

RECORD OF DECISION AMENDMENT

Lightman Drum Company Superfund Site

Operable Unit 1

Winslow Township, Camden County, New Jersey

U.S. Environmental Protection Agency
Region 2
September 2019

DECLARATION STATEMENT
RECORD OF DECISION AMENDMENT

SITE NAME AND LOCATION

Lightman Drum Company
Winslow Township, Camden County, New Jersey
EPA ID #NJD014743678
Operable Unit 1, Groundwater

STATEMENT OF BASIS AND PURPOSE

This decision document presents the remedy amendment for contaminated groundwater at the Lightman Drum Company Site (Site), in Winslow Township, Camden County, New Jersey. The original Record of Decision (ROD) for Operable Unit 1 (OU1), which addressed contaminated groundwater at the Site, was issued on September 30, 2009.

The remedy amendment was selected in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) as amended, 42 U.S.C. §§9601-9675, and to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR Part 300. This decision is based on the Administrative Record file for this Site, an index of which can be found in Appendix IV.

The State of New Jersey concurs with this ROD Amendment. A copy of the related concurrence letter can be found in Appendix V.

ASSESSMENT OF THE SITE

The response action selected in this ROD Amendment is necessary to protect the public health, welfare, or the environment from actual or threatened releases of hazardous substances from the Site into the environment.

DESCRIPTION OF THE SELECTED REMEDY AMENDMENT

The response action described in this document modifies a portion of the groundwater remedy selected in the 2009 ROD.

The major component of the remedy amendment includes the following:

- Monitored Natural Attenuation (MNA) for the hot spot areas.

All other components of the groundwater remedy selected in the 2009 ROD will remain in effect and unchanged.

DECLARATION OF STATUTORY DETERMINATIONS

Part 1: Statutory Requirements

The remedy amendment is protective of human health and the environment, complies with federal and state requirements that are applicable or relevant and appropriate to the remedial actions and is cost-effective. EPA has determined that the amended 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 remedy amendment does not meet the statutory preference for the use of remedies that involve treatment as a principal element. Past actions have met the statutory preference for treatment through removal of the source areas.

Part 3: Five-Year Review Requirements

Because the groundwater remedy selected in the 2009 ROD, as amended in this remedy amendment, will not result in hazardous substances, pollutants, or contaminants remaining above levels that allow for unlimited use and unrestricted exposure, EPA anticipates that a statutory five-year review will not be required for the groundwater remedy. However, because it may take more than five years to attain the remedial action objectives and cleanup levels for the groundwater, policy reviews may be conducted until the remedial goals are met 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 Amendment. 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 levels established for chemicals of concern and the basis for these levels can be found in the "Remedial Action Objectives" section.
- Current and reasonably anticipated future land use assumptions and current and potential future uses of groundwater 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 amendment cost estimates are projected can be found in the "Description of Alternatives" section.
- Key factors that led to selecting the remedy amendment may be found in the "Comparative Analysis of Alternatives" and "Statutory Determinations" sections.



Pat Evangelista, Acting Director
Superfund and Emergency Management Division
EPA Region 2

9/30/19
Date

RECORD OF DECISION AMENDMENT

DECISION SUMMARY

Lightman Drum Company Site
Winslow Township, Camden County
New Jersey

U.S. Environmental Protection Agency
Region 2
New York, New York
September 2019

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SITE NAME, LOCATION AND BRIEF DESCRIPTION

The Lightman Drum Company Site (Site), EPA ID# NJD014743678, is located at 139 North Route 73, in a lightly developed area of Winslow Township, Camden County, New Jersey and is located within the New Jersey Pinelands Protection Area. 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 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. 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 which is used for non-potable purposes.

SCOPE AND ROLE OF THE 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 to address an imminent threat to human health and the environment, and two operable units for long-term cleanup.

The immediate actions, known as removal actions, have been completed. In 2007, EPA issued an administrative order on consent (No. 02-2007-2007) (Removal Order) which required excavation of source area soils in the saturated zone near the Former Waste Storage Tanks area. During the removal action, approximately 480 cubic yards of unnaturally colored soils were removed from the Site. In early 2009, another area of volatile organic compound (VOC)-contaminated soils near the excavation was also identified and characterized.

In the first phase of the long-term cleanup of the Site, EPA issued a ROD for OU1 on September 30, 2009 which addressed groundwater contamination in the source areas of the eastern and western plumes through construction of an air sparging and soil vapor extraction (AS/SVE) system, and extraction and treatment of hot spot areas along with monitored natural attenuation (MNA) in the downgradient groundwater areas. Treatment of the hot spot areas is the subject of this ROD Amendment.

A second ROD (for OU2) was issued on September 19, 2011. It addresses a small area of soil contamination near the source area for the eastern plume. The soil is being remediated through the use of a soil vapor extraction (SVE) system. This SVE system is an extension of the system used for OU1.

SUMMARY OF SITE CHARACTERISTICS

The Property is underlain by well-drained sandy soils with poor filtering capacity. Actively used 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 potable water supply in the area of the Site. The municipality requires that all properties within 200 feet of a municipal well be connected to the public water supply system and prohibits such properties from using private wells for drinking water.

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. 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. Groundwater within the aquifer flows primarily to the south in the vicinity of the Site.

SITE HISTORY

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 on the Property. In 1978, the New Jersey Department of Environmental Protection (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. From 1989 to 1990, the Lightman Drum Company performed a more extensive investigation of the soil and groundwater under a NJDEP Administrative Order. These samples were concentrated in known storage areas. There were two areas identified as the sources of groundwater contamination: the Unlined Waste Disposal Pit and the Former Waste Storage Tanks.

Unlined Waste Disposal Pit

The 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. In 1976, the pit was used for the disposal of a single tank trailer of wastes including waste paint and possibly oil. The Lightman Drum Company reportedly removed the waste from this area shortly after it was deposited.

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. 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 on Consent (No. 02-2000-2034) which required a group of Potentially Responsible Parties (PRPs) to conduct a remedial investigation and feasibility study (RI/FS).

In 2007 EPA issued the Removal Order to a group of PRPs who, under that order, removed over 480 cubic yards of contaminated soil from the unsaturated and saturated zones near the Former Waste Storage Tank Area. This contaminated soil was a source of the groundwater contamination. During the soil removal, areas of unnaturally colored soils were discovered. The unnaturally colored soils contained heavy metals, especially lead, and were also removed.

During the RI, an area of soil with elevated levels of VOCs was also identified just east of the soil excavation area, near the Former Waste Storage Tank Area. This soil is the subject of the OU2 ROD.

Summary of Remedial Investigation for OU1

The RI for the Site took place from August 2002 to March 2008. Samples were taken from the soil, sediment, surface water and groundwater. The investigation showed that there was contamination in the soil and groundwater. The soil contamination was found on the Property at the Former Waste Storage Tanks Area and the Unlined Waste Disposal Pit Area.

Contamination had migrated from the soil into the groundwater, resulting in two groundwater plumes. One plume emanated from the Former Waste Storage Tanks Area and was referred to as the eastern plume, and the other plume emanated from the Unlined Waste Disposal Pit Area and was referred to as the western plume (Figure 1).

Both plumes were relatively long and narrow and characterized primarily by elevated levels of tetrachloroethylene (PCE) and trichloroethylene (TCE). The zones of contamination were located at increasing depths with distance from the source areas. In the downgradient areas, the contaminated zones were overlain by unimpacted (clean) groundwater.

The RI further divided the groundwater into two areas based on distance from the source areas. One area was the groundwater contamination found immediately under the Property and under the property immediately to the south. This is referred to as the near-site groundwater contamination. The other area was farther to the south and is referred to as the downgradient groundwater contamination (Figure 1).

The eastern plume was characterized primarily by its elevated levels of PCE (4,200 micrograms per liter ($\mu\text{g/L}$)) and TCE (2,100 $\mu\text{g/L}$). It extended about 4,500 feet downgradient of the Property boundary and, in the downgradient area was located about 85 feet below ground surface with approximately 65 feet of non-impacted water above it. The downgradient portion of the eastern plume also contained a few "hot spots" (well defined areas of relatively high PCE and

TCE concentration). During the RI, these hot spots had concentrations of TCE and PCE of over 100 µg/L.

The western plume was also characterized by TCE and PCE contamination and extended 1,500 feet downgradient of the Property boundary. At the downgradient location, the contamination was approximately 55 feet below ground surface, with about 45 feet of non-impacted water above it.

OU1 ROD

EPA developed the following Remedial Action Objectives (RAOs) for groundwater to address the unacceptable human health risks and environmental concerns posed by Site-related contamination:

- Prevent or minimize potential current and future human exposures including ingestion of and dermal contact with groundwater that presents a significant risk to public health and the environment.
- Minimize the potential for migration of the contaminants of concern in groundwater.
- Restore the aquifer to Class I-PL standards within a reasonable time frame.

To achieve these RAOs, EPA selected remediation goals for groundwater. Groundwater remediation goals for OU1 are based on the New Jersey Class I-PL standards which apply within the New Jersey Pinelands Protection Area. For the Site groundwater, the applicable Class I-PL standards are 1 µg/L for PCE and 1 µg/L for TCE. These values are more stringent than or equivalent to the Federal Safe Drinking Water Act Maximum Contaminant Levels (MCL).

The components of the selected remedy included:

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

ROD for OU2

During the RI for OU1, a small area of VOC-impacted soil was found in the unsaturated zone to the east of the Former Waste Storage Tank Area. This soil became a separate operable unit, OU2. EPA developed an RAO to address the human health risks and environmental concerns posed by contaminated soil. The RAO was:

- 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, remediation goals for subsurface soils at the Site were identified which were consistent with the standards for the New Jersey Pinelands Protection Area. Subsurface soil cleanup standards that will be protective of groundwater were developed by using the SESOIL model. The remediation 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.

POST-ROD ACTIVITIES

Construction and Operation of AS/SVE Systems

Source Area

The remedies for the OU1 and OU2 RODs required construction of an AS/SVE system for the OU1 source area and an SVE system for the OU2 soil contamination area. In June 2010, EPA issued an Administrative Order (No. 02-2010-2019) directing the PRPs to perform the remedial design and remedial action for OU1. In September 2011, EPA issued another Administrative Order (No. 02-2011-2018) directing the PRPs to perform the remedial design and remedial action for OU2.

Since the OU1 and OU2 soil areas are near each other, the remedies were constructed at the same time and share the same equipment. The full AS/SVE (OU1 and OU2) system was constructed and began operation in February 2013. The system is monitored continually and has been shown to be very effective in removing contamination in the OU1 source area.

At the time of the OU1 ROD, the highest groundwater contamination values were found in source area wells near the Former Waste Storage Tank Area where the PCE concentration was 4,200 µg/L and the TCE concentration was 2,100 µg/L (March 2006 data). The December 2017 monitoring data showed that total VOCs in the source area monitoring wells were less than 5 µg/L. The AS/SVE system continues to operate to achieve the remediation goals selected in the OU1 ROD.

The SVE system for OU2, which is located near the Former Waste Storage Tank Area, has also been successful in achieving the soil remediation goals of 2.6 milligram/kilogram (mg/kg) for PCE and 14.0 mg/kg for TCE. Soil sampling in April 2017 identified just one small area which exceeded these goals. To address the small area, the SVE system was optimized and three new

SVE wells were added. As of April 2019, the SVE system was still operational, and contaminant concentrations remain above remediation goals only in this one area.

Pre-Design Investigation for Hot Spots

Sampling of the downgradient groundwater monitoring wells at the end of the RI for OU1 in 2006 and 2007 showed that concentrations of TCE and PCE had decreased compared to the earlier sampling events and the earlier identified hot spots appeared smaller. Figures 1 and 2 for PCE and Figures 5 and 6 for TCE show the changes from 2002 - 2005 to 2006 - 2007. Based on this observation, additional groundwater samples were taken along two transects in July 2007.

As required by the OU1 ROD, a pre-design investigation (PDI) began in 2011 to better define the hot spots, and design the extraction and treatment system. The results of the 2011 sampling event showed the hot spots as discrete downgradient areas with concentration of PCE or TCE greater than 100 µg/L (Figure 3 for PCE and Figure 7 for TCE) that continued to shrink. The hot spots were also found to be limited in volume. The one PCE hot spot was estimated to contain approximately 0.2 pounds of PCE, and the four TCE hot spots were estimated to contain a total of 1.0 pound of TCE. The hot spots appeared to have moved slightly to the west, and three new monitoring wells and two new sentinel wells (wells located outside the area of contamination to determine if the contamination was spreading) were added to the existing network of monitoring wells.

Quarterly sampling of all groundwater monitoring wells has taken place since 2013 when the AS/SVE system began operation. Results show that the concentrations of the contaminants and the size of the impacted areas have decreased over time. Beginning in 2016, the groundwater data showed that although a few locations still had elevated PCE or TCE values, none of the locations showed PCE or TCE values greater than 100 µg/L, the definition of a hot spot as determined based on data from the PDI. The December 2017 data showed that the hot spot concentration were below 100 µg/L. The highest measured concentrations of PCE and TCE were 77 and 57 µg/L, respectively. Figures using the 2017 data (Figure 4 for PCE and Figure 8 for TCE) also do not show the hot spots as areas of elevated contaminant concentration. In addition, the downgradient extent of both plumes has retreated.

In January 2019, the PRPs submitted an application for a Classification Exception Area/Well Restriction Area to NJDEP.

Evidence for Natural Attenuation

Natural attenuation is defined as the reliance on natural physical, biological or chemical in-situ processes to reduce the mass, toxicity, mobility, volume, or concentration of chemicals in groundwater. These processes include biodegradation, dispersion, dilution, sorption, volatilization, stabilization, transformation and destruction. During MNA, these natural processes are monitored through regular sampling for the original contaminants (PCE and TCE), their degradation products, and other parameters, such as pH and dissolved oxygen, to show that attenuation is progressing.

Analytical results from sampling events during and after the RI confirm the presence of natural attenuation parameters, indicating that there is biodegradation in the source area and in the downgradient plumes. In the source area, the biodegradation is anaerobic, whereas in the downgradient area the process is more aerobic. In the downgradient groundwater area, biodegradation is demonstrated through the presence of cis-1,2-dichloroethene (cis-1,2-DCE), which is a degradation product of both PCE and TCE. The concentration of cis-1,2-DCE is higher than the concentration of PCE or TCE in the downgradient wells. In the former hot spot areas, the aerobic biodegradation of these compounds does not follow the most common pathway. Instead, based on the degradation products found, the aerobic biodegradation of PCE, TCE and cis-1,2-DCE appears to follow an oxygenase co-metabolic pathway to carbon dioxide. Solute transport modeling was conducted to show the effects of natural processes such as advection, dispersion and sorption on the contaminants, and estimate the time it would take to achieve the remediation goals. In addition, an Advective Flushing Model was used to evaluate the timeframe required for an extraction and treatment system to achieve the groundwater remediation goals. The modeling showed that both the extraction and treatment system and MNA would take about 15 years to achieve the remediation goals.

HIGHLIGHTS OF COMMUNITY PARTICIPATION

The RI and Focused Feasibility Study (FFS) reports and the Proposed Plan for the remedy amendment were released to the public for comment on August 26, 2019. These documents were made available to the public in the Administrative Record file maintained at the Camden County Library, South County Branch at 35 Cooper Folley Road, Atco, NJ 08004 and at the EPA Region 2 Records Center located at 290 Broadway, 18th Floor, New York, NY 10007, and on the EPA Region 2 website at <https://www.epa.gov/superfund/lightman-drum>. The notice of availability for these documents was published in the Courier-Post (on-line version) on August 26, 2019. A public comment period was held from August 26, 2019 through September 24, 2019.

In addition, on September 11, 2019, EPA conducted a public meeting at the Township Bud Duble Senior Center, 33 Cooper Folly Road, Atco, New Jersey, to discuss the findings of the RI/FFS and to present EPA's Proposed Plan to local officials and the community. At this meeting, EPA representatives explained the proposed ROD Amendment. There were no questions or comments from the audience. In addition, no public comments were submitted during the public comment period.

The transcript of the EPA's presentation at the public meeting is in Appendix III.

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 anyone within 200 feet of the municipal water main to be connected. Pre-existing wells and new wells may be used for irrigation purposes if they do not contain contaminants.

The Site and the area around it are within the New Jersey Pinelands Protection Area, and the aquifer must meet the NJDEP Class I-PL standards.

BASIS FOR REMEDY MODIFICATION

This is an amendment to the portion of the OU1 ROD that addressed groundwater hot spot areas. Data collected from monitoring wells have shown that, as of 2017, concentration of PCE and TCE in the hot spot areas were below 100 µg/L. Subsequent data show that the levels continue to decline. Therefore, a specific remedy for the hot spot areas is no longer necessary.

SUMMARY OF SITE RISKS

As part of the RI/FS, a baseline risk assessment was conducted 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 baseline risk assessment includes a human health risk assessment 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 OU1.

Human Health Risk Assessment (HHRA) Summary

Using the results of the RI/FS, a baseline human health risk assessment for the OU1 ROD was performed to estimate the human health risks associated with potential exposure to the groundwater under current Site conditions. EPA re-evaluated the risks for this ROD Amendment using the newest data.

