Could a pump and treatment system next to the air sparging be an option for this remediation site? Or maybe a dual phase extraction system?

Could the time for this remediation be shortened with a pump and treatment system?

Could the air sparging system push the vapors in a sewer system, or other conduits?

Thank you

Ioana Munteanu-Ramnic, P.E.
Environmental Engineer 2
NYSDEC Hazardous Waste Remediation
47-40 21st St., First Fl.
LIC, NY 11101
Tel.: (718) 482-4065
FAX : (718) 482-6358

Lightman Drum Company Site
Tom Madison
to:
Renee Gelblat
06/22/2011 05:06 PM
Hide Details
From: Tom Madison <madisont@op-tech.us>

To: Renee Gelblat/R2/USEPA/US@EPA

History: This message has been replied to.

Dear Renee,

I wonder if you can tell me if this work will be publically bid or let out under one of the existing federal contracts, and if so which one?

Sincerely,

Tom Madison
Director of Business Development
OP-TECH®
Response. Service. Experience
150 Rotterdam Industrial Park
Schenectady, NY 12306

Phone 518-365-2838

Site Information
Bushey, Nicole
to:
Renee Gelblat
07/11/2011 02:02 PM
Hide Details
From: "Bushey, Nicole" <Nicole@sealandenviro.com>

To: Renee Gelblat/R2/USEPA/US@EPA

History: This message has been replied to.

Good Afternoon,

I am inquiring about the status of the project "Lightman Drum Company." Any information you are able to provide would be appreciated (bid dates, status, etc.).

Sealand Enviro is a national environmental services company providing management and construction services for the restoration of sites contaminated by hazardous, toxic and low-level radioactive waste. We provide a comprehensive range of services for site remediation, restoration and environmental response.

I appreciate your feedback.

Regards,

Nicole Bushey
Business Development Coordinator
Sealand Enviro, LLC
Office 413.540.1407
Fax 860.315.9019
www.sealandenviro.com

Appendix IV
Administrative Record Index

LIGHTMAN DRUM COMPANY
OPERABLE UNIT TWO
ADMINISTRATIVE RECORD FILE
INDEX OF DOCUMENTS

3.0 REMEDIAL INVESTIGATION

3.4 Remedial Investigation Reports

P. 300001 - 300138
Doc. ID# 110866
Report: Final Remedial Investigation and Risk Assessment Operable Unit 2, Lightman Drum Company Site, Winslow Township, New Jersey, submitted by Golder Associates Inc., prepared for Lightman Yard PRP Group, May 2011.

3.5 Correspondence

P. 300139 - 300139
Doc. ID# 110867
Letter to Mr. Stephen Finn, Golder Associates Inc., from Ms. Carole Petersen, Chief, New Jersey Remediation Branch, U.S. Environmental Protection Agency, Region 2, re: Approval of the Final Remedial Investigation and Risk Assessment for Operable Unit 2 at the Lightman Drum Company Superfund Site, June 3, 2011.

4.0 FEASIBILITY STUDY

4.3 Feasibility Study Reports

P. 400001 - 400063
Doc. ID# 110868
Report: Focused Feasibility Study Report, Operable Unit 2, Lightman Drum Superfund Site, Winslow Township, Camden County, New Jersey, prepared by Golder Associates Inc., prepared for Lightman Yard PRP Group, June 2011.

4.6 Correspondence

P. 400064 - 400064
Doc. ID# 110869
Letter to Mr. Stephen Finn, Golder Associates Inc., from Ms. Carole Petersen, Chief, New Jersey Remediation Branch, U.S. Environmental Protection Agency, Region 2, re: Approval of the

Focused Feasibility Study for Operable Unit 2 at Lightman Drum Company Superfund Site, June 3, 2011.

10.0 PUBLIC PARTICIPATION

10.9 Proposed Plan

P. 10.00001 - 10.00001
Doc. ID# 110871

Letter to Mr. John LaPadula, Deputy Division Director, Emergency and Remedial Response Division, U.S. Environmental Protection Agency, Region 2, from Mr. Leonard Romino, Assistant Director, Responsible Party Remediation, State of New Jersey, Department of Environmental Protection, re: Lightman Drum Company Superfund Site, Proposed Plan, Operable Unit Two, Windsor Township, Camden County, June 2, 2011.

P. 10.00002 - 10.00014
Doc. ID# 110872

Report: Superfund Program Proposed Plan, Lightman Drum Superfund Site, Operable Unit Two, prepared by U.S. Environmental Protection Agency, Region 2, June 8, 2011.

Appendix V
State Letter of Concurrence

State of New Jersey

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BOB MARTIN
Commissioner

Mr. Walter Mugdan, Director
Emergency and Remedial Response Division
U.S. Environmental Protection Agency, Region II
290 Broadway
New York City, New York 10007-1866

September 15, 2011

Re: Lightman Drum Company Superfund Site
Record of Decision, Operable Unit 2
Winslow Township, Camden County
SRP PI# 025408

Dear Mr. Mugdan:

The New Jersey Department of Environmental Protection (the Department) has completed a review of the Record of Decision (ROD) for Operable Unit 2 (OU-2) of the Lightman Drum Company Superfund Site, Winslow Township, Camden County, New Jersey. The OU-2 ROD was prepared by the U.S. Environmental Protection Agency (USEPA) Region II, and was received by the Department on August 17, 2011. The Department concurs with the selected remedy to address soil contamination at the site.

The selected remedy for OU-2 consists of soil vapor extraction of subsurface soils contaminated with volatile organic compounds, primarily tetrachloroethylene (perchloroethylene or PCE), trichloroethylene (TCE) and ethylbenzene. The cleanup goals are protective of ground water classified as IA-PL and are below the NJ Soil Remediation Standards for non-residential use. It is anticipated that the more stringent residential use Soil Remediation Standards will be attained following the remedial action, however if this does not occur, an Institutional Control (deed notice) will be required to document the presence and extent of soils exceeding residential use Soil Remediation Standards.

The Department appreciates the opportunity to work with USEPA on the issuance of the Record of decision for OU-2 and the remediation of the Lightman Drum Company Superfund Site. If you have any further questions, please contact James P. De Noble, the case manager for this site at (609)-777-4101.

Sincerely,

David Sweeney
Assistant Commissioner,
Site Remediation Program

cc: Honorable Sue Ann Metzner, Mayor, Winslow TWP.
Patricia Ward, Winslow TWP Dep. Health

Deborah A. Iannaco, Clerk, Winslow TWP.
Renée Gelblatt, USEPA, Region II
James P. De Noble, Bureau of Case Management
Karen Young, NJ Pinelands Commission