UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

APR - 8 2010

SUBJECT: Request for Additional Funding, a Change in the Scope, and Exemption from the 12 Month and $2 Million Statutory Limits for a Removal Action at the Tank Car Corporation of America Site
Oreland, Montgomery County, Pennsylvania

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I. PURPOSE

The purpose of this Action Memorandum is to request additional funding, a change in the scope, and exemption from the 12 Month and $2 Million Statutory Limits imposed upon a time-critical Removal Action needed to mitigate the release and threatened release of hazardous substances at the Tank Car Corporation of America Site (Site) located on several parcels in the vicinity of 1725 Walnut Avenue in Oreland, Montgomery County, Pennsylvania. A removal site evaluation initiated by the On-Scene Coordinator (OSC) in accordance with Section 300.410 of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 C.F.R. § 300.410, identified threats to public health or welfare or the environment due to the release and/or threatened release of hazardous substances at and from the Site.

The Site consists of property upon which the Tank Car Corporation of America operated a railroad tank car rehabilitation business from approximately 1921 through 2002 (the TCCA Property) as well as adjacent residential and non-residential properties to which hazardous substances have migrated. On January 25, 2007, EPA selected a removal action for implementation at the TCCA Property which included, among other things, inventorying all above- and below-ground tanks and piping systems and off-site disposal of all hazardous substances within such tanks and pipes. On January 29, 2007, EPA issued Administrative Order No. CERC-03-2007-0097DC (Order) directing TCCA to perform the selected removal action. The Order became effective on February 1, 2007. TCCA arranged for the removal of most of the tank contents but did not complete the required work. During this time, EPA discovered a previously unidentified buried tank, soil contamination associated with buried tanks, and other

hazardous substances at the TCCA Property. On December 8, 2008, EPA approved additional funding and a scope change, and commenced a Fund-lead action to complete the work. Continuing removal site evaluation conducted by the OSC between November 2008 and October 2009 has identified elevated concentrations of hazardous substances which pose additional threats to human health and the environment which are not addressed by previously approved response actions. This Action Memorandum requests the funding and scope change needed to address the threats currently posed by the Site.

The OSC anticipates that more than $2 million and 12 months may be required to address the threats identified herein. As such, exemption from the $2 Million and 12 Month Statutory Limits imposed upon Removal Actions by the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended (CERCLA), is required. The OSC has determined that the Site continues to meet the emergency exemption criteria in Section 104(c)(1)(A) of CERCLA, 42 U.S.C § 9604(c)(1)(A), as further discussed within this Action Memorandum[1].

To mitigate the threats posed by the Site, additional CERCLA funding is necessary to continue a Removal Action pursuant to Section 300.415 of the NCP, 40 C.F.R. § 300.415, to prevent the release and/or substantial threat of release of hazardous substances from the Site and to protect public health, welfare, and/or the environment. A Removal Action Project Ceiling of $2,650,469, of which $2,524,094 are from the Regional Removal Allowance, is necessary to mitigate the threats as identified in this Action Memorandum. This represents an increase of $2,255,803 over the Removal Action Project Ceiling approved by EPA in December 2008. There are no nationally significant or precedent-setting issues associated with the response.

II. SITE CONDITIONS AND BACKGROUND

A. Site Description

1. Current Situation

See the December 8, 2008 Action Memorandum for basic situational information. The Site consists of property upon which the Tank Car Corporation of America operated a railroad tank car rehabilitation business from approximately 1921 through 2002 (the TCCA Property) as well as adjacent residential and non-residential properties to which hazardous substances have migrated. TCCA's operations included removal of various residual materials from railroad tank cars, sandblasting railroad tank cars, painting railroad tank cars, and performing repairs of railroad tank cars. Historical aerial photographs indicate the presence of at least 2 lagoons (impoundments) on the TCCA Property. These lagoons were used to contain various potentially

[1] Authority to approve continued removal action beyond the $2million/12 month statutory limitation pursuant to the "Emergency Waiver" set forth in Section 104(c)(1)(A) of CERCLA, 42 U.S.C. §9604(c)(1)(A), up to a total removal action cost of $6 million, has been delegated to the Associate Director, Office of Preparedness and Response, Region III Hazardous Site Cleanup Division pursuant to Delegation 14-2.

hazardous materials removed from tank cars. Several buried railroad tank cars and other tank cars and tanks were also used to contain hazardous materials.

A response action to address the threats posed by the TCCA Property was initially approved when EPA Region III signed an Action Memorandum on January 25, 2007. EPA did not initiate an action at that time. On January 29, 2007, EPA Region III issued the Order requiring TCCA to, among other things, remove the hazardous substances from tanks (including tank cars) located at the TCCA Property. TCCA did not complete all of the requirements of the Order. Although TCCA arranged for the removal of most of the tank cars and their contents, continuing removal site evaluation by the OSC identified at least one additional buried tank car containing hazardous substances and other hazardous substances in drums and other containers at the Site. EPA thus approved a change in the scope of the Removal Action on December 8, 2008, and initiated fund-lead response actions to address the hazardous substances associated with the remaining tank car and other drums and containers.

The TCCA Property is not fenced and access to the TCCA Property and the hazardous substances at the TCCA Property may be obtained from all directions. TCCA is not operating its rail car rehabilitation business at the TCCA Property and has no full time presence there even though hazardous substances are present. Several small businesses use the TCCA Property primarily for the storage and staging of equipment and materials and persons are at the TCCA Property everyday. Similarly, access to the adjacent residential and non-residential properties included in the Site is also uncontrolled.

2. Removal Site Evaluation

See the December 8, 2008 Action Memorandum for additional information on removal site evaluation activities relating to the tank cars, tanks and containers at the TCCA Property.