As part of the OU1 RI, the 2009 baseline HHRA evaluated risks which could result from exposure to groundwater contamination as a drinking water source. Although groundwater near the Site is currently prevented from being used as a drinking water source by the Township, NJDEP considers this aquifer to be a potential drinking water source. Therefore, the assessment quantified the risks associated with the potential future groundwater exposure by residents. Private wells known to use groundwater for irrigation purposes are located on properties further downgradient.

For the baseline HHRA, all Site-related contaminants in groundwater were evaluated and

indicated that the estimated total risks were primarily due to potential PCE and TCE exposure. Cancer risks from exposure to contaminated groundwater were determined to be approximately 2.6×10^{-2} (adult resident), 3.8×10^{-2} (child resident) and 6.9×10^{-2} (commercial worker). The noncancer Hazard Indexes (HIs) were 180 (adult resident) 1,200 (child resident) and 560 (commercial/industrial worker) for exposure to site groundwater. These values are above the acceptable cancer risk range of 1×10^{-6} to 1×10^{-4} and the noncancer HI of 1.

As part of this ROD amendment process, EPA conducted a qualitative risk analysis using the data collected since the OU1 ROD. The groundwater data collected after February 2013 show the effects of source removal at the Site.

Data collected in 2017 show that the concentrations of PCE and TCE have generally decreased throughout the plumes. The concentrations of TCE and PCE in the groundwater sentinel monitoring wells furthest downgradient (MW-17, MW-18, MW-25 and MW-26) have been detected sporadically at trace levels below their respective NJDEP Class 1-PL Standard or MCLs.

Table 1 (Appendix II) shows the maximum concentrations detected prior to the 2009 OU1 ROD, and the levels after the source removal had been implemented. These concentrations are compared to MCLs and NJDEP 1-PL Standard. While the maximum detected concentration of PCE and TCE has decreased throughout the downgradient plume since the OU1 ROD, concentrations continue to exceed their respective MCL and NJDEP Class 1-PL Standards.

The results of the 2017 sampling effort indicate that there continues to be an unacceptable risk to human health from potential exposure to the groundwater.

Vapor Intrusion Risk Assessment

The potential for vapor intrusion was evaluated at the Site. At the present time, there are no structures near the Lightman Drum Property which are above the groundwater plumes. In addition, as the plumes move southward from Lightman Drum Property, the depth to the contaminated groundwater increases and the layer of overlying unimpacted water thickens. Therefore, EPA does not anticipate that the vapor intrusion pathway would be a concern. EPA will continue to monitor both the contaminated groundwater and the overlying unimpacted aquifer to ensure that the remedy continues to be protective of human health and the environment.

Screening Level Ecological Risk Assessment

A Screening Level Ecological Risk Assessment to determine potential risk to ecological receptors was evaluated as part of the OU1 baseline risk assessment. At that time there was no unacceptable ecological risk to the aquatic community associated with this site. Therefore, groundwater to surface water discharge was not considered by EPA to be of ecological concern. The groundwater to surface water discharge conditions at the Site have not changed. Therefore, no further ecological risk assessment is warranted at this time.

REMEDIAL ACTION OBJECTIVES

RAOs were developed for groundwater to address the human health risks and environmental concerns posed by Site-related contamination in the 2009 ROD, and are unchanged in this remedy amendment. The RAOs remain:

- Prevent or minimize potential current and future human exposures including ingestion of and dermal contact with groundwater that presents a significant risk to public health and the environment.
- Minimize the potential for migration of the contaminants of concern in groundwater.
- Restore the aquifer to Class I-PL standards within a reasonable time frame.

To achieve these RAOs, remediation goals for groundwater at the Site were identified. The Site lies within the New Jersey Pinelands Protection Area and the groundwater is classified as Class I-PL. Accordingly, the applicable groundwater remediation goals correspond to background values or the practical quantification limit (limit of the accuracy of the testing method), whichever is higher for each contaminant. These standards are more stringent or equivalent to MCLs. (See Appendix II Table 1)

DESCRIPTION OF ALTERNATIVES

CERCLA, 42 U.S.C. Sections 9601-9675, mandates that each remedial alternative be protective of human health and the environment, be cost effective, comply with other 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. Consistent with expectations set out in the Superfund regulations, none of the options considered rely exclusively on institutional controls to achieve protectiveness.

The time frames presented below for construction do not include the time for pre-design investigations, remedial design, or contract procurements. Each of the groundwater alternatives will take longer than five years to achieve remediation goals. Therefore, a review will be conducted every five years after the initiation of the remedial action, until remediation goals are achieved.

This ROD Amendment is only for the area of the downgradient groundwater hot spots. All other elements of the 2009 ROD remain in effect and are unchanged.

Original Remedy – Extraction and Treatment of the Hot Spots, with MNA and Institutional Controls

At the time of the 2009 ROD, hot spots were identified as discrete areas of elevated groundwater contamination in the downgradient areas (Figures 2 and 6). As selected in the 2009 ROD, hot spots in the downgradient area in the plumes would be remediated through the operation of an extraction and treatment system.

In an extraction and treatment system, an appropriate number of extraction wells would be installed within the plume and the water is extracted. If this component of the original remedy were to be implemented, the contaminated groundwater would be treated to remove the contaminants using technology such as an activated carbon treatment system. The treated water would be reinjected into the aquifer.

Total Capital Cost	\$925,000
Total Present Net Worth (including O&M)	\$2,160,000
Time frame	15 years

Preferred Alternative – Monitored Natural Attenuation of the Hot Spots

MNA refers to the reliance on natural attenuation processes to achieve Site-specific RAOs and remediation goals within a time frame that is reasonable, compared to that offered by other more active methods.

MNA would require long-term monitoring of the groundwater for PCE, TCE, their degradation products, and other groundwater parameters which demonstrate that the contaminants continue to attenuate.

The data collected during the pre-design investigation confirmed that operation of the groundwater AS/SVE system has reduced the levels of contamination in the source areas to the point that they are no longer acting as a significant source of contamination to the downgradient groundwater. Monitoring of the groundwater in the areas of the hot spots confirms that PCE and TCE concentrations have been decreasing, and that the former hot spots no longer exist as discrete areas of PCE or TCE greater than 100 µg/L. (Figures 4 and 8)

An MNA remedy for the hot spot areas would use the existing monitoring and sentinel well network to evaluate concentrations of PCE, TCE and their degradation products over time. Additional wells will be installed if necessary. This will ensure that the RAOs and remediation goals are achieved in a reasonable time frame (15 years) at the Site.

Total Capital Cost (annual monitoring)	\$14,508
Total Present Net Worth	\$150,000
Time frame	15 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 EPA's *Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA* (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.

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 Original Remedy is considered protective of human health and the environment, because the areas of elevated contamination would be extracted from the groundwater to remove the contaminants.

The Preferred Alternative does not provide for active treatment of hot spots in the downgradient portion of the groundwater plumes. However, data collected since the 2009 ROD show that groundwater contamination in the source area has mostly been removed and the contamination in the hot spot areas has been reduced through natural processes to the point that the hot spots no longer exist as discrete areas of PCE or TCE contamination greater than 100 µg/L. In addition, monitoring in the rest of the downgradient plume has demonstrated that natural attenuation is occurring and is responsible for the decreasing groundwater contamination levels throughout the plume. Therefore, this alternative is protective.

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 the applicable or relevant and appropriate requirements of other Federal and State environmental statutes or provides a basis for invoking a waiver.

ARARs are divided into three broad categories. These categories are chemical-specific, location-specific and action-specific. The full list of ARARs for this remedy amendment that are relevant to this Site can be found in Appendix II, Table 2.

Applicable, chemical-specific ARARs for both the alternatives include the Federal Safe Drinking Water Act and the New Jersey Groundwater Quality Standards (NJGWQS). The latter includes the water standards for the New Jersey Pinelands Protection Area, which are the remediation goals for the Site (Appendix II, Table 1).

Both alternatives would comply with chemical-specific ARARs because the contaminants will be removed from the groundwater. In the Original Remedy, the contaminants would be physically removed. In the Preferred Alternative, the contaminants have been shown to be degrading due to natural processes. Both Alternatives are estimated to achieve the remediation goals within 15 years.

Action-specific ARARs are determined by the specific technology of each Alternative. For the Original Remedy, disposal of the clean water from the extraction and treatment system would need to comply with the Federal Clean Water Act and state requirements for re-injection. Any hazardous material that are generated will need to be disposed of following the applicable section of the Resource Conservation and Recovery Act (RCRA). Both Alternatives are expected to comply with the identified action-specific 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.

Both Alternatives would be effective and permanent in the long-term because the chemicals of concern would be removed or destroyed. In the Original Remedy, the downgradient contamination would be removed through a combination of extraction and treatment and MNA. However, the additional benefit, if any, from extraction and treatment would be minimal.

MNA involves the decomposition of the contaminants due to natural processes and is, therefore, effective in the long-term and permanent.

Both Alternatives are expected to reach the remediation goals within 15 years.

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.

The Original Remedy would employ treatment to reduce toxicity, mobility, and volume of contaminants in the hot spot areas.

The Preferred Alternative, MNA, would not reduce the toxicity, mobility, or volume of the contaminants in the groundwater through active treatment. However, data collected from the monitoring wells over time demonstrate that the contaminants are degrading due to natural processes, in a reasonable timeframe.

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.

The Original Remedy would be less effective in the short-term because it would be necessary to obtain access from the owners of the impacted properties and conduct additional sampling to determine the specific design parameters for the system, all before the extraction and treatment system could be built. While the pre-design sampling and construction of the system takes place, there may be short-term negative impacts on the involved properties.

The Preferred Alternative is effective in the short-term because it would require no additional construction, as the remedy is already in place. Natural attenuation of PCE and TCE has been demonstrated throughout the groundwater plumes, and the hot spots can no longer be identified.

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.

The Original Remedy would be more difficult to implement compared to the Preferred Alternative since it would require the construction of pipelines, wells and a treatment system on one or more private properties. Access would have to be negotiated with the affected property

owners in order to collect the data to design the system and would also be necessary to build and operate the system.

The well network for groundwater monitoring for the Preferred Alternative is currently in place and, therefore, is not likely to require any further effort to implement. If additional wells are needed at a later time, they would be installed. In addition, property owners have already provided access for periodic groundwater sampling within the existing well network.

7. Cost

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

The present net worth costs for MNA (Preferred Alternative) and extraction and treatment (Original Remedy) were calculated based on each Alternative's estimated timeframe to achieve the groundwater RAOs. The present net worth for MNA (\$150,000) is significantly lower than the extraction and treatment system (\$2,106,000).

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 the remedy amendment.

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. A public meeting took place on September 11, 2019, in Winslow Township. No comments were submitted during the public comment period. A transcript of the public meeting is included at Appendix III.

PRINCIPAL THREAT WASTES

Principal threat wastes are considered source materials, *i.e.*, materials that include or contain hazardous substances, pollutants or contaminants that act as a reservoir for migration of contamination to groundwater, surface water, or as a source for direct exposure. This ROD Amendment addresses groundwater. Contaminated groundwater is generally not considered to be

source material and is therefore not categorized as a “principal threat”. In addition, contaminated soil, a source of groundwater contamination was removed under the 2007 Removal Order and during implementation of the OU2 ROD.

SELECTED REMEDY AMENDMENT

Based upon consideration of the results of Site investigations, the requirements of CERCLA, and the detailed analysis of the remedial alternatives and public comments, EPA has determined that the Preferred Alternative, MNA is the appropriate remedy for treatment of the contaminated areas where the former hot spots were located. This remedy amendment 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 amendment changes the portion of the remedy selected in the 2009 ROD for the hot spot areas. It includes the following component:

- Monitored Natural Attenuation for the areas where the hot spots were located.

All other components of the remedy in the 2009 ROD will remain in effect and unchanged.

The entire area of downgradient groundwater contamination, including the locations of the former hot spots, will be addressed through MNA using the existing monitoring and sentinel well network. Monitoring will continue to be used to evaluate the concentrations of PCE, TCE, and their degradation products throughout the plumes. If necessary, additional monitoring wells will be added to the network. This will ensure that groundwater is restored to its beneficial use as a potential source of drinking water in a reasonable timeframe

The estimated present net worth cost of the selected remedy amendment for the groundwater is \$150,000.

Based on all available information, EPA and the State of New Jersey believe the selected remedy amendment provides the best balance of trade-offs among the response measures with respect to the nine evaluation criteria. EPA believes that the selected remedy amendment 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 extent practicable.

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.

Expected Outcomes of the Selected Remedy Amendment

Implementation of the Preferred Alternative will continue to remove contaminants in the groundwater in the former hot spot areas and is expected to achieve the cleanup goals within fifteen years.

Summary of the Rationale for the Selected Remedy Amendment

EPA has determined that the selected remedy amendment is appropriate because the AS/SVE

system has significantly remediated groundwater contamination in the source areas. In addition, based on data collected from monitoring wells, contamination in the hot spot areas has decreased due to natural attenuation to the point where the hot spot contamination defined in the PDI can no longer be detected.

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).

Protection of Human Health and the Environment

The selected remedy amendment will be protective of human health and the environment because MNA has, and continues to, remove contaminants in the groundwater in the former hot spot areas. Implementation of the selected remedy amendment will not present unacceptable short-term risks or adverse cross-media impacts.

Compliance with ARARs

EPA expects that the selected remedy amendment for the former hot spot areas will comply with ARARs. The amended remedy will meet federal and state ARARs for groundwater. The groundwater is within the New Jersey Pinelands Protection Area and its designated use is as a drinking water aquifer. Hence the groundwater at the Site is classified as Class I-PL and cleanup of the groundwater must meet the New Jersey Class I-PL standards, or federal MCLs, whichever is the most stringent.

Cost Effectiveness

EPA has determined that the selected remedy amendment 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 those alternatives that satisfied the threshold criteria (i.e., were both protective of human health and the environment and ARAR-compliant). Overall effectiveness was evaluated by assessing three of the five balancing criteria in combination (long-term effectiveness and permanence; reduction in toxicity, mobility, or volume through treatment; and short-term effectiveness). Overall effectiveness was then compared to costs to determine cost-effectiveness. The relationship of the overall effectiveness of the selected remedy amendment was determined to be proportional to costs and hence, the selected remedy amendment represents a reasonable value for the money to

be spent. The selected remedy amendment is cost-effective, as EPA has determined that its overall protectiveness is proportional to its present-worth cost.

Utilization of Permanent Solutions and Alternative Treatment Technologies

EPA has determined that the selected remedy amendment utilizes permanent solutions and treatment technologies to the maximum extent that is practicable. The selected remedy amendment will permanently address groundwater contamination through MNA, whose effectiveness has been documented.

Preference for Treatment as a Principal Element

The selected remedy amendment does not meet the statutory preference for the use of remedies that involve treatment as a principal element. Past actions have met the statutory preference for treatment through removal of the source areas.

Five-Year Review Requirements

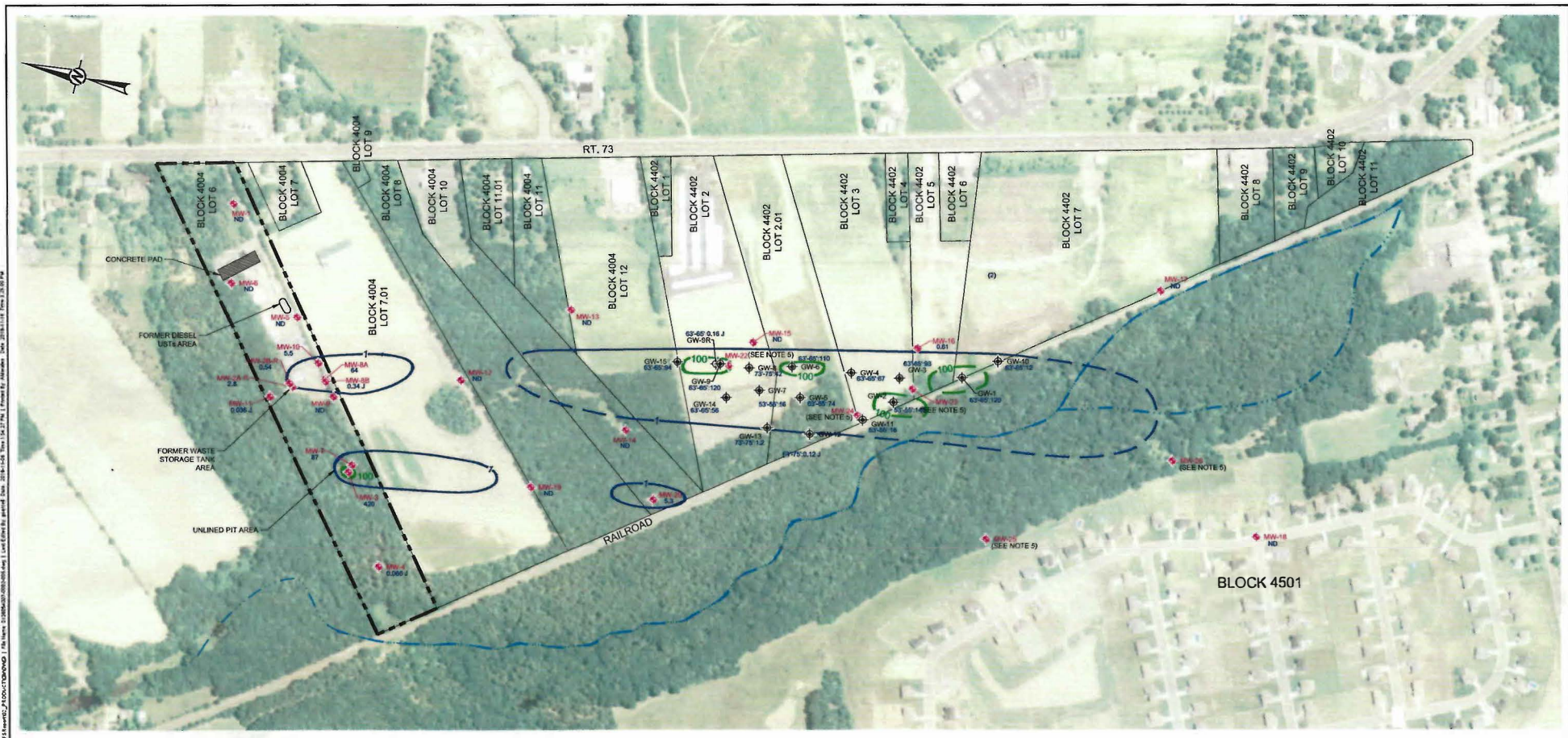
The selected remedy amendment will not result in contaminated groundwater remaining on-site above levels that allow for unlimited use and unrestricted exposure, though it is likely that the full groundwater remedy (as selected in the 2009 ROD and amended) may take more than five years to attain the cleanup levels. Therefore, a policy review will likely be conducted within five years of construction completion of the full groundwater remedy to ensure that the remedy is, or will be, protective of human health and the environment.