The OSC initiated removal site evaluation activities at the TCCA Property in April 2006 at the request of local authorities. At that time the OSC was coordinating with parties previously interested in purchasing the TCCA Property. Those parties sampled wastes, soil, underground water (e.g., water within a test pit dug into the soil), and ground water at the TCCA Property. Analytical data from those historical samples indicate, among other things, the presence of benzene, ethylbenzene, toluene, xylenes, trichloroethene (TCE), dichloroethene (DCE), naphthalene, lead, cresol compounds, and large numbers of other semivolatile organic and polycyclic aromatic hydrocarbons (PAHs) such as benzo(a)pyrene at the TCCA Property.

The OSC continued removal site evaluation activities at the TCCA Property in November 2008. Among other things, a buried railroad tank car containing hazardous substances was identified. This particular buried tank car was not previously identified by TCCA and contained a black tarry material. The black tarry material was sampled in December 2008 and found to contain high concentrations of hazardous substances. Hazardous substances detected in the black tarry material include: benzene, ethylbenzene, toluene, xylenes, styrene, phenol (and various phenolic compounds), naphthalene, dibenzofuran, and large numbers of other

semivolatile organic and polycyclic aromatic hydrocarbons (PAHs) such as benzo(a)pyrene. The OSC also observed during a rain event that liquids were able to migrate in and out of the buried tank car through a hole. The storm waters flowing through the tank became contaminated as evidenced by a sheen upon the water exiting the tank. EPA initiated the removal of the tank car and its contents in March 2009.

Soil around the buried tank car found by EPA in November 2008 (as well as the soil around three other buried tank cars previously removed from the TCCA Property by TCCA) was also examined and observed to contain layers of black tarry material and chemical odors. These observations made by the OSC indicate that the tanks likely released some of their contents into the environment.

During the November 2008 removal site evaluation activities, surface soil samples were collected from areas throughout the TCCA Property. Most of the TCCA Property's surface was found to be covered with sandblasting grit. The sandblasting grit was also found to include a variety of debris such as pieces of railroad ties, tie plates, pipes, wood, and scrap metal. The sandblasting grit was also found piled and surrounding equipment items (e.g., sandblasting apparatus and underground piping network) and covering remaining railroad tracks and subsurface stormwater drainage structures. The surface soil samples were found to contain hazardous substances; most notably the elements lead, beryllium, nickel, zinc, and copper. Some organic hazardous substances, notably PAH compounds such as benzo(a)pyrene, were also detected. The element arsenic was also detected in the sandblasting grit. The grit is exposed at the surface and was observed entrained in the air (e.g., blowing as dust) and in surface water migration pathways.

During the November 2008 removal site evaluation activities, subsurface samples were also collected from the TCCA Property. Subsurface samples were collected from the areas of the former lagoons (impoundments) and underground tanks. The subsurface profile indicated several feet of sandblasting grit upon a layer of black tarry material upon underlying clayey soils. Subsurface samples contained strong chemical odors (similar to creosote), black tarry material, and numerous hazardous substances. Hazardous substances detected in the subsurface samples in the area of the former lagoons and tanks include: benzene, ethylbenzene, toluene, xylenes, styrene, trichloroethene (TCE), dichloroethene (DCE), phenol, naphthalene, dibenzofuran, and large numbers of other semivolatile organic and polycyclic aromatic hydrocarbons (PAHs) such as benzo(a)pyrene. The analytical data suggest that the tanks leaked their contents or that the tanks were overfilled and spilled, and that wastes from the former lagoons are still present. Subsurface samples containing hazardous substances are located immediately adjacent to structures at the TCCA Property (e.g., an extension to the paint shed and the sandblasting shed) suggesting that contaminants are likely to exist beneath some of these structures.

During subsurface sampling activities in November 2008 within and in the immediate area of the former lagoons, water was encountered at shallow depths (e.g., approximately 1 foot below grade). This shallow water (underground water) was found to be in contact with the contaminated media, at a level well above the level of the ground water in nearby monitoring

wells, and likely perched upon the clayey soils underlying the TCCA Property. Temporary wells were installed into some of the subsurface borings and samples of the underground water were collected. The underground water was found to be contaminated with hazardous substances. The hazardous substances detected in the shallow underground water include: benzene, ethylbenzene, toluene, xylenes, styrene, trichloroethene (TCE), dichloroethene (DCE), dichlorobenzene, naphthalene, dibenzofuran, and large numbers of other semivolatile organic and polycyclic aromatic hydrocarbons (PAHs) such as benzo(a)pyrene. It is not known where this shallow underground water discharges. However, the rain water runoff migrates to the northern boundary of the TCCA Property and then disappears into the ground at the location of a pipe suspected to be located under the railroad tracks on adjacent property. This pipe is suspected to discharge into an area of ponded water located on property north of the Site and then to Sandy Run which is a tributary of the Wissahickon Creek.

In November 2008, ground water samples were also collected from three ground water monitoring wells located at the TCCA Property. The three ground water monitoring wells at the TCCA Property were, however, constructed in an unknown manner. As such, the OSC could not determine if the wells can be used to adequately determine potential impacts to ground water. TCE was detected in the ground water.

The OSC conducted additional removal site evaluation activities in April 2009. Additional samples were collected from the soils on the TCCA Property to attempt to obtain information regarding the extent and magnitude of the contaminated media. Samples of soil from the adjacent residential properties were also collected to determine if the hazardous substances at the TCCA Property have migrated onto the adjacent properties. The OSC also observed that the sandblasting grit known to be contaminated with hazardous substances had migrated onto the area of the railroad tracks located north of the TCCA Property. During the April 2009 sampling activities, additional samples of the shallow underground water were also collected and analyzed.

During the April 2009 removal site evaluation, the OSC also observed pockets of black tarry material exposed at the surface by the actions of unknown parties apparently conducting soil grading activities at the TCCA Property. The black tarry material is found at the base of the lagoons in most areas and was found to contain high concentrations of a variety of hazardous substances.