DOCUMENTATION OF SIGNIFICANT CHANGES

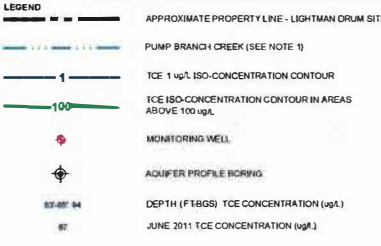
The Proposed Plan for the OU1 ROD Amendment was released for public comment on August 26, 2019. The comment period closed on September 24, 2019. No comments were submitted during the public comment period, and no changes to the remedy amendment, as presented in the Proposed Plan, are warranted.

APPENDIX I

FIGURES



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- NOTES**
- APPROXIMATE CREEK LOCATION ESTIMATED FROM 1995 AERIAL PHOTO. EPHEMERAL IN VICINITY OF LIGHTMAN PROPERTY.
 - TPZ 4 WAS DECOMMISSIONED ON AUGUST 24, 2011.
 - MAXIMUM CONCENTRATION FROM EACH AQUIFER PROFILE BORING IS SHOWN DUE TO LOSS OF A ROD IN BORING GW-9. THE DEEPEST SAMPLE WAS COLLECTED AT ADJACENT GW-8R @ 83-85 FT BGS.
 - INSTALLED IN 2012.
 - ND = NOT DETECTED

- REFERENCES**
- AERIAL PHOTOGRAPH TAKEN FROM USDA GEOSPATIAL DATA GATEWAY. DATED 2006.
 - MONITORING WELLS SHOWN WERE BASED ON SURVEY INFORMATION SUPPLIED BY JAMES M. STEWART, INC.
 - GEOPROBE PROFILE BORINGS AND SURFACE WATER SEDIMENT SAMPLING LOCATIONS WERE LOCATED IN THE FIELD BY GOLDER ASSOCIATES, INC. PERSONNEL USING A HAND-HELD GPS UNIT AND ARE APPROXIMATE ONLY.
 - PARCEL BOUNDARIES FROM GIS DATABASE OF NEW JERSEY.
 - AQUIFER PROFILE BORINGS LOCATED VIA GARMIN ETREX VISTA HCX GPS BY GOLDFIELD PERSONNEL IN AUGUST 2011.
 - REPLACEMENT MONITORING WELLS MW-2A-R AND MW-2B-R SURVEYED ON APRIL 01, 2008 BY B & B HI-TECH SOLUTIONS, LLC.



CLIENT
LIGHTMAN YARD PRP GROUP

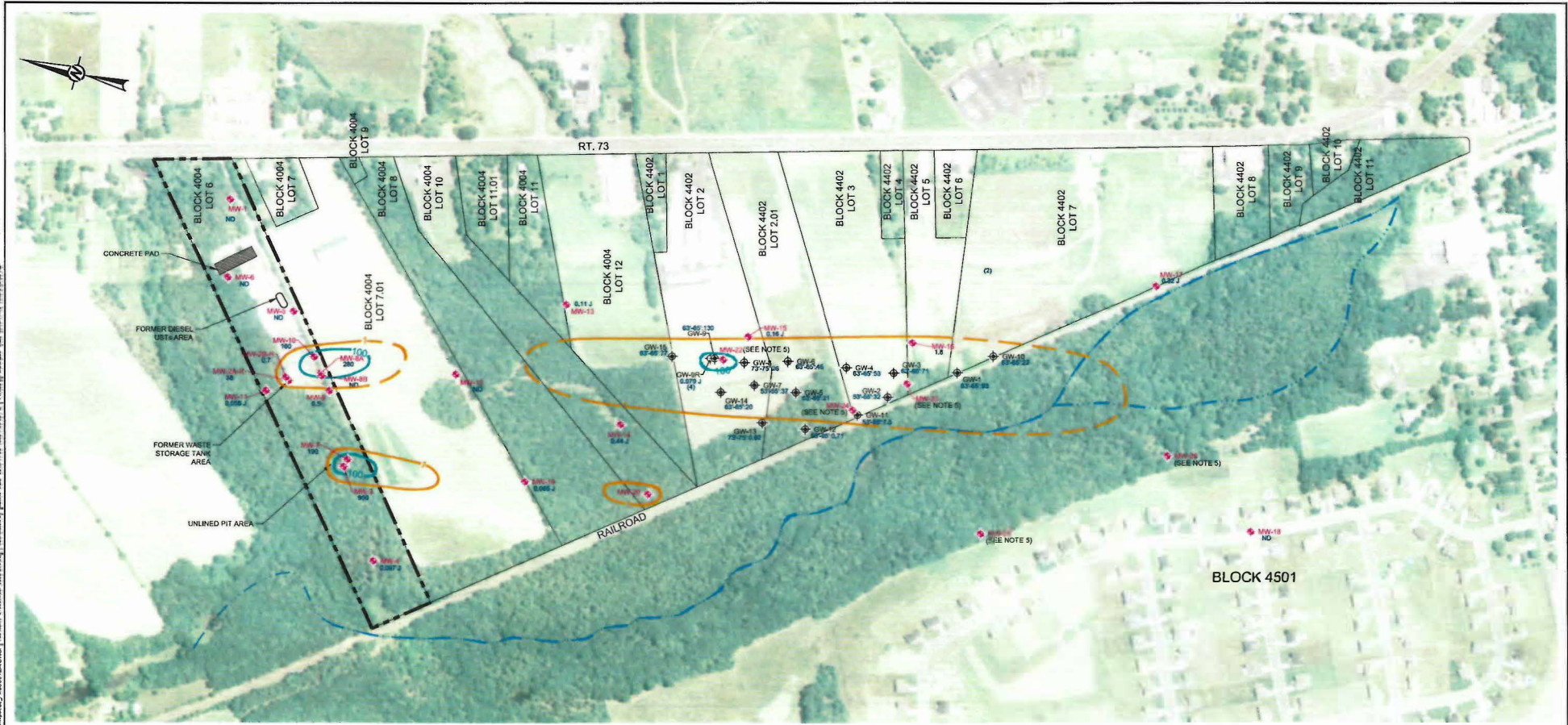
PROJECT
LIGHTMAN DRUM SITE
WINSLOW TOWNSHIP, NEW JERSEY
RI/FS REPORT

TITLE
TCE 2011 PRE-DESIGN INVESTIGATION

CONSULTANT
GOLDER

YYYY-MM-DD	2018-11-16
DESIGNED	RAM
PREPARED	GLE
REVIEWED	HAL
APPROVED	RJJ

PROJECT NO 0136054007 **CONTROL** 0002-005 **REV.** 1 **FIGURE** 3



LEGEND

	APPROXIMATE PROPERTY LINE - LIGHTMAN DRUM SITE
	PUMP BRANCH CREEK (SEE NOTE 1)
	PCE 1 ug/L ISO-CONCENTRATION CONTOUR
	PCE ISO-CONCENTRATION CONTOUR IN AREAS ABOVE 100 ug/L
	MONITORING WELL
	AQUIFER PROFILE BORING
63-85-77	DEPTH (FT.-BGS) PCE CONCENTRATION (ug/L)
190	LINE 2011 PCE CONCENTRATION (ug/L)

- NOTE(S)**
1. APPROXIMATE CREEK LOCATION ESTIMATED FROM 1995 AERIAL PHOTO. EPHEMERAL IN VICINITY OF LIGHTMAN PROPERTY.
 2. TP-2 WAS DECOMMISSIONED ON AUGUST 24, 2011.
 3. MAXIMUM CONCENTRATION FROM EACH AQUIFER PROFILE BORING IS SHOWN. DUE TO LOSS OF ROD IN BORING GW-9, THE DEEPEST SAMPLE WAS COLLECTED AT ADJACENT GW-8 @ 83-85 FT. BGS.
 4. INSTALLED IN 2012.
 5. NOT DETECTED.
 6. ND = NOT DETECTED.

- REFERENCE(S)**
1. AERIAL PHOTOGRAPH TAKEN FROM USCSA GEOSPATIAL DATA GATEWAY, DATED 2006.
 2. MONITORING WELLS 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 HAND-HELD GPS UNIT AND ARE APPROXIMATE ONLY.
 4. PARCEL BOUNDARIES FROM GIS DATA BASE OF NEW JERSEY.
 5. AQUIFER PROFILE BORINGS LOCATED VIA GARMIN ETRIX VISTA HCX GPS BY GOLDER FIELD PERSONNEL IN AUGUST 2011.
 6. REPLACEMENT MONITORING WELLS MW-2AR AND MW-2BR SURVEYED ON APRIL 01, 2008 BY B & B H-TECH SOLUTIONS, LLC.

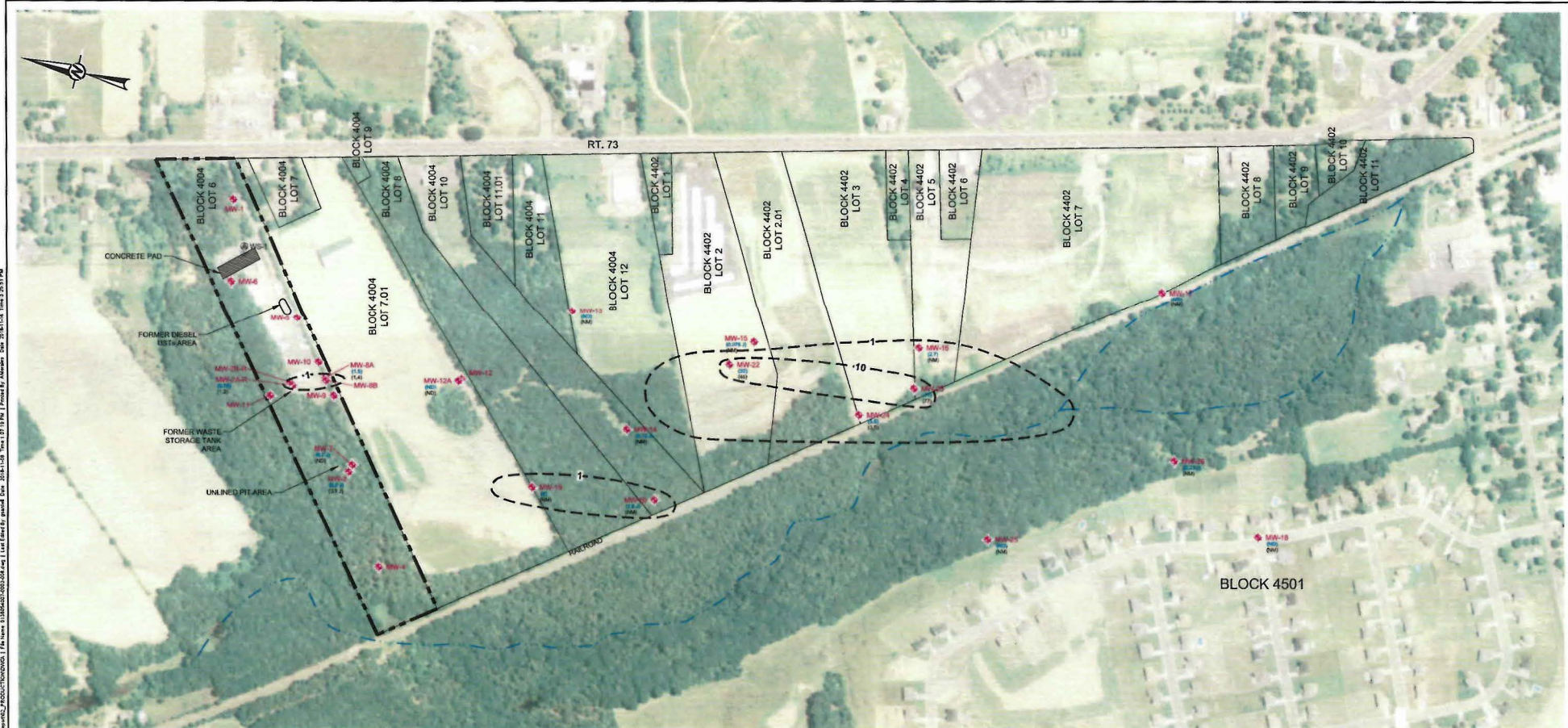
CLIENT
LIGHTMAN YARD PRP GROUP

PROJECT
LIGHTMAN DRUM SITE
WINSLOW TOWNSHIP, NEW JERSEY
RI/FS REPORT

TITLE
PCE 2011 PRE-DESIGN INVESTIGATION

CONSULTANT	YYYY-MM-DD	2018-11-16	
	DESIGNED	MAM	
	PREPARED	GLS	
	REVIEWED	HAL	
	APPROVED	RJI	
PROJECT NO. 0136054007	CONTROL 0002-004	REV. 1	FIGURE 2

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LEGEND	
	APPROXIMATE PROPERTY LINE - LIGHTMAN DRUM SITE
	PUMP BRANCH CREEK (SEE NOTE 1)
	PCE 1 ug/L ISO-CONCENTRATION CONTOUR (2017)
	PCE CONCENTRATION (DECEMBER 2017) ug/L
	PCE CONCENTRATION (SEPTEMBER 2017) ug/L
	ONSITE WATER SUPPLY WELL (LOCATION APPROXIMATE)
	MONITORING WELL

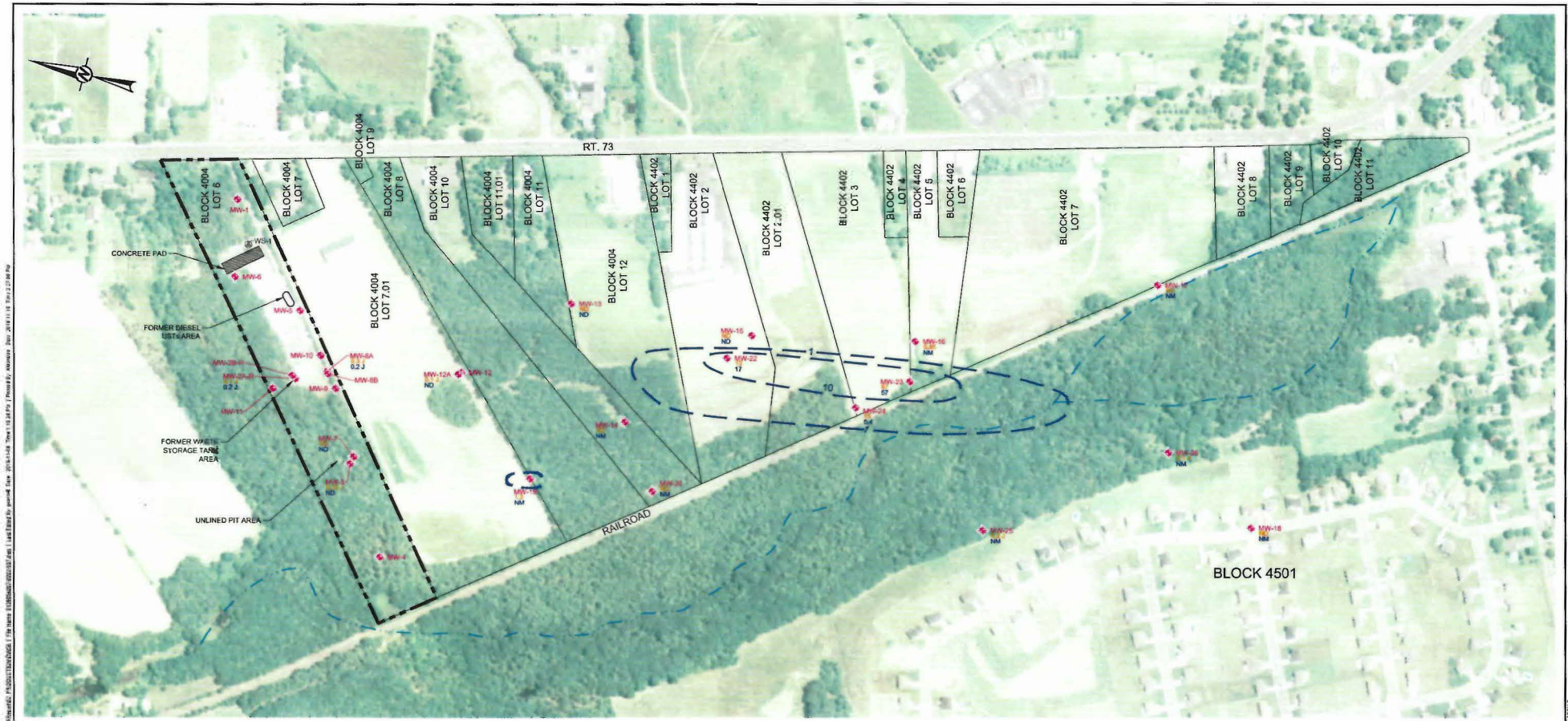
- NOTE(S)**
- APPROXIMATE CREEK LOCATION ESTIMATED FROM 1995 AERIAL PHOTO EPHEMERAL IN VICINITY OF LIGHTMAN PROPERTY.
 - MW-2A, MW-2B AND MW-21 WERE DECOMMISSIONED DURING SOURCE REMOVAL ACTION ACTIVITIES IN NOVEMBER 2007. REPLACEMENT WELLS MW-2A-R AND MW-2B-R WERE INSTALLED IN FEBRUARY 2008.
 - NO = NOT DETECTED
 - NM = NOT MEASURED

- REFERENCE(S)**
- AERIAL PHOTOGRAPH FROM TAKEN FROM USDA GEOSPATIAL DATENAVY, DATED 2005.
 - MONITORING WELLS SHOWN WERE BASED ON SURVEY INFORMATION SUPPLIED BY JAMES M. STEWART, INC. MW-2A-R AND MW-2B-R WERE SURVEYED BY JOHN P. HOUVEN PROFESSIONAL LAND SURVEYOR ON APRIL 8, 2008. MONITORING WELLS MW-12A, MW-12, MW-23, MW-24, MW-25, AND MW-26 FROM MONITORING WELL CERTIFICATION FORM 5 SURVEYED BY VARGO ASSOCIATES ON DECEMBER 26, 2012.
 - BLOCK 4402 AND BLOCK 4004 PARCEL BOUNDARIES FROM GIS DATABASE OF NEW JERSEY BLOCK 4411 PARCEL BOUNDARY FROM DIGITAL FILE LightmanDrum_12-20-12_PL.dwg SURVEYED BY VARGO ASSOCIATES.