In June 2009, additional ground water monitoring wells were constructed and sampled. These wells were installed in order to enable the OSC to evaluate the ground water analytical information using wells of known construction. Additionally, one of the wells was placed in the vicinity of the former underground tanks. Hazardous substances, including TCE, xylenes, and naphthalene were detected.

The area of ponded water located north of the TCCA Property was also sampled in June 2009. The location is an old quarry which discharges to Sandy Run at an overflow point. The drainage pathway (a pipe) between the TCCA Property and the area of ponded water has not

been definitively confirmed due to the OSC's inability to obtain access to the railroad right of way. However, water from a pipe thought to originate from the TCCA Property and discharge to the old quarry was sampled in October 2009. The hazardous substance lead was detected in the surface water samples.

The TCCA Property also contains piles of railroad ties placed by persons conducting response actions prior to EPA. These ties are a source of odors brought to the attention of the OSC by adjacent residents.

3. Physical Location/Site Characteristics

The TCCA Property is located at the intersection of Walnut Avenue and Oreland Mill Road in Oreland, Montgomery County, Pennsylvania, at approximate geographic coordinates 40.1194 degrees north latitude and -75.1924 degrees west longitude. The TCCA Property is located adjacent to active railroad tracks which run along the northern property boundary. Several rail sidings enter the TCCA Property, but much of the track was removed during TCCA's response activities. A residential neighborhood abuts the TCCA Property to the east and south and a commercial operation and quarry lie to the west. The TCCA Property contains several buildings including a paint shed and sand blasting shed. The terrain is basically flat, but drainage in the local area enters Sandy Run. Sandblasting grit covers large portions of the TCCA Property. The sandblasting grit exists in piles along the eastern boundary and immediately adjacent to residential properties. The sandblasting grit was also found in the railroad ditch alongside the TCCA Property to the north. Residents have indicated that sandblasting grit has blown into their homes.

Historical aerial photography and information indicates at least two lagoons were once located on the TCCA Property. One of the aerial photographs suggests, and subsurface borings confirm, that sandblasting grit was used to fill the lagoons. Available information also indicates that railroad tank cars were buried at the TCCA Property and used to contain hazardous materials. The TCCA Property is not fenced and is currently used by several small businesses (by agreement with the owner) primarily for the storage and staging of equipment and materials. These operations occur with the sandblasting grit covering the surface of the TCCA Property.

Historical aerial photography also shows a quarry on the property north of the Site and across the tracks. A railroad right of way map indicates a pipe which likely allows water to migrate from the TCCA Property and under the tracks towards the quarry. The quarry is now an area of ponded water with an overflow point into Sandy Run.

4. Quantities and Types of Substances Present

The results of sampling activities conducted by a prospective purchaser in May 2006, the owner (TCCA), and/or the EPA confirm the presence of hazardous substances in the soil and water at the TCCA Property. The quantity and types of hazardous substances associated with the tanks are described in the Action Memorandum dated December 8, 2008. Additional

information relating to the tanks and information relating to the soil and water is found herein.

The soil and waste material located within the soil at the TCCA Property has been found to be contaminated with benzene, ethylbenzene, toluene, xylenes, styrene, trichloroethene, dichloroethene, lead, cresol compounds, and large numbers of other semivolatile organic and polycyclic aromatic hydrocarbons (PAHs) such as hexachlorobenzene, naphthalene, phenol, and benzo(a)pyrene. The pesticides DDT and 2,4-D have also been detected. Each of these compounds or elements is a hazardous substance.

Black tarry waste material similar to that which was in the buried tank found by EPA is also found within the subsurface soil within the area of the former lagoons and at the ground surface along the perimeter of the former lagoons. High concentrations of numerous hazardous substances are found in this waste. The black tarry waste contains high concentrations of hazardous substances and is characterized by, among other compounds, benzene (240 mg/kg), ethylbenzene (110 mg/kg), xylenes (560 mg/kg), toluene (420 mg/kg), styrene (250 mg/kg), naphthalene (240,000 mg/kg), benzo(a)pyrene (17,000 mg/kg), dichloroethene (3.4 mg/kg), and phenol (9,300 mg/kg). A sample of the black tarry waste was subjected to a leaching procedure test which indicated that several compounds may leach from the waste. The sample result indicated that benzene, cresol compounds, phenolic compounds, and the herbicide 2,4-D leached from the black tarry waste. Black tarry material has been identified adjacent to the areas of the former buried tanks, at the base of the former lagoons, and exposed at the surface of the TCCA Property in areas where surface soil has been disturbed. The volume of the black tarry waste at the TCCA Property is unknown. The OSC estimates that 1500 cubic yards of the waste is located at the TCCA Property.

The total volume and extent of contaminated soil is unknown. Contaminated soil appears to be located under some of the structures at the TCCA Property and upon adjacent property to which EPA does not yet have access. A large area of the TCCA Property's surface is covered by sandblasting grit at average depths of approximately 3 to 4 feet. The OSC estimates that approximately 19,500 cubic yards of sandblasting grit exists in piles, as fill material within the lagoons, and otherwise upon the TCCA Property. The total volume of the surface soil contaminated by the sandblasting grit cannot be accurately determined as it has been covered by other materials brought onto the TCCA Property and is also located on adjacent properties to which EPA has not yet received access. The sandblasting grit is characterized by lead (up to 2140 mg/kg), benzo(a)pyrene (up to 5.1 mg/kg), naphthalene (up to 1.5 mg/kg), hexachlorobenzene (2.2 mg/kg), DDT (25 mg/kg), and numerous other compounds and elements. In areas where black tarry waste is exposed, the concentrations of hazardous substances at the surface are expected to be higher. The grit has been observed entrained in the air (e.g., blowing as dust) and migrating from the TCCA property through surface water pathways.

A clay-rich soil was found underlying the locations of the lagoons at depth. A layer of black tarry material existed on top of the clay-rich soil in the area of the lagoons. Black tarry

material also exists in the vicinity of the former buried tank cars. Some of the EPA borings penetrated through the black tarry layer and into the underlying soils; strong chemical odors and visual contamination were present at depths exceeding 8 feet (e.g., up to about 15 feet in the area of the former buried tanks); however, the extent of this type of contaminated subsurface soil is unknown. The subsurface soil is characterized by benzene (up to 42 mg/kg), styrene (up to 78 mg/kg), xylenes (243 mg/kg), benzo(a)pyrene (up to 970 mg/kg), naphthalene (up to 14,000 mg/kg), phenol (up to 19 mg/kg), TCE (up to 0.061 mg/kg), 2,4-D (1.09 mg/kg) and numerous other compounds. Black tarry material is found throughout the subsurface soil and soils containing this material are expected to contain higher concentrations of hazardous substances. This material is found in many of the subsurface soil borings and is exposed at the surface in some areas of the TCCA Property.

The amount of contaminated shallow underground water is unknown. The shallow underground water showing evidence of elevated contamination is located within the area of the former lagoons and immediately north (presumed downgradient based upon topography) of the area of the former lagoons. The shallow underground water appears to be associated with the former lagoons and is characterized by benzene (up to 3.1 mg/L), TCE (up to 0.068 mg/L), naphthalene (5.9 mg/L), phenol (3.5 mg/L), benzo(a)pyrene (up to 0.027 mg/L), lead (up to 571 ug/L) and numerous other compounds. The ground water within the monitoring wells is characterized by low concentrations of, among other compounds, TCE, xylenes, and naphthalene.

The surface water within a pipe believed to originate from the TCCA Property and discharge to a quarry which in turn drains to Sandy Run shows concentrations of hazardous substances, notably lead (51.6 ug/L).

Many of the substances found at the Site, including benzene, TCE, DDT, hexachlorobenzene, 2,4-D, cresol compounds, naphthalene, phenol, benzo(a)pyrene, and lead are hazardous substances within the meaning of CERCLA because they are listed in Section 302.4 of the NCP, 40 C.F.R. § 302.4.

5. National Priorities List Status

The Site is not presently on the National Priorities List (NPL) and has not been proposed to the NPL. The OSC has initiated coordination with the site assessment program for follow up.

B. Other Actions to Date

Actions which predate the ongoing Removal Action are described in the Action Memorandum dated December 8, 2008. Initially, and in response to the Order, TCCA conducted response actions which focused on the removal of the majority of the wastes located within the tank cars located at the TCCA Property. EPA initiated a Fund-lead Removal Action in December 2008 which focused on a buried tank car as well as a small number of drums and other containers at the TCCA Property. The buried tank discovered by EPA in November 2008 was

removed in March 2009. By May 2009, all hazardous substances known to have existed inside tanks, drums, and other containers at the TCCA Property were removed by TCCA and EPA. EPA also removed a limited amount of soil showing obvious contamination (e.g., thick black tarry layers) located adjacent to the buried tank car removed by EPA.

C. State and Local Authorities' Roles

The Site initially came to the attention of the OSC through a request from local authorities inquiring about the contents of the tanks at the TCCA Property. The OSC has coordinated with State and local authorities and will continue to coordinate on all Removal Actions taken at the Site. At this time, the OSC is coordinating with the Commonwealth of Pennsylvania's Department of Environmental Protection (DEP) regarding actions at the Site. At this time there is no confirmation that TCCA or any other party intends to remove hazardous substances from the Site and mitigate threats.

III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

Section 300.415 of the NCP, 40 C.F.R. § 302.415, lists the factors to be considered when determining the appropriateness of a Removal Action. Specifically, paragraphs (b) (2) (i), (ii), (v), (vii), and (viii) of Section 300.415 apply as follows to the conditions as they exist at the Tank Car Corporation of America Site.

A. 300.415 (b) (2) (i) "Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants"

Hazardous substances such as benzene, ethylbenzene, xylenes, toluene, styrene, TCE, DDT, 2,4-D, lead, benzo(a)pyrene, hexachlorobenzene, phenol, and napthalene have been detected in the exposed soil (primarily sandblasting grit) and black tarry waste material at the Site. Some of the black tarry waste material containing high concentrations of hazardous substances is exposed at the surface. The TCCA Property within the Site is currently utilized extensively by a variety of workers with the potential for direct contact with and incidental ingestion or inhalation of waste and soil contaminated by hazardous substances. The TCCA Property abuts residences and neighborhood persons have been observed traversing the TCCA Property on a number of occasions. Contaminated soil (primarily sandblasting grit) may migrate as windblown dust potentially exposing residents to hazardous substances. Residents have stated that sandblasting grit has entered into their homes; the OSC has observed some of the sandblasting grit blowing from the Site. Sampling of residential properties adjacent to the TCCA Property indicates that Site-related contaminants have begun to migrate from the TCCA Property onto adjacent properties. Truck and pedestrian traffic into and from the TCCA Property allows contaminated soil to migrate from the TCCA Property (e.g., adhered to tires or shoes).

Benzene and trichloroethene are human carcinogens. Lead is known to adversely affect the central nervous system. Naphthalene is a suspected human carcinogen. Benzo(a)pyrene is a probable human carcinogen. Prolonged exposure to these chemicals could lead to cancers in exposed human populations.

Exposure to the contaminated soils at the Site through incidental ingestion or inhalation by present day workers or potential exposures to future workers or residents could lead to deleterious effects. Incidental ingestion may occur by contact with contaminated soil followed by hand-to-mouth activity. Incidental exposure may also occur through inhalation of wind-blown soil. Exposure to lead may result in elevated levels of lead in the bloodstream leading to nervous system effects. Exposure to naphthalene is known to destroy red blood cells. Exposures to benzene, TCE, and benzo(a)pyrene could lead to increases in the potential for various cancers.