CLIENT LIGHTMAN YARD PRP GROUP		
PROJECT LIGHTMAN DRUM SITE WINSLOW TOWNSHIP, NEW JERSEY RI/FS REPORT		
TITLE PCE 2017 MONITORING		
CONSULTANT	YYYY-MM-DD	2018-11-16
	DESIGNED	NAM
	PREPARED	GLS
	REVIEWED	HAL
	APPROVED	RAJ
PROJECT NO. 0136054007	CONTROL 0002-006	REV 1
		FIGURE 4

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LEGEND

	APPROXIMATE PROPERTY LINE - LIGHTMAN DRUM SITE
	PUMP BRANCH CREEK (SEE NOTE 1)
	TCE 1 ug/L ISO-CONCENTRATION CONTOUR
	ONSITE WATER SUPPLY WELL (LOCATION APPROXIMATE)
	MONITORING WELL
	TCE CONCENTRATION (SEPTEMBER 2017) (ug/L)
	TCE CONCENTRATION (DECEMBER 2017) (ug/L)

NOTES

- APPROXIMATE CREEK LOCATION ESTIMATED FROM 1995 AERIAL PHOTO. EPHEMERAL IN VICINITY OF LIGHTMAN PROPERTY.
- MW-2A, MW-2B AND MW-2 I WERE DECOMMISSIONED DURING SOURCE REMOVAL ACTION ACTIVITIES IN NOVEMBER 2007. REPLACEMENT WELLS MW-2A-R AND MW-2B-R WERE INSTALLED IN FEBRUARY 2008.
- ND = NOT DETECTED
- NM = NOT MEASURED

REFERENCES

- AERIAL PHOTOGRAPH FROM TAKEN FROM USDA GEOSPATIAL GATEWAY, DATED 2008
- MONITORING WELLS SHOWN WERE BASED ON SURVEY INFORMATION SUPPLIED BY JAMES M. STEWART, INC. MW-2A-R AND MW-2B-R WERE SURVEYED BY JOHN P. HOUWEN PROFESSIONAL LAND SURVEYOR ON APRIL 8, 2008. MONITORING WELLS MW-12A, MW-12B, MW-12C, MW-2A, MW-2B AND MW-2B-R FROM MONITORING WELL CERTIFICATION FORM B SURVEYED BY VARGO ASSOCIATES ON DECEMBER 26, 2012.
- BLOCK 4402 AND BLOCK 4004 PARCEL BOUNDARIES FROM GIS DATABASE OF NEW JERSEY. BLOCK 4411 PARCEL BOUNDARY FROM DIGITAL FILE LIGHTMANDRUM_12-20-12_PL.DWG. SURVEYED BY VARGO ASSOCIATES



BLOCK 4501

CLIENT
LIGHTMAN DRUM SITE PRP GROUP

PROJECT
LIGHTMAN DRUM SITE
WINSLOW TOWNSHIP, NEW JERSEY
RI/FS REPORT

TITLE
TCE 2017 MONITORING

CONSULTANT	XXXX-MM-DD	2018-11-16
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	PREPARED	GLS
	REVIEWED	HAL
	APPROVED	RAH

PROJECT NO. 0136054007	CONTROL 0002-007	REV 2	FIGURE 5
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APPENDIX II

TABLES

Table 1 Human Health Risk for Groundwater

Contaminant	Federal MCL (µg/L)	NJ Class 1-PL (µg/L)	2009 ROD Max (µg/L)	2017 Max in Hot Spot wells (µg/L)
Trichloroethene	5	1	2100	67
Tetrachloroethene	5	1	4200	77

Table 2: ARARs
 Lightman Drum Site
 OU1 Remedy Amendment
 Winslow Township, NJ

Statute/Regulation	Criteria	Citation	Description	Comments
Chemical-Specific ARARs				
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.	Relevant and Appropriate
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 as close to MCLGs as feasible using the best available treatment technology and taking cost into consideration. MCLs are enforceable standards.	Relevant and Appropriate
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	Relevant and Appropriate
State of New Jersey Statutes and Rules	Groundwater Quality Standards	N.J.A.C. 7:9C Ground Water 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.: The NJ groundwater quality standards for Class I-PL are applicable for the remediation of groundwater
Location-Specific ARARs				
New Jersey Flood Hazard Control Act	Floodplain Use and Limitations	N.J.A.C. 7:13 Flood Hazard Area Control		Applicable to work within 100-year floodplain
Statement of Procedures on Floodplain Management and Wetlands Protection	Floodplain 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.	Portions of downgradient plumes lie within 100-year floodplain. Potentially applicable, if construction activities are performed in the floodplain
New Jersey Freshwater Wetlands Protection Act		N.J.A.C. 7:7A N.J.S.A. 13:9B-1	Establishes requirements for regulated activity disturbing wetlands	Potentially applicable for construction activities performed in the vicinity of a wetland or waterway (Pump Branch Creek)

Table 2: ARARs
 Lightman Drum Site
 OU1 Remedy Amendment
 Winslow Township, NJ

Statute/Regulation	Criteria	Citation	Description	Comments
Location-Specific ARARs (cont'd)				
Federal Endangered Species Act	Protection of threatened and endangered species	16 USC 1531 et. seq., 50 CFR Part 17	Standards for the protection of threatened and endangered species	Potentially Applicable Swamp pink was identified as occurring on or adjacent to the Site; A survey found no evidence of the plant
Federal National Historic Preservation Act	Procedures for preservation of historical and archaeological data	16 USC 469 et seq., 36 CFR Part 800	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.
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
Technical Requirements for site remediation		N.J.A.C. 7:26E	Establishes minimum regulatory requirements for remediation of contaminated sites in New Jersey	

APPENDIX III

RESPONSIVENESS SUMMARY

APPENDIX III
RESPONSIVENESS SUMMARY
Lightman Drum OU1 ROD Amendment
Winslow Township, New Jersey

INTRODUCTION

This Responsiveness Summary provides a summary of the public’s comments and concerns regarding the Proposed Plan for Operable Unit 1 of the Lightman Drum (“Site”) and EPA’s responses to those comments.

All comments summarized in this document have been considered in EPA’s final decision for the selection of the cleanup response for the Site. This Responsiveness Summary is divided into the following sections:

I. BACKGROUND ON COMMUNITY INVOLVEMENT AND CONCERNS

This section provides the history of the community involvement and interests regarding the Site.

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

This section contains summaries of oral and written comments received by EPA at the public meeting and during the public comment period, and EPA’s responses to these comments.

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 comments;

Attachment B contains the public notice that appeared in the online version of the Courier-Post.

Attachment C contains the transcripts of the public meeting; and

Attachment D contains the public comments received during the public comment period.

I. BACKGROUND ON COMMUNITY INVOLVEMENT AND CONCERNS

The subject of this Record of Decision (ROD) Amendment the First Operable Unit (OU1) of the Lightman Drum Site located in Winslow, Township, New Jersey. Public interest in the Lightman Drum Site has been low since the OU1 and OU2 RODs were issued.

On August 26, 2019, EPA released the Proposed Plan for the ROD Amendment for a portion of the OU1 Remedy the public for comment. EPA made these documents available to the public in the administrative record repositories maintained at the EPA Region 2 office (located at 290 Broadway, New York, New York), the Camden County Library (35 Cooper Folly Road, Atco, New Jersey) and online (<https://www.epa.gov/superfund/lightman-drum>). EPA published a notice of availability for these documents in the online version of the Courier-Post and opened a public comment period from August 26 to September 24, 2019.

On September 11, 2019, EPA held a public meeting at the Township Bud Duble Senior Center at 33 Cooper Folly Road in Atco, New Jersey to discuss the Proposed Plan to amend a portion of the groundwater remedy for OU1 at the Lightman Drum Site. The purpose of this meeting was to inform local officials and interested citizens about the Superfund process, to review the proposed remedy amendment for a portion of the groundwater remedy and to respond to questions from area residents and other attendees. At the meeting, EPA reviewed the history of the Site, the results of the remediation activities at the Site since the RODs were issued, the basis for modifying a portion of the original groundwater remedy and the proposed remedy amendment. The transcript of this public meeting is included in this Responsiveness Summary as Attachment C.

The meeting was attended by three members of the community. There were no comments or questions from the public at the meeting.

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

There were no questions, comments or concerns from the public at the public meeting or during the public comment period.

ATTACHMENT A

PROPOSED PLAN

Superfund Proposed Plan to
Amend a Portion of the
OU1 Groundwater Remedy

U.S. Environmental Protection Agency
Region 2

**Lightman Drum Superfund Site
Winslow Township, NJ
August 2019**



**EPA ANNOUNCES PROPOSED PLAN FOR
REMEDY MODIFICATION**

This Proposed Plan presents the proposed amendment to the Record of Decision (ROD) dated, September 30, 2009, for Operable Unit (OU) 1 at the Lightman Drum Superfund Site (Site) in Winslow Township, New Jersey. This document is issued by the U.S. Environmental Protection Agency (EPA), the lead agency for Site activities, in consultation with the New Jersey Department of Environmental Protection (NJDEP), the support agency. The September 19, 2011 ROD for OU2, which addresses a portion of the Site's contaminated soil, is not affected by this Proposed Plan.

The purpose of this Proposed Plan is to, explain the rationale for the proposed amendment to the existing remedy for groundwater hot spots (discrete areas of high concentrations of groundwater contamination) in the downgradient portions of the eastern and western plumes, provide a summary of the remedial alternatives evaluated and solicit public comment. This Proposed Plan also includes a summary of the data from groundwater investigations conducted prior to the 2009 ROD and during the remedial design phase after the ROD was signed. More detailed information can be found in the Remedial Investigation and Focused Feasibility Study (RI/FFS) reports and other documents contained in the Administrative Record for the Site.

EPA, in consultation with NJDEP, will select the final amended remedy for the groundwater 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.

This Proposed Plan was prepared in accordance with Section 117(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (CERCLA), 42 U.S.C. §9617(a), and Section 300.435(c)(2)(ii) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). If, after the selection of a remedy in a ROD, a component of the

remedy is fundamentally altered, EPA must propose an amendment to the ROD. EPA's proposed amendment to the ROD must be made available for public comment in a Proposed Plan and public comment period.

MARK YOUR CALENDAR

PUBLIC COMMENT PERIOD:

August 26 – September 24 2019

EPA will accept written comments on the Proposed Plan during the public comment period.

PUBLIC MEETING: September 11, 2019

EPA will hold a public meeting to explain the Proposed Plan and all 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 Township Bud Duble Senior Center, 33 Cooper Folly Road, Atco, NJ from 6:30 to 8:30 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 or online at <https://www.epa.gov/superfund/lightman-drum>

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

WHY THE REMEDY IS BEING MODIFIED

The OU1 ROD requires removal of groundwater contamination in the source areas using an air sparging and soil vapor extraction (AS/SVE) system and extraction and treatment of groundwater hot spots, consisting of discrete areas of groundwater concentrations of trichloroethylene (TCE) and tetrachloroethylene (PCE) of over 100 micrograms per liter ($\mu\text{g/L}$) in the downgradient portions of the eastern and western plumes. The ROD also requires Monitored Natural Attenuation (MNA) in the remainder of the downgradient groundwater. Lastly, the ROD requires the establishment of a Classification Exception Area (CEA) as an institutional control to minimize the potential for

exposure to contaminated groundwater until the cleanup goals are met.

The AS/SVE system began operating in February 2013 and continues to operate. Monitoring results show that the system has removed most of the contamination in the source areas. The data also show that, since 2016, the groundwater hot spots are no longer present in the downgradient portions of the eastern and western plumes. Based on these data, EPA is proposing to change the remedy for the hot spots from extraction and treatment to MNA. The remainder of the OU1 remedy would remain unchanged.

SITE DESCRIPTION AND CHARACTERISTICS

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 Lightman 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 Site nearest to Route 73 is operated by United Cooperage, a drum brokerage business, which stores drums and tractor trailers at 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. Actively used areas of the Site have a thin layer of relatively impermeable fill. Under the soil is the Cohansey-Kirkwood aquifer system which is used extensively as the potable water supply in the area of the Site. The municipality requires that all properties within 200 feet of the municipal well be connected to the public water supply system and prohibits such properties from using private wells for drinking water.

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.

SCOPE AND ROLE OF THE 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 to address an imminent threat to human health and the environment, and two phases of long-term cleanup called operable units (OUs).

The immediate actions, known as removal actions, have 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, and after investigation, these soils have been removed. In early 2009, another area of volatile organic compound (VOC)-contaminated soils near the excavation was also identified and characterized.

The first phase of the long-term cleanup of the Site (OU1) addressed the groundwater contamination in the source areas of the eastern and western plumes and in the downgradient groundwater areas and is the subject of this Proposed Plan.

A second ROD (OU2) was issued on September 19, 2011. It addresses a small area of soil contamination near the source area for the eastern plume. The soil is being remediated through use of an SVE system. This SVE system is an extension of the system used for OU1.

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 a NJDEP Administrative Order from 1989 to 1990. These samples were concentrated in known storage areas.

There were two areas identified as the sources of groundwater contamination:

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 a single tank trailer of 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.

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.

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.

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 near the former Waste Storage Tank area. This contaminated soil was a source of the groundwater contamination. During the soil removal, areas of unnaturally colored soils were discovered. The unnaturally colored soils contained heavy metals, especially lead, and were removed.

An area of soil with elevated levels of VOCs was also identified just east of soil excavation area, near the former Waste Storage Tank area. This soil is the subject of the OU2 ROD.

Summary of Remedial Investigation for OU1

The Remedial Investigation for the Site took place from August 2002 to March 2008. Samples were taken from the soil, sediment, surface water and groundwater. The investigation showed that there was contamination in the soil and groundwater. The soil contamination was found on the Lightman property at the Former Waste Storage Tanks area and the Unlined Waste Disposal Pit area.

Contamination had migrated from the soil into the groundwater, resulting in two groundwater plumes. One plume emanated from the former Waste Storage Tanks area and was referred to as the eastern plume, and the

other plume emanated from the Unlined Waste Disposal Pit Area and was referred to as the western plume (Figure 1).

Both plumes were relatively long and narrow and characterized primarily by elevated levels of PCE and TCE. The zones of contamination were located at increasing depths with distance from the source areas. In the downgradient areas, the contaminated zones were overlain by unimpacted (clean) groundwater.

The RI further divided the groundwater into two areas based on distance from the source areas. One area was the groundwater contamination found immediately under the Lightman property and under the first property to the south. This was referred to as the near-site groundwater contamination. The other area was farther to the south and referred to as the downgradient groundwater contamination (Figure 1).

The eastern plume was characterized primarily by its elevated levels of PCE (4,200 µg/L) and TCE (2,100 µg/L) and extended about 4,500 feet downgradient of the Lightman property boundary, at which location it was about 85 feet below ground surface with about 65 feet of non-impacted water above it. The downgradient portion of the eastern plume also contained a few “hot spots” (well-defined areas of relatively high PCE and TCE concentration). During the RI, these hot spots had concentrations of TCE and PCE of over 100 µg/L.