Benzene, ethylbenzene, toluene, and TCE can also readily volatilize into the air and may migrate and potentially expose downwind populations; organic vapors were detected around the remaining buried tank when the black tarry waste was disturbed. Humans may be exposed to these volatile compounds through inhalation pathways. In addition to the potential carcinogenic effects of benzene, exposure to toluene vapor could have deleterious effects upon the central nervous system.

Workers at the TCCA Property within the Site may be exposed to contaminants in the black tarry waste material and soil through incidental ingestion and inhalation pathways. Without controls or mitigative actions, exposure to soils at the TCCA Property could result in risk to exposed workers. Residents may be exposed to contaminants in the soil through incidental ingestion and inhalation pathways. Without controls or mitigative actions, contaminant levels may increase in residential soil through migration of contaminated soils.

Subsurface migration of contamination from the tanks and contaminated residuals in the lagoons has contaminated shallow underground water. Shallow underground water contaminated by hazardous substances and surface water conveying oily sheens from the Site migrates from the TCCA property to other locations with unknown potential effect to human health or environment. The waters migrate to nearby Sandy Run and are suspected to travel off of the TCCA Property through a pipe to nearby surface waters. The concentrations of hazardous substances in the shallow underground waters and surface waters exceed recommended water quality criteria protective of aquatic organisms and human consumption.

B. 300.415 (b) (2) (ii) "Actual or potential contamination of drinking water supplies or sensitive ecosystems"

The shallow underground water within the former lagoons is highly contaminated with hazardous substances (e.g., benzene, naphthalene, benzo(a)pyrene, lead and others) and is likely migrating off of the TCCA Property into the surface water environment. The drainage pathways from the TCCA Property are choked with sandblasting grit and the specific pathway of surface water or shallow underground water migration from the TCCA Property cannot presently be

observed. The OSC suspects that the surface water and shallow underground water from the area of the former lagoons travels through the sandblasting grit in the ditches along the railroad tracks and then to drainage features (e.g., pipes) which lead to nearby surface water bodies (e.g., Sandy Run). Water has been observed flowing through this pipe from the area of the TCCA Property, but the adjacent railroad has to date declined to consent to entry, preventing EPA from confirming the connection. Sandy Run is a tributary of the Wissahickon Creek which is the subject of local conservation efforts and supports aquatic receptors. Analytical information indicates that small amounts of constituents of the wastes in the tanks (e.g., TCE, benzene, and naphthalene) have also been found in ground water beneath the TCCA Property. Ground water directly beneath the Site is not used for drinking water purposes. However, ground water in the vicinity of the Site is used as a source of drinking water for tens of thousands of people via a public well. Unless the hazardous substances within the wastes and soils are removed, the shallow underground waters beneath the Site will continue to be contaminated and migrate to other surface waters and to deeper ground water.

C. 300.415(b)(2)(v) "Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released"

Hazardous substances are located in the exposed surface soils (comprised largely of sandblasting grit) at the Site. The grain size is very small and the material dries quickly. Wind can easily move the hazardous substances as sandblasting grit is blown around. The OSC has observed sandblasting grit blowing from the Site. Additionally, the exposed soil at the Site is easily transported during storm events as runoff from rain events moves the sandblasting grit to downgradient locations. The sand blasting grit has moved, and continues to move, onto the adjacent railroad tracks and residential properties. The grit has clogged the drainage ditches causing the material to accumulate and migrate to even more locations.

D. 300.415 (b) (2) (vii) "The availability of other appropriate federal or state response mechanisms to respond to the release"

The Commonwealth of Pennsylvania Department of Environmental Protection (DEP) has been consulted regarding the removal of the hazardous substances from the Site and agrees that it will not be able to address the Site threats in a timely manner.

E. 300.415(b)(2)(viii) "Other situations or factors that may pose threats to public health or welfare of the United States or the environment"

The TCCA Property within the Site is currently used by numerous small business entities whose actions may result in the transport of hazardous substances from the Site. The small businesses store materials on the TCCA Property in areas where contaminated sandblasting grit is located. The materials (e.g., landscaping materials) may be destined for off-Site locations. Additionally, the small businesses routinely move the soils at the TCCA Property, store equipment in and around the hazardous substances, cover areas containing hazardous substances

with a variety of materials (e.g., soil, debris, mulch, stones), and cause visible releases as truck traffic stirs up the hazardous substances-contaminated soils. The OSC has observed releases of surface soil stirred by vehicle traffic being blown off the TCCA Property by winds.

IV. ENDANGERMENT DETERMINATION

Actual and threatened releases of hazardous substances from this Site, if not addressed by implementing the response action selected in this Action Memorandum, may present an imminent and substantial endangerment to public health, welfare, or the environment.

V. EXEMPTION FROM STATUTORY LIMITS

EPA initiated a Removal Action at TCCA Site to address threats presented by the release and threatened release of hazardous substances from tank cars, drums, and containers at the Site as well as from soils obviously contaminated by releases from the tanks.

Since initiation of the Removal Action, the OSC has found increased levels of contamination as well as contaminated media and locations not included within the scope of the current Removal Action. These conditions require additional and expanded response actions in order to mitigate the threats. These additional and expanded actions will cause the funds needed to mitigate the threats to rise above $2 million and the total time for response activities to exceed 12 months. The OSC determines that the Site conditions meet the "emergency exemption criteria" set forth in Section 104(c)(1)(A) of CERCLA, 42 U.S.C. § 9604(c)(1)(A), for exceedance of the $2 Million and 12 Month statutory limits for Removal Actions as follows:

A. Section 104(c)(1)(A)(i) "Continued response actions are immediately required to prevent, limit, or mitigate an emergency."