The western plume was also characterized by TCE and PCE contamination and extended 1,500 feet downgradient of the property boundary. At this location, the contamination was about 55 feet below ground surface with about 45 feet of non-impacted water above it.

OU1 ROD

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

- Prevent or minimize potential current and future human exposures including ingestion of and dermal contact with groundwater that presents a significant risk to public health and the environment;
- Minimize the potential for migration of the contaminants of concern in groundwater; and
- Restore the aquifer to Class I-PL standards within a reasonable time frame.

To achieve these RAOs, EPA selected cleanup goals for groundwater. Groundwater cleanup goals for OU1 are based on the New Jersey Class I-PL standards which apply within the New Jersey Pinelands Protection Area. The applicable groundwater. Class I-PL standards are more stringent or equivalent to the Federal Safe Drinking Water Act Maximum Contaminant Levels. The Class I-PL groundwater cleanup goals are 1 µg/L for PCE and 1 µg/L for TCE.

The components of the selected remedy were:

- Air Sparging and Soil Vapor Extraction (AS/SVE) 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 (MNA) 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.

Five-Year Review Requirements

Because this remedy will not result in hazardous substances, pollutants, or contaminants remaining on-site above levels that allow for unlimited use and unrestricted exposure, but may take more than five years to attain the remedial action objectives and cleanup levels for the groundwater, a policy review may be conducted within five years of construction completion or the remedial activity for the groundwater operable unit 1 (OU1) at the Site to ensure that the remedy is, or will be, protective of human health and the environment.

Prior to implementation of the remedy, a remedial design (RD) investigation was conducted to further delineate the areal extent of contaminated groundwater and collect enough data to complete the engineering design of the selected remedy. The RD investigation of near-site groundwater included collecting data to determine the exact number and location of the components of the

AS/SVE systems. The downgradient RD investigation delineated and further characterized the downgradient contamination.

Downgradient groundwater hot spots were to be addressed using a pump and treat system. The exact size and other design and operating parameters for the pump and treat system were to be finalized after the size, extent and level of contamination of the hot spots were characterized. After the water was pumped out, it would pass through activated carbon where the VOCs would be removed. After treatment, the water would be reinjected into the aquifer.

For areas of the downgradient plume where contamination was present, and where there were no hot spots, a MNA program would be established.

ROD for OU2

During the RI for OU1, a small area of VOC-impacted soil was found in the unsaturated zone to the east of the former Waste Storage Tank Area. This soil became a separate operable unit, OU2.

The RAO for OU2 was to reduce the concentration of PCE and TCE in the soil to levels at which they would no longer be a source of groundwater contamination.

POST ROD ACTIVITIES

Construction and Operation of AS/SVE systems

Source area

The remedies for the OU1 and OU2 RODs required construction of a AS/SVE system for the OU1 source area and an SVE system for OU2. Since these areas are near each other, the remedies were constructed at the same time and they share the same equipment. The full AS/SVE (OU1 and OU2) system began operation in February 2013. The system is monitored continually and has been shown to be very effective in removing contamination in the OU1 source area. At the present time, the system is periodically pulsed to increase its efficiency.

At the time of the OU1 ROD, the highest groundwater contamination values were found in source area wells near the Former Waster Storage Tank area where the PCE concentration was 4,200 µg/L and the TCE concentration was 2,100 µg/L (March 2006 data). The December 2017 monitoring data show that total VOCs in the source area monitoring wells are now less than 5 µg/L. The AS/SVE system continues to operate to achieve the cleanup goals selected in the OU1 ROD.

The SVE system for OU2 soil has also been successful in

achieving the cleanup goals, which for PCE is 2.6 milligram/kilogram (mg/kg) and for TCE is 14.0 mg/kg. Soil sampling in April 2017 identified just one small area which exceeded these goals. The SVE system was optimized and three new SVE wells were added to address this area. As of April 2019, the concentrations remain above the goal only in this one area and the SVE system continues to operate.

Pre-design Investigation (PDI) for Hot Spots

Sampling of the downgradient groundwater monitoring wells at the end the RI for OU1 in 2006 and 2007 showed that concentrations of TCE and PCE had decreased compared to the earlier sampling events and the hot spots identified earlier appeared smaller.

Based on this observation, additional groundwater samples were taken along two transects in July 2007. Figure 1 shows the groundwater plume, including the hot spots as it existed at the conclusion of sampling for the OU1 RI.

As required by the OU1 ROD, pre-design investigations (PDI) began in 2011 to better define the hot spots and design the extraction and treatment system. The results of the 2011 sampling event showed that the hot spots were limited in area and depth. The one PCE hot spot was estimated to contain approximately 0.2 pounds of PCE and the four TCE hot spots were estimated to contain a total of 1.0 pound of TCE. The hot spots appeared to have moved slightly to the west and three new monitoring wells and two new “sentinel wells” (wells outside the area of contamination to determine if the contamination was spreading) were added to the existing network of monitoring wells.

Quarterly sampling of all the groundwater monitoring wells has taken place from 2013 to the present. Results show that the concentrations of the contaminants and the size of the impacted areas have been decreasing. Beginning in 2016, the groundwater data show that although a few locations still have elevated PCE or TCE values, none of the locations show PCE or TCE values greater than 100 µg/L, the definition of a hot spot in the OU1 ROD. The December 2017 data show that the hot spots, as defined areas, no longer exist and the highest measured concentration of PCE and TCE are 77 and 57 µg/L, respectively. The 2018 data show these values continue to decline (Figures 2 and 3, PCE and TCE plume maps using 2011 data and Figures 4 and 5, PCE and TCE maps from 2017)

In January 2019, the PRPs submitted an application for a Classification Exception Area/Well Restriction Area to NJDEP.

Evidence for Natural Attenuation

Natural attenuation is defined as the reliance on natural physical, biological or chemical in situ processes to reduce the mass, toxicity mobility, volume or concentration of chemicals in groundwater. These processes include biodegradation, dispersion, dilution, sorption, volatilization, stabilization, transformation and destruction. During MNA, these natural processes are monitored through regular sampling for the original contaminants (PCE and TCE), their degradation products and other parameters, such as pH and dissolved oxygen, to show that attenuation is progressing.

Analytical results from sampling events during and after the RI confirm the presence of natural attenuation parameters indicating that there is biodegradation in the source area and in the downgradient plumes. In the source area, the biodegradation is anaerobic, whereas in the downgradient area the process is more aerobic. In the downgradient groundwater area, biodegradation is demonstrated through the presence of the cis-1,2-DCE, which is a degradation product of both PCE and TCE. The concentration of cis-1,2-DCE is higher in the downgradient wells than the concentration of PCE or TCE. In the hot spot area, the aerobic biodegradation of these compounds does not follow the most common pathway. Instead, the aerobic biodegradation of PCE, TCE and cis-1,2-DCE follows an oxygenase co-metabolic pathway to carbon dioxide.

Solute transport modelling was conducted to show the effects of natural processes such as advection, dispersion and sorption on the contaminants and estimate the time it would take to achieve the cleanup goals. In addition, an Advective Flushing Model was used to evaluate the timeframe required for an extraction and treatment system to achieve the groundwater cleanup goals. The modelling showed that both the extraction and treatment system and MNA would take about 15 years to achieve the cleanup goals.

Principal Threat Waste

Groundwater, which is the subject of this proposed ROD Amendment, is not considered a principal threat waste.

SUMMARY OF SITE RISKS

Human Health Risk Assessment

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 and surface water/sediment uses. The baseline risk assessment includes a human health risk assessment (HHRA) and a screening level ecological risk assessment.

Based on the current zoning and anticipated future use, the risk assessment focused on a variety of possible receptors, including current and future commercial/industrial workers and future residents (child and adult).

Although residents and businesses downgradient are not currently impacted, groundwater is designated by the State as a potable water supply, meaning it could be used for drinking in the future. Therefore, potential exposure to groundwater was evaluated. A complete discussion of the exposure pathways and estimates of risk can be found in the *Human Health Risk Assessment* for the site in the Administrative Record.

The individual lifetime excess cancer risk estimate for the potential future site worker was 6.9×10^{-2} , which exceeds EPA's acceptable risk range of 10^{-4} to 10^{-6} . The calculated hazard index (HI) for noncancer health effects was 556, which exceeds EPA's threshold value of 1. The lifetime excess cancer risk estimate for the future adult resident and child resident were 2.6×10^{-2} and 4.6×10^{-2} respectively. The calculated HI for the adult resident and child resident were 1243 and 183, respectively. The unacceptable risks and hazards were primarily attributed to TCE and PCE in groundwater.

EPA evaluated the potential for vapor intrusion from contamination volatilizing from the groundwater plumes. Since there were no structures above the plumes and the contaminated groundwater lay under a barrier of clean water, there was no potential for vapor intrusion. At this time, there are still no structures above the plumes, the level of contamination in the groundwater has decreased, and the barrier of clean water is still present, therefore, there is still no potential for vapor intrusion.

The OU1 HHRA concluded that there was an unacceptable risk to future site workers and residents (children and adults) from exposure to groundwater. Although municipal water is supplied to all residents and businesses in the area, based on the maximum detected collected in 2017, 77 µg/L for PCE and 67 µg/L for TCE, there is still an unacceptable potential future risk to workers and residents if the groundwater were to be used for drinking. Additionally, concentrations of TCE, PCE and their degradation products continue to exceed the New Jersey Class 1-PL standards.

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

Screening Level Ecological Risk Assessment

A Screening Level Ecological Risk Assessment to determine potential risk to ecological receptors was evaluated as part of the OU1 baseline risk assessment. At that time there was no unacceptable ecological risk to the aquatic community associated with this site. Therefore, groundwater to surface water discharge was not considered to be of ecological concern. The groundwater to surface water discharge conditions at the Site have not changed. Therefore, at this time, no further ecological risk assessment is warranted.

Based on the residual levels of groundwater contamination in the former hot spot areas, EPA has determined that there remains a need for remediation. It is EPA's current judgment that the Preferred Amended groundwater remedy identified in this Proposed Plan, or one of the other measures considered in the Proposed Plan, 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 AND CLEANUP GOALS

EPA is not proposing to modify the groundwater RAOs or the cleanup goals selected in the OU1 ROD.

SUMMARY OF REMEDIAL ALTERNATIVES

CERCLA, Section 121(b)(1), 42 U.S.C. Section 9621(b)(1), mandates that remedial actions must be protective of human health and the environment, cost-effective and utilize permanent solutions and alternative treatment technologies and resource recovery alternatives to the maximum extent practicable. Section 121(b)(1) also establishes a preference for remedial actions which employ, as a principal element, treatment to permanently and significantly reduce the volume, toxicity, or mobility of the hazardous substances, pollutants, and contaminants at a site. CERCLA, Section 121(d), 42 U.S.C. Section 9621(d) further specifies that a remedial action must attain a level or standard of control of the hazardous substances, pollutants, and contaminants, which at least attains applicable or relevant and appropriate requirements (ARARs) under federal and state laws, unless a waiver can be justified pursuant to CERCLA Section 121(d)(4), 42 U.S.C. Section 9621(d)(4).

EPA is proposing to modify the remedy selected in the OU1 ROD from extraction and treatment to MNA in the area where the hot spots were formerly detected because the source of groundwater contamination is being addressed through operation of the AS/SVE system and the hot spots can no longer be detected. Other components

of the remedy, including the AS/SVE system, MNA for the remaining portions of the plume and establishment of a CEA, are not affected by this proposed plan.

A description of MNA and extraction and treatment (pump and treat systems) can be found at the following EPA sponsored web sites:

For Monitored Natural Attenuation:

<http://www.cluin.org/download/citizens/mna.pdf>

For Extraction and Treat Systems:

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

A more complete description of the alternatives can be found in the Focused Feasibility Study that is part of the Administrative Record.

The timeframes presented below for construction do not include the time for pre-design investigations, remedial design, or contract procurements. Each of the hot spot alternatives will take longer than five years to achieve RAOs. Therefore, a Five-Year Review will continue to be conducted for OU1 until cleanup goals are achieved.

Original Remedy –Downgradient Extraction and Treat of the Hot Spots, with MNA and Institutional Controls

As selected in the OU1 ROD in 2009, any hot spots identified in the downgradient area in the plumes would be remediated by an extraction and treat system. At the time of the 2009 ROD, hot spots were identified in the down gradient groundwater (Figure 1). For the purpose of this evaluation remedy components for the groundwater hotspots in the downgradient portion of the eastern and western groundwater plumes are assumed to be unchanged.

In an extraction and treat system, an appropriate number of wells are placed in the contaminated groundwater. If this component of the original remedy were to be implemented, the contaminated groundwater would be pumped out and treated to remove contaminants, and the treated water would be reinjected into the aquifer.

Total Capital Cost	\$925,000
Total Present New Worth (including O&M)	\$2,160,000
Time to meet RAOs	15 Years

Preferred Alternative –Monitored Natural Attenuation of the Hot Spots

MNA refers to the reliance on natural attenuation processes to achieve Site-specific RAOs and cleanup goals within a

time-frame that is reasonable compared to that offered by other more active methods.

MNA would require long-term monitoring for PCE and TCE, their degradation products and additional groundwater quality parameters to monitor the degradation process as the contaminants attenuate.

The data confirm that operation of the groundwater AS/SVE system has reduced the levels of contamination in the source areas to the point where they are not acting as a significant source of contamination to downgradient groundwater. Monitoring of the groundwater in the area of the hot spots confirm that PCE and TCE concentrations have been decreasing and that the former hot spots (i.e., PCE or TCE are greater than 100 µg/L) no longer exist as discrete areas. As of September 2018, the highest contamination values at a monitoring well within the former hot spot areas was 43 µg/L for PCE and 19 µg/L for TCE.

An MNA remedy for the hot spot areas would use the existing monitoring and sentinel well network to evaluate concentrations of PCE, TCE and their degradation products over time to ensure that RAOs are achieved in a reasonable time frame (15 years) at the Site.

Total Capital Cost (annual monitoring)	\$14,508
Total Present Net Worth	\$150,000
Time to meet RAOs	15 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. The criteria are described in the box on the following page. This section of the Proposed Plan profiles the relative performance of each alternative against the nine criteria, noting how it compares to the other options 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 which is part of the Administrative Record.

Threshold Criteria

Overall Protection of Human Health and the Environment

The Preferred Alternative, MNA, would be protective. The plumes would continue to be monitored for PCE, TCE, their degradation products and MNA parameters using the existing well network. Based on previous

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.

sampling events, it is predicted that the concentrations of contaminants will continue to decrease.

The Original Remedy, extraction and treatment, would be protective as it would provide continual monitoring and active treatment of the near downgradient groundwater.

Compliance with Applicable or Relevant and Appropriate Requirements (ARARs)

Both alternatives are expected to comply with the groundwater ARARs, the New Jersey Class I-PL standards

in a reasonable time frame. The estimated time frame for both alternatives to achieve restoration of the groundwater to its beneficial use as a drinking water source is 15 years.

Balancing Criteria

Long-Term Effectiveness and Permanence

Both alternatives would be effective and permanent in the long term. The contamination in the source areas has been greatly reduced through operation of the AS/SVE system. The reduction in concentrations of the hot spot contaminants has occurred due to natural attenuation processes. MNA is demonstrably occurring, showing that it is effective, and the results would be permanent. The Original Remedy would be a combination of MNA and treatment and would also be effective in the long-term and permanent. However, the additional benefit, if any, from the treatment would be minimal. While it may be possible to remove some of the mass of contaminants in the remaining small areas of elevated groundwater contamination, it is unlikely that sufficient contamination will be removed to reach the cleanup goals through extraction alone.

Reduction of Toxicity, Mobility, or Volume Through Treatment

The Preferred Alternative, MNA would not reduce the toxicity, mobility and volume of contaminants in the groundwater through treatment. The Original Remedy would employ treatment to reduce the toxicity, mobility and volume of contaminants in the hot spot areas.

Short-Term Effectiveness

The Preferred Alternative is effective in the short term because the natural attenuation of PCE and TCE in groundwater is occurring at OU1 and the hot spots can no longer be detected.

The Original Remedy would be less effective in the short term because before the extraction and treatment system can be built it will be necessary to get access agreements from the impacted property owners, conduct sampling to determine the specific design parameters for the system and then design and construct the system. While the pre-design sampling and construction of the system occur, there may be short-term negative impacts on the involved properties.

Implementability

The well network for groundwater monitoring for the Preferred Alternative is currently in place and, therefore,

would require no further effort to implement. Access agreements are already in place to periodically take groundwater samples.

The Original Remedy is less implementable since it would include the construction of pipelines, wells, and a treatment system on one or more private properties. New access agreements would have to be negotiated with the nearby property owners in order to construct the system. The access would be used to obtain more data to design the system. Access would also be necessary to construct and operate the system.

Cost

The present-worth costs for MNA and extraction and treatment are calculated based on each alternative's estimated timeframes to achieve groundwater RAOs. The present worth cost for MNA (\$150,000) is significantly lower than for the extraction and treatment system (\$2,106,000).

Modifying Criteria

State/Support Agency Acceptance

The proposed modification to the remedy selected in the OU1 ROD is currently being reviewed by the State of New Jersey.

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 Amendment for this Site.

SUMMARY OF THE PREFERRED ALTERNATIVE

The Preferred Alternative to modify the remedy selected in the OU1 ROD for the hot spot areas is MNA. Monitoring results from 2016 to the present show that hot spots no longer exist as discrete areas in the downgradient portions of the eastern and western groundwater plumes through the natural attenuation of PCE and TCE. The existing monitoring and sentinel well network will be used to continue to evaluate concentrations of TCE, PCE and their degradation products to ensure that groundwater is restored to its beneficial use as a source of drinking water in a reasonable timeframe.

In addition, operation of the OU1 AS/SVE system will continue as will monitoring of natural attenuation processes in the groundwater plumes outside of the former the hot spot areas MNA throughout the plumes will continue until

the OU1 groundwater cleanup goals have been attained.

Institutional Controls such as a CEA will be established as required by the OU1 ROD and will remain in place until the cleanup goals are achieved. EPA will conduct Five Year Reviews as required in the OU1 ROD.

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.

The Preferred Alternative satisfies the threshold criteria and achieves the best combination of the five balancing criteria of the comparative analysis. MNA is preferred because it will achieve the RAOs and cleanup goals in the same amount of time as the Original Remedy and is less disruptive and less costly. EPA expects the Preferred Alternative to satisfy the following statutory requirements of CERCLA, section 121: 1) be protective of human health and the environment; 2) comply with ARARs; 3) be cost-effective; 4) utilize permanent solutions and alternative treatment technologies or resource recover technologies to the maximum extent practicable. Although the Preferred Alternative does not satisfy the preference for treatment as a principal element, it will reduce concentrations in the same amount of time as the active alternative.

COMMUNITY PARTICIPATION

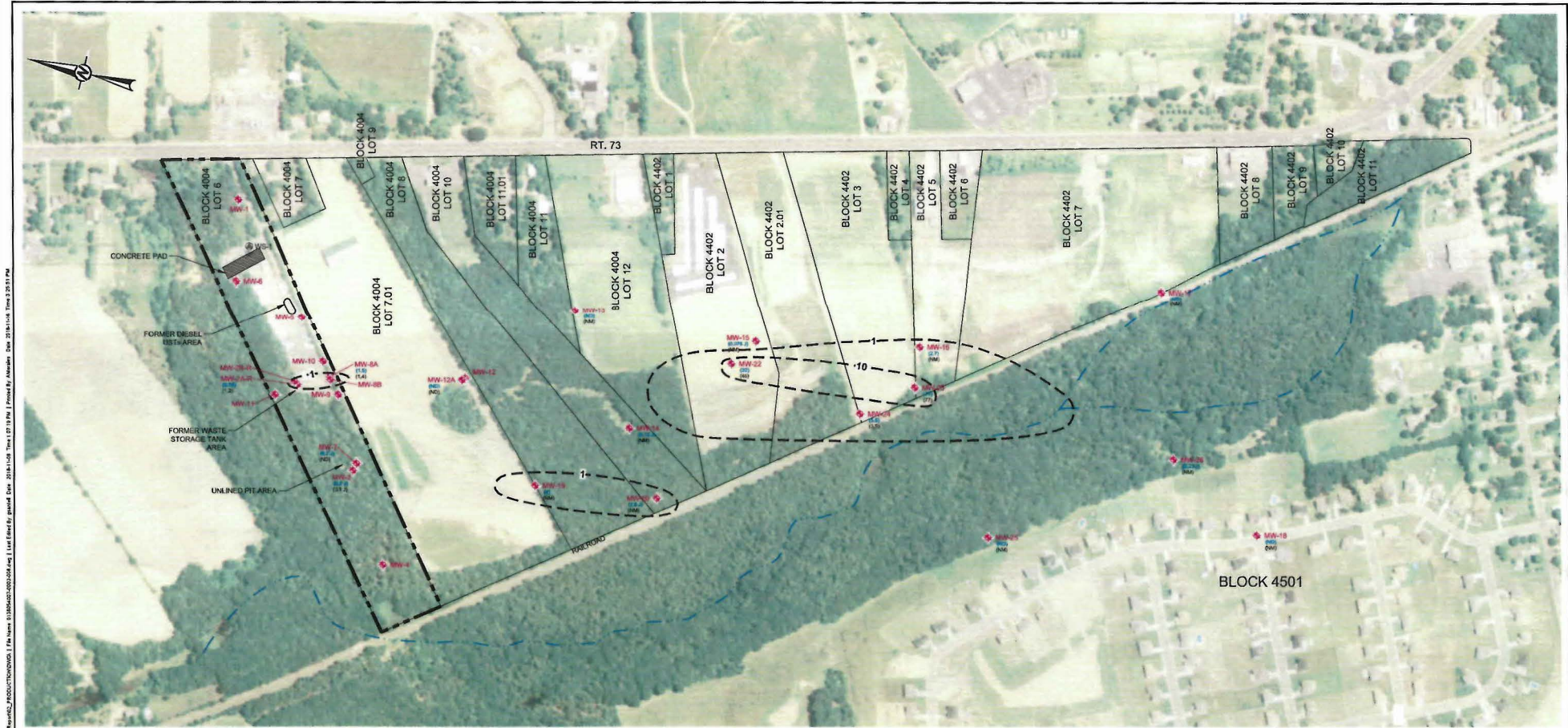
EPA provided information regarding the cleanup of the Lightman Drum Superfund Site to the public through public meetings, the Administrative Record file for the Site and announcements published in the Courier-Post newspaper. EPA encourages the public to gain a more comprehensive understanding of the 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 Remedial Project Manager (212) 637-4414	Natalie Loney Community Relations (212) 637-3639
---	--

U.S. EPA
290 Broadway, 19th Floor
New York, New York 10007-1866 or online at
<https://www.epa.gov/superfund/lightman-drum>

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.



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LEGEND	
---	APPROXIMATE PROPERTY LINE - LIGHTMAN DRUM SITE
---	PUMP BRANCH CREEK (SEE NOTE 1)
- - - - -	PCE 1 ug/L ISO-CONCENTRATION CONTOUR (2017)
(0.25)	PCE CONCENTRATION (DECEMBER 2017) ug/L
(1.0)	PCE CONCENTRATION (SEPTEMBER 2017) ug/L
⊙	ONSITE WATER SUPPLY WELL (LOCATION APPROXIMATE)
★	MONITORING WELL

- NOTES**
- APPROXIMATE CREEK LOCATION ESTIMATED FROM 1995 AERIAL PHOTO EPHEMERAL IN VICINITY OF LIGHTMAN PROPERTY.
 - MW-2A, MW-2B AND MW-21 WERE DECOMMISSIONED DURING SOURCE REMOVAL ACTION ACTIVITIES IN NOVEMBER 2007. REPLACEMENT WELLS MW-2A-R AND MW-2B-R WERE INSTALLED IN FEBRUARY 2008.
 - NO = NOT DETECTED
 - NM = NOT MEASURED

- REFERENCE(S)**
- AERIAL PHOTOGRAPH FROM TAKEN FROM USDA GEOSPATIAL DATASET, DATED 2005.
 - MONITORING WELLS SHOWN WERE BASED ON SURVEY INFORMATION SUPPLIED BY JAMES M. STEWART, INC. MW-2A-R AND MW-2B-R WERE SURVEYED BY JOHN P. HOUMEN PROFESSIONAL LAND SURVEYOR ON APRIL 8, 2008. MONITORING WELLS MW-12A, MW-12, MW-23, MW-24, MW-25, AND MW-26 FROM MONITORING WELL CERTIFICATION FORM 5 SURVEYED BY VARGO ASSOCIATES ON DECEMBER 26, 2012.
 - BLOCK 4402 AND BLOCK 4004 PARCEL BOUNDARIES FROM GIS DATABASE OF NEW JERSEY BLOCK 4411 PARCEL BOUNDARY FROM DIGITAL FILE LightmanDrum_12-20-12_PL_01.mxd SURVEYED BY VARGO ASSOCIATES.

CLIENT
 LIGHTMAN YARD PRP GROUP

PROJECT
 LIGHTMAN DRUM SITE
 WINSLOW TOWNSHIP, NEW JERSEY
 RI/FS REPORT

TITLE
 PCE 2017 MONITORING

CONSULTANT	YYYY-MM-DD	2018-11-16	
	DESIGNED	NAM	
	PREPARED	GLS	
	REVIEWED	HAL	
	APPROVED	RAJ	
PROJECT NO.	CONTROL	REV	FIGURE
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ATTACHMENT B

PUBLIC NOTICE

Is Trump's team up for a trade war?

In a time of volatile markets, they lack policy experience of previous advisers

Josh Boak, Jonathan Lemire and Jill Colvin
ASSOCIATED PRESS

WASHINGTON – Facing a trade war against China that has shaken the global economy, President Donald Trump gathered his most trusted economic aides in the Oval Office.

The assembled brain trust for Friday's urgent consultations included an economics chief best known for his stint as a cable TV commentator; a trade adviser whose pro-tariff views are outside the economic mainstream; and a treasury secretary who made millions off the housing crisis and then turned to financing Hollywood movies.

Where past presidents have relied on top academics, business leaders and officials with experience in prior administrations, Trump has gone a different route, building a crew of economic advisers known more for their allegiance to him than their policy chops.

Now, facing a test caused largely by Trump's determination to force China to provide the U.S. with better trade terms, questions are mounting about whether the team is up to the challenges that lie ahead – and whether Trump would listen to them anyway.

The key for any president in a moment of economic uncertainty is to have a talented team of advisers he can listen to and trust, said Austan Goolsbee, a University of Chicago economist who was a top aide to President Barack Obama.

"The tougher the situation, the more important it is to have good advisers," Goolsbee said. "But President Trump does not show any sign of listening to economists, so it probably doesn't matter who is on the econ team. But, boy, is that a scary idea if we are going through a serious downturn."

As Trump's concern over the economy has grown, so has the pool of voices from which he seeks advice.

He has called prominent friends like New England Patriots owner Robert Kraft and Fox Business Network host Lou Dobbs. He praises surrogates' appearances on television after they praise his handling of the economy. And he grouches about the quality of the advice he is receiving from aides, according to two Republicans close to the White House who spoke on condition of anonymity because they were not authorized to speak publicly about private conversations.

A big focus of Trump's team has been messaging – convincing the public there is no reason for alarm, despite a decline in factory output, the volatile stock market and the recent drop in consumer confidence.

The aides point to consumer spending and the low 3.7% unemployment rate as reasons why a downturn is unlikely, yet their devotion to the president's desire to project strength has at times strained their own credibility.

Larry Kudlow, the president's top economic adviser



White House trade adviser Peter Navarro, front left, favors tariffs, but many economists disagree.
MANUEL BALCE CENETA/AP FILE

and a former CNBC commentator, said on CNBC that 2017's \$1.5 trillion worth of tax cuts had "virtually paid" for themselves through stronger growth – even though the budget deficit has jumped more than 20% this year.

Treasury Secretary Steve Mnuchin told reporters ahead of the 2018 elections that a separate middle-class tax cut was being developed, but it never materialized as promised.

Trade adviser Peter Navarro, a cheerleader for tariffs, told CNN this month that the tariffs are "not hurting anybody here" – even though Home Depot, Macy's and other companies have warned about the damage to corporate profits and academic research has quantified a cost being borne by U.S. consumers.

Trump has tried to put the blame for the recent turbulence on Federal Reserve Chair Jerome Powell, whose credibility and political independence are considered crucial for calming financial markets worldwide. Trump remains frustrated with Mnuchin for recommending Powell – one reason some think acting chief of staff Mick Mulvaney has taken on an increasingly active role.

Trump's team has its fans. Stephen Moore, a long-time Trump economic adviser whose nomination to a seat on the Federal Reserve Board was pulled, praised Kudlow as "spectacular" and said Mulvaney's role advising Trump on the economy has been underappreciated. He called Mulvaney probably the second most important economic voice in the administration.

"Everybody's concerned about the fact the economy's slowed down," said Moore, who thinks the prob-

lem has been overstated. "I think people are going to look foolish a couple of months from now."

The risk for Trump isn't necessarily a recession, but a slowdown in growth that undermines his promise to voters that the economy has been renovated for the better under his watch.

Trump pledged consistent growth of more than 3% annually, but the Congressional Budget Office forecast Wednesday that it will be closer to 2% in 2020 and drift further downward in the years to come.

An organic slowdown in growth – not even a recession – would be tough on Trump's reelection chances and he knows it, which is why he has aides talking up the economy on TV as he repeatedly hammers the Fed, said a former senior White House official who spoke on condition of anonymity to discuss private conversations. The surest relief Trump could offer on the economy would be backing off the trade wars with China. But for the moment, the president is headed in the opposite direction, announcing increased levels of tariffs on Chinese goods Friday.

The Trump White House appears to be conducting its economic policy on a more improvised basis than past administrations, said Douglas Holtz-Eakin, former director of the Congressional Budget Office and president of the center-right American Action Forum.

He added that the president is getting a real-time lesson that a market economy seldom follows orders.

"They are learning the painful truth, which is the White House doesn't run the economy," Holtz-Eakin said. "This is the United States and the economy is a large, multifaceted animal that runs on its own."

North Carolina inmates to be heard on bias claims

Martha Waggoner
ASSOCIATED PRESS

RALEIGH, N.C. – Four death row prisoners will argue to North Carolina's highest court that racial bias so infected their trials that they should be re-sentenced to life in prison as attorneys revive arguments about a repealed law on race and capital punishment.

The state Supreme Court was to hear arguments Monday and Tuesday in the cases of four death row inmates who briefly were resentenced to life without parole when legislators approved the Racial Justice Act in 2009. The law was repealed four years later.

Justices also will hear from attorneys for two other death row prisoners whose claims under the act weren't decided before the law was repealed.

"We found the evidence (of racial bias), then the legislature repealed the law," said David Weiss, staff attorney at the Center for Death Penalty Litigation. "The question is: Can we act as if that evidence was never uncovered?"

The center describes differing types of racial bias in all the cases, including prosecutors who described a black juror with a criminal history as a "thug" while using "a fine guy" to describe a white juror who had trafficked in drugs. But it said that a statistical study showed in all the cases that prosecutors struck qualified black jurors at far higher rates than white jurors. In some cases, an all-white jury decided the fate of the defendants sentenced to death.

Under the act, condemned men and women could challenge their death sentences by using statistics to show that race tainted their trials. When Republicans took control of the legislature and amended the law in 2012, they set a new limit on what statistics can be used and said those numbers alone couldn't be used to show race was a significant factor in a death row prisoner's conviction or sentence.

Legislators repealed the law in 2013, and the four who had been resentenced to life behind bars were returned to death row. They include Christina Walters, one of just three women on North Carolina's death row.



Marcus Robinson was removed from death row in North Carolina after a judge found racial bias in his case.
SHAWN ROCCO/THE NEWS & OBSERVER VIA AP

Sen. Floyd McKissick, a sponsor of the 2009 RJA, said the act didn't go far enough in making amends for the unfairness of the trials and sentences of African American defendants.

"RJA is a remedy, but the remedy did not fit the egregiousness of what these defendants suffered," he said. "Rather than having sentences changed from death to life without parole, they really should have been given a new trial that was free of racial bias."

North Carolina has 142 people on death row. Fifty-two, or about 36% are white. The other 90 prisoners, or about 63%, are black, Native American or other. The overall state population is almost 71% white.

A spokeswoman for the state attorney general's office, which is fighting claims under the act, declined to comment on pending litigation. In legal filings, Senior Deputy Attorney General Danielle Marquis Elder wrote that the issue before the justices is only about whether lower courts correctly voided the claims after the act was repealed.

She also wrote that the prisoners can raise claims of racial discrimination through other procedures, such as the Batson claim, based on a 1986 U.S. Supreme Court decision that qualified jurors can't be kicked out of jury pools because of their race or gender.

Homes
COURIERPOSTONLINE.COM/HOMES



EPA Invites Public Comment on Proposed Amendment for Cleanup of the Lightman Drum Superfund Site, Winslow Township, New Jersey

The U.S. Environmental Protection Agency has issued a proposed amendment to the 2009 Record of Decision (ROD) for the Lightman Drum Superfund site in Winslow Township, New Jersey. A 30-day public comment period on the Amendment to the ROD, which identifies the EPA's modifications to the remedy and the basis for the modifications, begins on **August 26th, 2019 and ends on September 24th, 2019.**

EPA's Amendment to the 2009 ROD recommends Monitored Natural Attenuation (MNA), or a reliance on natural biological processes in reducing the level of contaminants for the areas of high groundwater contamination (hot spots) instead of groundwater extraction and treatment. Since removal of the groundwater contaminant sources began in 2013, collection and analysis of groundwater samples has shown that hotspots, areas contaminated with tetrachloroethylene (PCE) and trichloroethylene (TCE), are no longer detectable. EPA will continue to collect and analyze groundwater samples for the duration of the cleanup to monitor the further degradation of these contaminants and ensure the effectiveness of the remedy.

During the public comment period, EPA will hold a public meeting to receive comments on the proposed amendment of the remedy and answer any questions. The meeting will be held on **September 11th, 2019 at 6:30 PM at Bud Duple (Winslow Township) Senior Center, 33 Cooper Folly Rd, Atco, New Jersey.**

The Administrative Record, containing all relevant information, is available at www.epa.gov/superfund/lightman-drum, or you can request a copy by mail by calling Lindsay Carrera, EPA's Community Involvement Coordinator, at (212) 637-3621.

Written comments on the Proposed Plan, should be postmarked no later than **September 24th, 2019**, and may be mailed to Renee Gelblat, EPA Remedial Project Manager, U.S. EPA, 290 Broadway, 19th floor, New York, NY 10007-1866 or e-mailed no later than **September 24th, 2019** to gelblat.renee@epa.gov.