The Removal Action has thus far focused on the removal of hazardous substances from buried tank cars and from other tanks and containers at the TCCA Property. Other contaminated media and pathways for hazardous substance migration from the TCCA Property have been identified, but have not been addressed. Continuing removal site evaluation has identified additional threats which are not addressed by the current Removal Action. Soil contaminated by releases from the buried tanks has been identified by the OSC and is beyond the funding estimated for the approved Removal Action. High concentrations of hazardous substances are identified in the soil at the Site, including soil within areas in frequent use by Site workers and immediately adjacent to residential properties. The surface soils are easily transported from the Site and are frequently observed blowing off of the TCCA Property in the direction of residential properties. Soils at several adjacent residential properties were found to contain sandblasting grit that migrated from the TCCA Property. This contaminated soil is also outside of the scope of the ongoing Removal Action. Additionally, hazardous substances are migrating from the Site in

underground waters and through surface migration during rain events and attached to vehicles and workers. These discoveries have resulted in a significantly expanded area containing hazardous substances posing additional and immediate threats to human health. Soil is contaminated at levels significantly higher than levels which are protective of human health based upon EPA guidelines (e.g., levels posing cancer risks of approximately 10^{-4}) and higher than levels which are protective of surface water environments (e.g., water quality criteria).

As such, additional response actions are immediately required to prevent human exposure to the contaminants at the Site and which may be migrating from the Site to Sandy Run and other locations. Without an exemption from the statutory limits, the Removal Action will not be completed and threats posed by the Site will not be meaningfully reduced.

B. Section 104(c)(1)(A)(ii) "There is an immediate risk to the public health or welfare or the environment."

The contamination at the Site poses an immediate threat to present day workers at the TCCA Property as well as to nearby residents exposed to hazardous substances through incidental ingestion or inhalation of contaminated soil that has migrated from the TCCA Property. Numerous hazardous substances in the exposed soils at the Site are probable or suspected human carcinogens or otherwise result in adverse health effects such as increased blood lead concentrations or decreased red blood cell amounts or effects to the central nervous system. The soils are subject to wind-blown migration or migration from the TCCA Property through runoff. The OSC has observed the soils migrating through wind and water from the Site. Additionally, present day workers at the TCCA Property are routinely exposed to the soil at the Site and contribute to transport of contamination from the Site on vehicle tires and shoes. Contaminated soil is now located outside the TCCA Property in a ditch along adjacent railroad tracks and on several adjacent residential properties. Hazardous substances exist in concentrations that could pose an excess cancer risk greater than 10^{-4}.

C. Section 104(c)(1)(A)(iii) "Assistance will not otherwise be provided on a timely basis."

The Commonwealth of Pennsylvania Department of Environmental Protection recommends that EPA continue to take the lead on response activities at the Site should no other party be able to do so in a timely manner. To date, no other party has indicated an ability to conduct Removal Actions. EPA's assistance will be necessary to ensure that threats posed by the Site are mitigated in a timely manner. Although EPA and DEP continue to coordinate with TCCA to determine if a potential buyer could be interested in the TCCA Property and conduct cleanup actions, no interested party has yet stepped forward. Additionally, although EPA attempts to find additional potentially responsible parties, none have yet been found.

VI. PROPOSED ACTIONS AND ESTIMATED COSTS

The Removal Action proposed herein continues actions previously approved by EPA in December 2008 relating to hazardous substances associated with the tank cars, tanks, and other containers. However, the Action proposed herein also expands upon previously approved actions and intends only to minimize and stabilize the ongoing release of hazardous substances from the Site until more permanent remedies can be implemented. As such, the Removal Action can be considered to be an interim response.

Additional actions are required as described herein to address the release of hazardous substances from the Site into the environment. The actions proposed herein do not provide for removal of all hazardous substances from the Site, but intend only to minimize the potential for further migration and exposure to hazardous substances. As such, additional actions may be required after completion of the selected Removal Action.

A. Proposed Action Description

1. Implement security and safety measures (e.g., installation of fencing, covers, signs, and/or other controls such as security personnel) as deemed necessary to minimize the potential for exposure to hazardous substances at the TCCA Property during the course of the response action;
2. Remove vegetation and relocate appurtenances (e.g., hose and pipe), debris (e.g., railroad ties), and equipment at the TCCA Property as necessary for the performance of the response action;
3. Implement temporary erosion and sedimentation controls and other controls (e.g., dust controls) to control storm water flow through the Site and minimize the migration of hazardous substances from the TCCA Property during the performance of the response action;
4. Remove, and consolidate on the TCCA Property, sandblasting grit containing hazardous substances from each residential property adjacent to the TCCA Property such that remaining Site-related lead concentration on such residential property is less than an average concentration of 400 mg/kg;
5. Remove, and consolidate on the TCCA Property, visible sandblasting grit containing hazardous substances from adjacent non-residential properties, in such manner and amount as minimally required to backfill and place a cover, suited to the existing non-residential property usage, as defined in #14;
6. Consolidate and temporarily stage on the TCCA Property, visible sandblasting grit containing hazardous substances located throughout the TCCA Property;
7. Stabilize (as needed to assure that lead does not leach above characteristically hazardous levels as determined pursuant to RCRA) sandblasting grit gathered from the TCCA Property, the adjacent residential properties, and the adjacent non-residential properties;
8. Remove, and temporarily store on the TCCA Property, shallow underground water to facilitate the removal of black tarry waste material from the lagoon area;