The Administrative Record file containing the documents used or relied on in developing the alternatives and preferred cleanup plan is available for public review at the following information repositories:

Online at www.epa.gov/superfund/lightman-drum
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

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ATTACHMENT C

PUBLIC MEETING TRANSCRIPT

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION 2

LIGHTMAN DRUM COMPANY SUPERFUND SITE

PROPOSED PLAN PUBLIC MEETING

Winslow Township Senior Center
33 Cooper Folly Road
Atco, New Jersey 08004

September 11, 2019.
6:30 p.m.

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APPEARANCES
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EPA PRESENT:

LINDSAY CARRERA, COMMUNITY INVOLVEMENT COORDINATOR

RENEE GELBLAT, REMEDIAL PROJECT MANAGER

JOHN GORIN

CHUCK NACE

1 - - -

2 P R O C E E D I N G S

3 - - -

4 MS. CARRERA: Hi, everyone.

5 So like I said, my name is Lindsay
6 Carrera. I am a Community Involvement
7 Coordinator at the U.S. EPA. We're meeting
8 here tonight to discuss the Lightman Drum
9 Company Superfund site.

10 We do have an amendment to the
11 proposed plan -- I am sorry, proposed
12 amendment to the record of decision from 2009.
13 Because this is a public meeting, everything
14 that is stated here will be recorded in our
15 administrative record, will be available both
16 in the Camden County Library, as well as
17 on-line.

18 I will ask that after the
19 presentation that the Remedial Project
20 Manager, Renee Gelblat, gives, that you do
21 state your name and your question loud enough
22 for our stenographer to hear. And I do
23 encourage everybody to pick up at the
24 presentation a fact sheet we've made about the
25 site, a copy of the proposed plan if you're

1 interested, although it is available also
2 online, as well as some maps that may be
3 useful about what's been happening at the
4 site.

5 If you have any questions or
6 comments after, too, not only will questions
7 from tonight be printed in the responsiveness
8 summary at the end of this process of public
9 commenting, you can also reach out to us at
10 any time. My information is available there.

11 Renee, do you want to start?

12 MS. GELBLAT: Sure. Sure.

13 Welcome, everybody. I am Renee
14 Gelblat. I am the Remedial Project Manager.
15 I've been working on this project since 2005.
16 And we're here to discuss a proposed amendment
17 to portion of the groundwater remedy at the
18 Lightman Drum Superfund site.

19 So why are we here? In 2009, we
20 made a decision on what to do about the
21 groundwater at the site, and we were proposing
22 a change. And since it's a pretty big change,
23 we need to come back to you and go through
24 pretty much this whole process all over again
25 to ask for your comments and let you know

1 what's going to go on.

2 So we're here to explain the
3 proposed change, answer your questions and ask
4 for your comments.

5 Okay. So we're going to do a
6 little recap of where we were in 2009. This
7 is the site out here outlined in green. This
8 is Route 73. For those of you from the area,
9 this was the Camping World. So this is the
10 site.

11 This area here is where there was
12 some underground storage tanks, and this area
13 here in the woods was an unlined pit.

14 Okay. So there were two
15 contaminants, perchloroethylene and
16 trichloroethylene. This is what PCE,
17 perchloroethylene, looked like at the time of
18 the 2009 ROD. We had one plume, which is -- a
19 plume is the extent of the underground --
20 underground or groundwater area. This is
21 where those tanks were. And this is the
22 unlined pit.

23 So the things to look at are these
24 colored areas, which are the areas of over a
25 hundred parts per billion of PCE, and this

1 line is the one part per billion line which
2 shows the extent. So here's also high
3 concentration and how far it extended in
4 2009.

5 And trichloroethylene is the other
6 groundwater contaminant. It also started at
7 the area where those underground tanks were.
8 These are the hot areas. This is how far it
9 got. This is not quite as hot. And this is
10 how far the other plume got.

11 So in 2009, we proposed a remedy
12 for this groundwater issue. We issued what's
13 called a record of decision, which is the
14 formal document where we tell you what we've
15 decided.

16 So we divided the groundwater into
17 three parts. The source area, which is where
18 those two, the tanks were and the unlined pit
19 were. We put in an air sparging and soil
20 vapor extraction system. Air sparging is
21 when you blow air into the ground. So we put
22 in tubes and blew air right at the top of
23 where the groundwater was so they would bubble
24 up.

25 And then the soil vapor extraction

1 system is basically a giant vacuum to pull the
2 fumes out. And then they went to an activated
3 carbon filter system where it got trapped and
4 then reprocessed the carbon.

5 The downgrading in areas, we saw
6 those big, yellow spots. Those are the
7 hot-spots. We proposed taking it out and
8 treating the water. And site-wide, every
9 place else we're going to do monitor natural
10 attenuation.

11 It turns out that a lot of these
12 chemicals are unstable under the ground and
13 then they deteriorate. Some of them will
14 deteriorate because there's bacteria in them
15 and some of them would just deteriorate. So
16 we were just watching -- we put in a series of
17 wells to watch it.

18 And then institutional controls are
19 legal documents, and in this case there's one
20 in place to prevent people from putting wells
21 in the area where it's contaminated.

22 So since the ROD was issued in
23 2009, we built the air sparging and soil vapor
24 extraction system. It went online in 2013.
25 So from 2013 to 2017, in the source area, the

1 PCE decreased from 4200 micrograms per liter
2 or parts per billion to less than 5; and the
3 TCE decreased from 2100 parts per billion also
4 to less than 5.

5 The system continues to operate
6 because the clean-up going forward is one
7 part per billion. So we're not quite there
8 yet, but we're getting really, really
9 close.

10 So in the hot-spots, because it was
11 supposed to be an extraction of treatment
12 system, we had to do what's called a
13 predesigned investigation. When we have
14 enough data to make a decision, it's not
15 enough -- it's not enough information to do
16 construction.

17 So it's enough to decide that it
18 had to come out, but it wasn't enough to
19 actually build the system. So we went back in
20 and took more samples over time, and what we
21 found with the hot-spots in 2011 were small in
22 volume. There was clean water above and below
23 it. It was a small lens of where the
24 contaminated levels were in.

25 And what we found now in 2017 is

1 that the hot-spots can no longer be seen. The
2 highest values for PCE is now 77, and for TCE
3 it's 67. So since we defined the hot-spot as
4 over a hundred, they're really not there. And
5 the values continue to drop.

6 So I am going to show you a series
7 of maps that really illustrate what happened.
8 So this is PCE. This is 2002 to 2005. This
9 is before we wrote the ROD. And the thing to
10 watch are these hot-spots, which are the
11 orange, and this line which is the one part
12 per billion line. So that's the extent. So
13 2002 to 2005.

14 Next one. 2006 to 2007, it's still
15 down here but the hot-spots have gotten
16 smaller. Next one is 2011. As we were
17 thinking we were going to do construction.
18 This is after we made the decision in the ROD
19 but before we actually built the system to get
20 rid of the source area. You can see now that
21 it's no longer near the homes. And the --
22 there are fewer hot-spots.

23 And for the last one, this is after
24 we turned on the system. We turned it on in
25 2013 and it ran for four years. And this is

1 even smaller and the hot-spots are now gone as
2 areas of greater than a hundred.

3 So I'll show you a series of maps
4 for the TCE. Again, before we started.
5 There's the hot-spots. There's the edge of
6 the plume. There's the hot-spot. 2006.
7 2007. 2011, just before we turned on the
8 system. And then 2017.

9 So these hot-spots are totally gone
10 and it's now nowhere near the homes.

11 Also since the ROD was issued, the
12 site-wide groundwater, that was monitored
13 natural attenuation. So how do we know that
14 was actually happening?

15 We measured PCE and TCE, which were
16 the contaminants we cared about, and their
17 degradation products. So as they break down,
18 they form other compounds, so we measured what
19 we start with and we measured all the
20 compounds that it breaks down to.

21 So there were decreases in the
22 levels of PCE and TCE and temporary rise in
23 the levels of the degradation products.
24 Because out of the case, the amount they had
25 was very little to more and then less as

1 though products decayed.

2 And then as you can see from the
3 maps, the overall extent of both plumes is
4 decreased. Therefore, we know that monitored
5 natural attenuation is occurring.

6 So we had to do a risk assessment.
7 We did a risk assessment originally to find
8 out who was at risk and what were they at risk
9 from.

10 And so we looked at current and
11 future exposures to groundwater and their
12 vapors for residents, site workers,
13 construction workers and trespassers, and we
14 redid it again to see now that these levels
15 are lower, is it a risk to anybody.

16 So here are the conclusions. Any
17 vapors from the groundwater still do not pose
18 an unacceptable risk. The contaminants of
19 concern are the same ones they were before,
20 TCE and PCE. The levels of groundwater
21 contamination are still above the New Jersey
22 Pineland standards, which is one part per
23 billion for both of them.

24 And if the contaminated groundwater
25 we used in the future, it would still pose an

1 unacceptable risk to human health. So there's
2 still a problem, so we still have to do
3 something. We can't walk away from this.

4 So why amend the remedy?

5 The source areas' contamination is
6 mostly gone. The hot-spots are gone as
7 identifiable areas greater than a hundred
8 parts per billion. Sampling has shown to
9 monitored natural attenuation is occurring
10 throughout the plume. Extraction and
11 treatment is intrusive to the property where
12 it's located. We have to get onto those
13 properties where the hot-spots were, get
14 permission, do the construction, operate the
15 system.

16 And then when that was done, you
17 have to take the system apart and move the
18 whole thing out.

19 And since those hot-spot areas are
20 gone and continue to go lower, there's no
21 added environmental burden to keep an
22 extraction and treatment system on the books.
23 And there's a legal requirement when a portion
24 of the remedy changes significantly. Because
25 we told you in 2009 this is something we're

1 going to do.

2 And since we're not going to do it,
3 we're required to tell you that we're not
4 going to do it and explain to you why we're
5 not going to do it.

6 So we did a new feasibility study.
7 Feasibility studies are we look at all the
8 options. And since this is an amendment, not
9 a full feasibility as necessary, so all we had
10 to do was just keep the same remedial action
11 objectives which would prevent exposure to
12 contaminated groundwater, minimize the
13 migration of the groundwater contamination and
14 restore the groundwater to the New Jersey
15 Pineland standards. And because this is an
16 amendment -- next slide -- we only had to look
17 at two options. One is to keep it the way it
18 is and the other to change it.

19 Nothing else changes. The soil
20 vapor extraction, air sparging system
21 continues to operate until we get the numbers,
22 which is one, in the source area. In the
23 institutional control, controls still to be in
24 there because we're still not at one. And
25 just everything else remains the same, it's

1 just we're not going to build the extraction
2 and treatment system.

3 So we go through the same nine
4 criteria we did originally. I don't know if
5 either one of you were here when we did the
6 original system in 2009. We had about six
7 options we looked at. But now we're only
8 looking at the two. But these are the same
9 nine criteria that we do every time we make a
10 decision.

11 So it's got to be protective of
12 human health and environment and complies with
13 all state and federal regulations, which both
14 of these are. And then we have the balancing
15 criteria. The long-term effectiveness, will
16 it be permanent. Reduction of toxicity and
17 mobility of volume, that will be the same for
18 both. Short-term effectiveness, the
19 extraction and treatment system short
20 term will cause a problem where it's being
21 built.

22 Implementability. The extraction
23 treatment system, we have to actually
24 implement it and build it and get the access
25 and all that. And it cost more. And then

1 we have modifying criteria, which is
2 supporting to concerns, would be New Jersey
3 Department of Environmental Protection,
4 and then any concerns we get from the
5 community.

6 Okay. So here is our proposed
7 amendment. Based on the data we've collected
8 in the last ten years, the source area of
9 groundwater contamination is mostly gone. The
10 hot-spots -- so there's no more sources
11 basically to add to the problem.

12 Hot-spots of discrete areas of
13 elevated contamination are gone. We've shown
14 the monitored natural attenuation is
15 occurring. Therefore, we're proposing to
16 change the remedy in the hot-spot areas from
17 extraction and treatment to monitor natural
18 attenuation.

19 So what happens next? We're going
20 to collect the response to everybody's
21 comments. The public comment period goes to
22 September 24th. Then we'll issue the ROD
23 amendment.

24 As necessary, we may have to modify
25 any existing legal agreements. Right now we

1 have an existing legal agreement with the
2 people responsible for cleaning up the
3 contamination at the Lightman site, and that
4 agreement also says extraction and treatment.
5 So we may have to put something in there that
6 says you don't have to do extraction and
7 treatment, it's all monitor natural
8 attenuation.

9 And we'll continue to operate all
10 components of the remedy until the remediation
11 goals, which is less than one part per
12 billion, is what we see everywhere we monitor.
13 And we're monitoring in 24 or 25 spots right
14 now.

15 And right now we think that will be
16 enough, but that might change in the future.

17 So send the questions to me before
18 September 24th. That's my phone number.
19 That's my email address. You can mail it.
20 You can call it in. You can get it any way
21 you want to. This information is on the
22 website. It's in the proposed plan.

23 So any questions?

24 MS. CARRERA: At this point we'll
25 open it up.

1 Like I stated, if you could state
2 your name loudly with any questions or
3 comments. You can also submit them online or
4 by mail.

5 MS. GELBLAT: Yeah. If you don't
6 want to do it today, you can send it any way
7 you would like.

8 You have nothing?

9 (No response)

10 MS. GELBLAT: Okay.

11 AUDIENCE MEMBER: No comment. I
12 don't have nothing.

13 AUDIENCE MEMBER: You explained
14 everything perfect.

15 MS. CARRERA: All right. At this
16 point, if there are no more questions or
17 comments from the EPA team, I think we will
18 conclude this meeting.

19 If you do have any follow-up
20 questions, all our information is available.
21 Most of this is online. And we do have a
22 facts sheet there, if you would like to take
23 it home and review it further before
24 submitting a different comment after some
25 review.

1 MS. GELBLAT: Okay. The only
2 important thing is it has to be done by
3 September 24th.

4 MS. CARRERA: Yes. Post-marked no
5 later than September 24th if you want to mail
6 it. But September 24th.

7 MS. GELBLAT: Thank you.

8 MS. CARRERA: Thank you.

9 - - -

10 (Hearing concluded at 6:48 p.m.)

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C E R T I F I C A T I O N

I, hereby certify that the proceedings and evidence noted are contained fully and accurately in the stenographic notes taken by me in the foregoing matter, and that this is a correct transcript of the same.

Court Reporter - Notary Public

(The foregoing certification of this transcript does not apply to any reproduction of the same by any means, unless under the direct control and/or supervision of the certifying reporter.)

ATTACHMENT D

WRITTEN COMMENTS

There were no public comments received during the public comment period.

APPENDIX IV

ADMINISTRATIVE RECORD INDEX

COMPREHENSIVE ADMINISTRATIVE RECORD INDEX OF DOCUMENTS

**FINAL
08/26/2019**

REGION ID: 02

Site Name: LIGHTMAN DRUM COMPANY
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 OUID: 01
 SSID: 02MS
 Action: ROD Amendment

DocID:	Doc Date:	Title:	Image Count:	Doc Type:	Addressee Name/Organization:	Author Name/Organization:
336570	8/26/2019	COMPREHENSIVE ADMINISTRATIVE INDEX FOR OU1 FOR THE LIGHTMAN DRUM COMPANY SITE	9	Administrative Record Index		(US ENVIRONMENTAL PROTECTION AGENCY)
103730	Undated	LIGHTMAN DRUM COMPANY, ADMINISTRATIVE RECORD FILE, INDEX OF DOCUMENTS.	9	List/Index		(US ENVIRONMENTAL PROTECTION AGENCY)
105193	Undated	LIGHTMAN DRUM COMPANY, ADMINISTRATIVE RECORD FILE UPDATE, INDEX OF DOCUMENTS.	1	List/Index		(US ENVIRONMENTAL PROTECTION AGENCY)
110445	11/15/2000	Administrative Order on Consent for Remedial Investigation and Feasibility Study, U.S. EPA Index No. CERCLA-02-2000-2034, In the Matter Of Lightman Drum Company Superfund Site, Colonial Heights Packaging Inc., et al. Respondents, Proceeding Under...	79	Legal Instrument		(US ENVIRONMENTAL PROTECTION AGENCY)
110447	08/01/2001	Report: Public Health Assessment for Lightman Drum Company Site (a/k/a Lightman Drum Company), Winslow Township, Camden County, New Jersey, EPA Facility ID: NJD014743678, prepared by New Jersey Department of Health and Senior Services...	39	Report		(US DEPT OF HEALTH AND HUMAN SERVICES)
110437	11/23/2001	Letter to Mr. P. Stephen Finn, C. Eng., Project Coordinator, Golder Associates Inc., from Mr. Joseph A. Gowers, Project Manager, Southern New Jersey Remediation Section, U.S. Environmental Protection Agency, re: Enclosed copy of the Final Public Health...	1	Letter	FINN,P. STEPHEN (GOLDER ASSOCIATES INCORPORATED)	GOWERS,JOSEPH (US ENVIRONMENTAL PROTECTION AGENCY)