9. Remove, and dispose off-Site, black tarry waste material containing hazardous substances and sandblasting grit intermixed with such black tarry waste material at the Site (identified by black tar-like layers within the soil associated with the former lagoons which have been demonstrated to contain hazardous substances);
10. Remove, and dispose off-Site, clayey soil containing black tarry waste material and hazardous substances underlying the former lagoons and tanks at the TCCA Property, in such manner and amount as to facilitate placement of sandblasting grit consolidated onto the TCCA Property within the excavation area, but not to exceed 8 feet depth, the entirety of any clay layer, or such other depth necessary to maintain the stability of structures at the TCCA Property;
11. Place sandblasting grit consolidated onto the TCCA Property into the excavated clayey soil area; cover the grit with a marker bed, a compacted low permeability soil layer (e.g. clay layer) to a minimum depth of 12 inches to ensure that potential exposure to sandblasting grit is minimized, surface waters do not transport sandblasting grit from the Site, precipitation infiltration is minimized, and sandblasting grit is not able to migrate from the Site through the air; and cover the compacted soil with additional cover (e.g., compacted gravel) which will allow surface traffic while minimizing the potential for re-exposure of the sandblasting grit;
12. Manage all waters collected during the response action that may contain hazardous substances to minimize the potential for release of such waters, through use of measures including pumping and on-Site temporary containment.
13. Discharge all waters collected during the response action that may contain hazardous substances to nearby surface waters in accordance with Pennsylvania Clean Streams and Clean Water Act standards. If it is not feasible to achieve such standards, then discharge all such waters to a local publicly owned treatment works (POTW) in accordance with pre-treatment standards, if any. If discharge to a POTW cannot be arranged, then dispose off-Site all such waters in accordance with #17, below;
14. Backfill and cover all areas from which sandblasting grit has been removed under #4 above and all residential areas with ground disturbed by the response action with soil equal to the amount of grit removed and vegetative cover suited to residential use; under #5, and 6, above, in such manner as will minimize the potential for erosion of soil into nearby surface waters and promote drainage away from any area of consolidated grit or hazardous substances which may remain upon the TCCA Property;
15. Install permanent erosion and sedimentation controls (e.g., drainage controls, compacted gravel, asphalt, soil, and/or vegetative layers) which minimize the potential for the future migration of hazardous substances from the Site;
16. Prepare hazardous substances destined for off-Site disposal for transportation and arrange transportation off-Site;
17. Dispose off-site the hazardous substances within media identified in items #8, #9, #10, #13 and any excess sandblasting grit not addressed by item #11 above, and other wastes generated during the Removal Action (e.g., debris contaminated with

hazardous substances or contributing to odor problems), in accordance with CERCLA §121(d)(3) and 40 C.F.R §300.440.

18. Place signs which identify the location and characteristics of any hazardous substances which remain at the Site after the response action and information advising against penetration of any cover.

B. Contribution to Remedial Performance

The Tank Car Corporation of America Site is not proposed for inclusion on the CERCLA National Priorities List (NPL). The Removal Action is consistent with accepted removal practices and is expected to abate the threats that meet the NCP removal criteria.

C. Applicable or Relevant and Appropriate Requirements (ARARs)

The Removal Action will attain ARARs to the extent practicable given the exigencies of the situation. The following is a summary of the ARARs identified to date that may be applicable or relevant and appropriate to the Removal Action:

U.S. Environmental Protection Agency requirements for handling hazardous waste found in the *Resource Conservation and Recovery Act*, as amended, (RCRA), 42 U.S.C. §§6901, et. seq., and its implementing regulation codified in Chapter 260 through 265 and 268 of the Code of Federal Regulations (CFR). Particularly, Part 261 contains definitions and requirements for identifying and listing hazardous waste, Section 261.7 contains information to be used to determine when a tank may be considered empty.

Commonwealth of Pennsylvania regulations found in Title 25 of the Pennsylvania Code addressing environmental resources and specifically Chapters 260 through 270 dealing with hazardous waste. These regulations are similar to the federal regulations described above.

Clean Water Act, National Pollutant Discharge Elimination System Requirements (33 U.S.C. § 401 et. seq.; 40 C.F.R. Part 122) and the Pennsylvania National Pollution Discharge Elimination System Requirements (25 Pa. Code Chapter 92 and 93)(if such standards are more stringent than federal NPDES requirements).

On January 18, 2007, the OSC requested any additional ARARs for the Site from the Commonwealth of Pennsylvania relating to the activities selected in the original Action Memorandum. On November 25, 2008, the OSC requested additional ARAR information from the Commonwealth. EPA will comply with additional identified requirements to the extent practicable given the exigencies of the situation.

D. Estimated Costs

The proposed distribution of funding is as follows:

Extramural Costs	Existing Ceiling	This Action	Total
Regional Allowance Costs: (ERRS contractors and subcontractors)	$ 376,666	$ 2,147,428	$ 2,524,094
Other Extramural Costs Not Funded from the Regional Allowance: START Contractor	$ 18,000	$ 108,375	$ 126,375
TOTAL REMOVAL ACTION PROJECT CEILING	$ 394,666	$ 2,255,803	$ 2,650,469

VII. EXPECTED CHANGE IN SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

If no action is taken or the action is delayed, the hazardous substances in the soil and water at the Site will continue to migrate from the Site due to the actions occurring upon the Site proper and the actions of wind and rain. The area of contamination will continue to increase as the contaminants migrate from the Site and more materials are mixed into the contaminated media at the Site.

VIII. OUTSTANDING POLICY ISSUES

There are no outstanding policy issues pertaining to the Tank Car Corporation of America Site.

IX. ENFORCEMENT

The EPA Region III Removal Enforcement Section has been provided with all background information available to pursuant Enforcement Actions pertaining to the Tank Car Corporation of America Site (see Attachment A - Confidential Enforcement Addendum).

The total EPA costs for this removal action based upon full-cost accounting practices that will be eligible for cost recovery are estimated to be $ 4,638,641.[2]

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[2]Direct Costs include direct extramural costs and direct intramural costs. Indirect costs are calculated based on an estimated indirect cost rate expressed as a percentage of site-specific

Direct Extramural Costs	$ 2,650,469
Direct Intramural Costs	$ 125,000
Total, Direct Costs	$ 2,775,469
Indirect Costs (67.13 % x Direct Costs)	$ 1,863,172
Estimated EPA Costs for a Removal Action	$ 4,638,641

X. RECOMMENDATION

This Action Memorandum decision document represents the recommended Removal Action for the Tank Car Corporation of America Site in Oreland, Pennsylvania, developed in accordance with CERCLA as amended, and not inconsistent with the NCP. Conditions at the Site meet the NCP Section 300.415(b)(2) factors for a removal, and the criteria for raising the project ceiling above 12 months and $2 millions under Section 104(c)(1)(A) of CERCLA, 42 U.S.C. § 9604(c)(1)(A), and I recommend your approval of the Removal Action. The total Removal Action Project Ceiling will be $2,650,469. Of this, an estimated $2,524,094 comes from the Regional Removal Allowance.