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109721	07/01/2002	Report: Final Remedial Investigation/Feasibility Study Work Plan, Lightman Drum Company Superfund Site, Winslow Township, New Jersey, prepared by Golder Associates Inc., prepared for Lightman Yard PRP Group, July 2002.	400	Report	(LIGHTMAN YARD PRP GROUP)	(GOLDER ASSOCIATES INCORPORATED)
110438	07/03/2002	Letter to Mr. P. Stephen Finn, C. Eng., Lightman Drum Company Site, Project Coordinator, Golder Associates, Inc., from Ms. Carole Petersen, Chief, New Jersey Remediation Branch, U.S. Environmental Protection Agency, Region 2, re: Approval of May 2002...	2	Letter	FINN,P. STEPHEN (GOLDER ASSOCIATES INCORPORATED)	PETERSEN,CAROLE (US ENVIRONMENTAL PROTECTION AGENCY)
110439	07/23/2002	Letter to Mr. Joseph Gowers, Project Manager, New Jersey Remediation Branch, Emergency and Remedial Response Division, U.S. Environmental Protection Agency, Region 2, from Mr. P. Stephen Finn, C.Eng., Project Coordinator, Golder Associates Inc...	1	Letter	GOWERS,JOSEPH (US ENVIRONMENTAL PROTECTION AGENCY)	FINN,P. STEPHEN (GOLDER ASSOCIATES INCORPORATED)
110433	12/01/2005	Report: Addendum Remedial Investigation/Feasibility Study Work Plan, Lightman Drum Company Superfund Site, Winslow Township, New Jersey, prepared by Golder Associates Inc., prepared for Lightman Yard PRP Group, December 2005.	19	Report	(LIGHTMAN YARD PRP GROUP)	(GOLDER ASSOCIATES INCORPORATED)
110440	03/01/2006	Letter to Mr. P. Stephen Finn, Chemical Engineer, Project Coordinator, Golder Associates Inc., from Ms. Carole Petersen, Chief, New Jersey Remediation Branch, U.S. Environmental Protection Agency, Region 2, re: Review of the Addendum Remedial...	3	Letter	FINN,P. STEPHEN (GOLDER ASSOCIATES INCORPORATED)	PETERSEN,CAROLE (US ENVIRONMENTAL PROTECTION AGENCY)

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110441	04/20/2006	Email Message to Mr. P. Stephen Finn, Project Coordinator, Golder Associates Inc., from Ms. Tanya Mitchell, U.S. Environmental Protection Agency, Region 2, re: Lightman Drum Analytical, April 20, 2006. (Final approval of analyte list for the Addendum...	1	Email	FINN,P. STEPHEN (GOLDER ASSOCIATES INCORPORATED)	MITCHELL,TANYA (US ENVIRONMENTAL PROTECTION AGENCY)
110434	03/06/2007	Letter to Ms. Renee Gelblat, Remedial Project Manager, New Jersey Superfund Branch, Emergency and Remedial Response Division, U.S. Environmental Protection Agency, Region 2, from Mr. P. Stephen Finn, C.Eng., Project Coordinator, Golder Associates Inc...	12	Letter	GELBLAT,RENEE (US ENVIRONMENTAL PROTECTION AGENCY)	FINN,P. STEPHEN (GOLDER ASSOCIATES INCORPORATED)
110435	04/02/2007	Letter to Ms. Renee Gelblat, U.S. Environmental Protection Agency, Region 2, from Mr. P. Stephen Finn, C.Eng., Principal, Golder Associates Inc., re: RI/FS Work Plan Addendum #2, Additional Groundwater Transects, Lightman Drum Company Site...	7	Letter	GELBLAT,RENEE (US ENVIRONMENTAL PROTECTION AGENCY)	FINN,P. STEPHEN (GOLDER ASSOCIATES INCORPORATED)
110436	05/08/2007	Letter to Ms. Renee Gelblat, U.S. Environmental Protection Agency, Region 2, from Mr. P. Stephen Finn, C.Eng., Principal, Golder Associates Inc., re: Revised RI/FS Work Plan Addendum #2, Additional Groundwater Transects, Lightman Drum Company Site...	7	Letter	GELBLAT,RENEE (US ENVIRONMENTAL PROTECTION AGENCY)	FINN,P. STEPHEN (GOLDER ASSOCIATES INCORPORATED)
110442	05/15/2007	Letter to Mr. P. Stephen Finn, Project Coordinator, Golder Associates, Inc., from Ms. Renee Gelblat, Remedial Project Manager, Southern New Jersey Remediation Section, U.S. Environmental Protection Agency, Region 2, re: Approval of Revised RI/FS...	1	Letter	FINN,P. STEPHEN (GOLDER ASSOCIATES INCORPORATED)	GELBLAT,RENEE (US ENVIRONMENTAL PROTECTION AGENCY)

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110446	09/13/2007	Administrative Settlement Agreement and Order on Consent for Removal Action, U.S. EPA Index No. CERCLA-02-2007-2007, In the Matter of Lightman Drum Company Superfund Site, Air Products and Chemicals, Inc., et al. Respondents, Proceeding Under Sections...	58	Agreement		(US ENVIRONMENTAL PROTECTION AGENCY)
110450	10/31/2007	Letter to Mr. David Rosoff, On-Scene Coordinator, Emergency and Remedial Response Division, U.S. Environmental Protection Agency, Region 2, from Mr. P. Stephen Finn, C.Eng., Project Coordinator, Golder Associates Inc., re: Revised Work Plan for Soil...	208	Letter	ROSOFF,DAVID (US ENVIRONMENTAL PROTECTION AGENCY)	FINN,P. STEPHEN (GOLDER ASSOCIATES INCORPORATED)
109710	11/02/2007	POLLUTION REPORT NO. 1 INITIAL BB1 FOR THE LIGHTMAN DRUM COMPANY SITE	6	Report		ROSOFF,DAVID (US ENVIRONMENTAL PROTECTION AGENCY)
109718	11/06/2007	Letter to Mr. Stephen Finn, Project Coordinator, Golder Associates, Inc., from Mr. David Rosoff, On Scene Coordinator, U.S. Environmental Protection Agency, Region 2, re: EPA Approval of the Final Soil Source Area Removal Action Work Plan...	1	Letter	FINN,STEPHEN (GOLDER ASSOCIATES INCORPORATED)	ROSOFF,DAVID (US ENVIRONMENTAL PROTECTION AGENCY)
109711	11/12/2007	POLLUTION REPORT NO. 2 FOR THE LIGHTMAN DRUM COMPANY SITE	6	Report		ROSOFF,DAVID (US ENVIRONMENTAL PROTECTION AGENCY)
109712	11/20/2007	POLLUTION REPORT NO. 3 BB1 FOR THE LIGHTMAN DRUM COMPANY SITE	6	Report		ROSOFF,DAVID (US ENVIRONMENTAL PROTECTION AGENCY)

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109713	12/04/2007	POLLUTION REPORT NO. 4 BB1 FOR THE LIGHTMAN DRUM COMPANY SITE	7	Report		ROSOFF,DAVID (US ENVIRONMENTAL PROTECTION AGENCY)
109714	01/22/2008	POLLUTION REPORT NO. 5 BB1 FOR THE LIGHTMAN DRUM COMPANY SITE	5	Report		ROSOFF,DAVID (US ENVIRONMENTAL PROTECTION AGENCY)
109715	02/05/2008	POLLUTION REPORT NO. 6 BB1 FOR THE LIGHTMAN DRUM COMPANY SITE	5	Report		ROSOFF,DAVID (US ENVIRONMENTAL PROTECTION AGENCY)
109716	05/03/2008	POLLUTION REPORT NO. 7 BB1 FOR THE LIGHTMAN DRUM COMPANY SITE	8	Report		ROSOFF,DAVID (US ENVIRONMENTAL PROTECTION AGENCY)
109709	06/06/2008	Letter to Ms. Renee Gelblat, United States Environmental Protection Agency, Region 2, from Mr. P. Stephen Finn, C.Eng., Principal, Golder Associates Inc., re: Addendum to Remedial Investigation Report, Un-Naturally Colored Soil Investigation...	47	Letter	GELBLAT,RENEE (US ENVIRONMENTAL PROTECTION AGENCY)	FINN,P. STEPHEN (GOLDER ASSOCIATES INCORPORATED)
109707	10/01/2008	Report: Revised Addendum Number One, Soil Source Area Removal Work Plan, Lightman Drum Superfund Site, Winslow Township, Camden County, New Jersey, prepared by Golder Associates Inc., October 2008.	82	Report		(GOLDER ASSOCIATES INCORPORATED)

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109719	10/09/2008	Letter to Mr. Stephen Finn, Project Coordinator, Golder Associates, Inc., from Mr. David Rosoff, On Scene Coordinator, U.S. Environmental Protection Agency, Region 2, re: EPA Approval of the Revised Addendum Number One to the Soil Source Area Removal...	1	Letter	FINN,STEPHEN (GOLDER ASSOCIATES INCORPORATED)	ROSOFF,DAVID (US ENVIRONMENTAL PROTECTION AGENCY)
110452	02/01/2009	Report: Final Baseline Human Health Risk Assessment and Screening Level Ecological Risk Assessment, Lightman Drum Company Site, Winslow Township, New Jersey, prepared by Golder Associates Inc., prepared for Lightman Drum PRP Group, February 2009	617	Report	(LIGHTMAN YARD PRP GROUP)	(GOLDER ASSOCIATES INCORPORATED)
110453	02/01/2009	Report: Final Feasibility Study, Lightman Drum Superfund Site, Winslow Township, Camden County, New Jersey, prepared by Golder Associates Inc., prepared for Lightman Yard PRP Group, February 2009.	164	Report	(LIGHTMAN YARD PRP GROUP)	(GOLDER ASSOCIATES INCORPORATED)
110451	02/01/2009	Report: Final Remedial Investigation Report, Lightman Drum Superfund Site, Winslow Township, Camden County, New Jersey, prepared by Golder Associates Inc., prepared for Lightman Yard PRP Group, February 2009.	1151	Report	(LIGHTMAN YARD PRP GROUP)	(GOLDER ASSOCIATES INCORPORATED)
109708	02/04/2009	Letter to Mr. David Rosoff, Emergency and Remedial Response Division, U.S. Environmental Protection Agency, Region 2, from Mr. Jonathan Rizzo, Senior Project Geologist and Mr. Robert J. Illes, P.G., Principal, Golder Associates Inc., re: Addendum No. 2...	21	Letter	ROSOFF,DAVID (US ENVIRONMENTAL PROTECTION AGENCY)	ILLES,ROBERT,J (GOLDER ASSOCIATES INCORPORATED) RIZZO,JONATHAN (GOLDER ASSOCIATES INCORPORATED)

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109720	02/05/2009	Letter to Mr. Stephen Finn, Project Coordinator, Golder Associates, Inc., from Mr. David Rosoff, On Scene Coordinator, U.S. Environmental Protection Agency, Region 2, re: EPA Approval of the Addendum Number Two to the Soil Source Area Removal Action...	1	Letter	FINN,STEPHEN (GOLDER ASSOCIATES INCORPORATED)	ROSOFF,DAVID (US ENVIRONMENTAL PROTECTION AGENCY)
110443	03/26/2009	Letter to Mr. P. Stephen Finn, Project Coordinator, Golder Associates, Inc., from Ms. Carole Petersen, Chief, New Jersey Remediation Branch, U.S. Environmental Protection Agency, Region 2, re: Approval of Final Remedial Investigation Report submitted...	1	Letter	FINN,P. STEPHEN (GOLDER ASSOCIATES INCORPORATED)	PETERSEN,CAROLE (US ENVIRONMENTAL PROTECTION AGENCY)
109717	04/13/2009	POLLUTION REPORT NO. 8 FOR THE LIGHTMAN DRUM COMPANY SITE	8	Report		ROSOFF,DAVID (US ENVIRONMENTAL PROTECTION AGENCY)
110444	04/23/2009	Letter to Mr. P. Stephen Finn, Project Coordinator, Golder Associates, Inc., from Ms. Carole Petersen, Chief, New Jersey Remediation Branch, U.S. Environmental Protection Agency, Region 2, re: Approval of Final Baseline Human Health Risk Assessment...	1	Letter	FINN,P. STEPHEN (GOLDER ASSOCIATES INCORPORATED)	PETERSEN,CAROLE (US ENVIRONMENTAL PROTECTION AGENCY)
110449	05/01/2009	Report: Superfund Program Proposed Plan, Lightman Drum Superfund Site, prepared by U.S. Environmental Protection Agency, Region 2, May 2009....	17	Work Plan		(US ENVIRONMENTAL PROTECTION AGENCY)

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109706	05/08/2009	Memorandum to File from Ms. Renee Gelblat, RPM, Southern New Jersey Remediation Section, U.S. Environmental Protection Agency, Region 2, re: Summary of Ranking Documents for the Lightman Administrative Record, May 8, 2009...	14	Memorandum	(FILE)	GELBLAT,RENEE (US ENVIRONMENTAL PROTECTION AGENCY)
110448	06/04/2009	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 Element, State of New Jersey...	1	Letter	LAPADULA,JOHN (US ENVIRONMENTAL PROTECTION AGENCY)	ROMINO,LEONARD (NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION)
105101	09/30/2009	Report: Record of Decision, Lightman Drum Company Superfund Site, Groundwater Remediation, Winslow Township, Camden County, New Jersey, prepared by U.S. Environmental Protection Agency, Region 2, September 30, 2009.	247	Report		(US ENVIRONMENTAL PROTECTION AGENCY)
111887	9/19/2011	Report: Record of Decision, Lightman Drum Company Superfund Site, Soil Remediation, Winslow Township, Camden County, New Jersey, prepared by U.S. Environmental Protection Agency, Region 2, September 19, 2011.	193	Report		MUGDAN, WALTER E (US ENVIRONMENTAL PROTECTION AGENCY)
580422	11/16/2018	TRANSMITTAL OF THE REMEDIAL INVESTIGATION/FOCUSED FEASIBILITY STUDY FOR OU1 FOR THE LIGHTMAN DRUM COMPANY SITE	1	Letter	GELBLAT,RENEE (US ENVIRONMENTAL PROTECTION AGENCY)	(GOLDER ASSOCIATES INCORPORATED)
580423	11/16/2018	REMEDIAL INVESTIGATION/FOCUSED FEASIBILITY STUDY FOR OU1 FOR THE LIGHTMAN DRUM COMPANY SITE	45	Report	(LIGHTMAN YARD PRP GROUP)	(GOLDER ASSOCIATES INCORPORATED)

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580421	04/05/2019	US EPA APPROVES THE REMEDIAL INVESTIGATION/FOCUSED FEASIBILITY STUDY FOR OU1 FOR THE LIGHTMAN DRUM COMPANY SITE	1	Letter	(GOLDER ASSOCIATES INCORPORATED)	GELBLAT,RENEE (US ENVIRONMENTAL PROTECTION AGENCY)
568911	8/15/2019	PROPOSED PLAN FOR OU1 TO AMEND A PORTION OF THE GROUNDWATER REMEDY FOR THE LIGHTMAN DRUM COMPANY SITE	15	Publication		(US ENVIRONMENTAL PROTECTION AGENCY)

APPENDIX V

STATE LETTER OF CONCURRENCE



State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION
Site Remediation and Waste Management Program
Mail Code 401-06
P.O. Box 420
Trenton, New Jersey 08625-0420
Telephone: 609-292-1250

PHILIP D. MURPHY
Governor

SHEILA Y. OLIVER
Lt. Governor

CATHERINE R. McCABE
Commissioner

September 26, 2019

Pat Evangelista, Acting Director
Emergency and Remedial Response Division
U.S. Environmental Protection Agency Region II
290 Broadway
New York, NY 10007-1866

RE: Lightman Drum Company Record of Decision Amendment Concurrence

Dear Mr. Evangelista:

The New Jersey Department of Environmental Protection (Department) has completed its review of the Record of Decision (ROD) Amendment, which modifies a portion of the ground water remedy selected in the 2009 ROD. The Department concurs with the selected remedy, namely Monitored Natural Attenuation (MNA) for the areas where the hot spots are located.

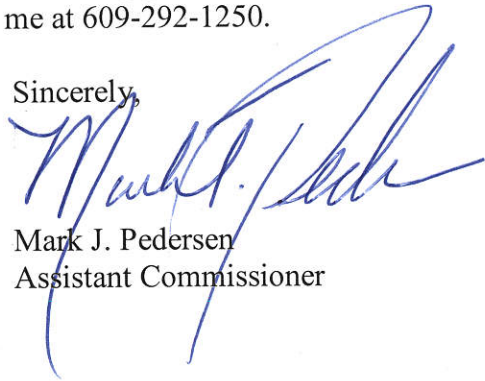
The ground water remedy selected in the 2009 ROD included extraction and treatment of ground water hot spots. Because the hot spots can no longer be detected, the remedy will now be MNA, in accordance with the ROD Amendment. In addition, institutional controls consisting of a Classification Exception Area and Well Restriction Area to limit future use of the ground water will remain in effect until remediation goals are met.

The amended remedy was chosen in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act, as amended, and, to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan. This decision is based on the Administrative Record file for this site. The response action selected in this ROD Amendment is necessary to protect the public health or welfare or the environment from actual or threatened releases of hazardous substances into the environment.

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, is cost effective, and uses permanent solutions and treatment technologies to the maximum extent practicable.

DEP appreciates the opportunity to participate in the decision-making process to select an appropriate remedy. If you have any questions, please call me at 609-292-1250.

Sincerely,



Mark J. Pedersen
Assistant Commissioner

CC: Stephen Maybury