Action by the Approving Official:

This Action Memorandum represents the selected Removal Action for the Tank Car Corporation of America Site, in Oreland, Montgomery County, Pennsylvania, developed in accordance with CERCLA as amended, and not inconsistent with the NCP. This decision is based on the administrative record for the Site.

Pursuant to Section 113(k) of CERCLA, 42 U.S.C. 9613(k) and EPA delegation No. 14-22, I hereby establish the documents identified in Attachment B hereto as the Administrative Record supporting the issuance of the Action Memorandum. These documents include the analytical results of samples collected between November 2008 and October 2009 as well as summary evaluations of those results.

I have reviewed the above-stated facts and based upon those facts and the information compiled in the documents described above, I hereby determine that the release or threatened release of

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direct costs, consistent with the full cost accounting methodology effective October 2, 2000. These estimates do not include pre-judgment interest, do not take into account other enforcement costs, including Department of Justice costs, and may be adjusted during the course of a removal action. The estimates are for illustrative purposes only and their use is not intended to create any rights for responsible parties. Neither the lack of a total cost estimate nor deviation of actual total costs from this estimate will affect the United States' right to cost recovery.

hazardous substances at and/or from the Site presents or may present an imminent and substantial endangerment to the public health or welfare or to the environment. I concur with the Removal Action as outlined in the Action Memorandum.

APPROVED: Susan A. Janowiak **DATE:** 4/8/10

Susan Janowiak
Acting Associate Director,
Office of Preparedness and Response
Hazardous Site Cleanup Division
EPA Region 3

Attachments:
A. Enforcement Confidential Memo
B. Administrative Record documents

Tank Car Action Memo
Attachment B

AR01 - 11-08 metals in surface soil - 38062_MC05Q6.pdf
AR02 - 11-08 organics in surface soil - 38062_C05S0.pdf
AR03 - 11-08 organics in subsurface soil - 38062_C05W3.pdf
AR04 - 11-08 organics in water - 38062_C05T6.pdf
AR05 - 11-08 24-D in soil and water R33117_TCAA-MW-01.pdf
AR06 - 11-08 TANK 4 - METALS- 38155_MC05Z8.pdf
AR07 - 11-08 TANK 4 Total Organics 38155_C05Z9_C0600.pdf
AR08 - 11-08 TANK 4 TCLP 38155_C1GM8_C1GM9_C1GN0C1GN1.pdf
AR09 - Buried TC #4 Waste Analysis.pdf
AR10 - Waste Soil from Tank Area - KSC0007 FINAL 03 11 09 1704.pdf
AR11 - 4-09 RSE - inorganics in on-site soil and water - 38495_MC0651.pdf
AR12 - 4-09 RSE - organics in on-Site soil - 38495_C0629_C0635.pdf
AR13 - 4-09 RSE - organics in on-site and off-site soil -38495_C0670.pdf
AR14 - 4-09 RSE - inorganics in residential soil RSS01-RSS20- 38495_MC0698.pdf
AR15 - 4-09 RSE - inorganics in res soil RSS21-RSS39 and on-Site soil_38495_MC0669.pdf
AR16 - 4-09 RSE - inorganics in res soil RSS40-RSS52 and on-Site soil _38495_MC0664.pdf
AR17 - 4-09 RSE - organics in res soil - 38495_C0675.pdf
AR18 - 4-09 RSE - SOIL TCLP - ORGANICS - 38496_C0636_C0637.pdf
AR19 - 4-09 RSE - SOIL TCLP -INORGANICS - 38496_MC0643.pdf
AR20 - 06-2009 - organics in groundwate and soilr - 38651_C06T7_C06W0.pdf
AR21 - 06-2009 -organics in groundwater and surface water 38651_C06X4.pdf
AR22 - 06-2009 - inorganics in ground water and surface water and soil - 38651_MC06T4.pdf
AR23 - 06-2009 - inorganics in roadside soil _Walnut_ 38651_MC0766.pdf
AR24 - 06-2009 - organics in roadside soil - 38651_C0766.pdf
AR25 - 06-2009 - inorganics in dust - 38694_MC0763.pdf
AR26 - 06-2009 - inorganics in roadside soil Oreland Mill Road - 38651_MC07E8.pdf
AR27 - 06-2009 - organics in roadside soil Oreland Mill Road - 38651_C07E8.pdf
AR28 - RSE Surface Water - INORGANICS - 38651_MC07S0.pdf
AR29 - RSE Surface Water - ORGANICS - 38651_C07S0.pdf
AR30 - Groundwater contour map November 2008.pdf
AR31 - TCCA 11-08 Sample Location Map.pdf
AR32 - TCCA 4-09 sample location Map.pdf
AR33 - DTN 0758 June 2009 Maps Cover Letter.pdf
AR34 - Figure 4 Oreland Mill Road August 2009 Sampling Location Map.pdf
AR35 - June October 2009 Surface Water Sampling Location Map.pdf
AR36 - DTN 0725 Sand Blasting Material Thickness Contour Map & Cover Letter.pdf
AR37 - ATSDR - TCCA AROA HC Final April 28 signed.pdf
AR38 - Boring Logs November 2008 RSE.pdf
AR39 - Boring Logs April 2009 RSE.pdf
AR40 - Removal Site Evaluation Summary Memo - August 2009.pdf
AR41 - Removal Site Evaluation Summary Memo February 2010.pdf