Superfund Program	**U.S. Environmental Protection Agency**
Proposed Plan	**Region 7**
Record of Decision Amendment	
Valley Park TCE, Operable Unit 02	
Valley Park, Missouri	

THE EPA ANNOUNCES PROPOSED PLAN

This Proposed Plan presents the proposed changes to the existing Record of Decision, or ROD, dated September 26, 2001, as modified by the Explanation of Significant Differences, or ESD, dated August 16, 2005, for Operable Unit 02, or OU02, of the Valley Park TCE Site in Valley Park, Missouri (see Figure 1). This document is issued by the U.S. Environmental Protection Agency, the lead agency for site activities. The Missouri Department of Natural Resources, or MDNR, the support agency, provides consultation to the EPA.

The purpose of this Proposed Plan is to provide a brief summary of the remedial alternatives evaluated, explain the rationale that supports proposed changes to the existing remedy for soil contamination within and adjacent to the property currently owned by Valley Technologies (OU02) and to solicit public comment. The EPA, in consultation with MDNR, will select a final remedy for OU02 after reviewing and considering all information submitted during the 30-day public comment period. The EPA may modify the Preferred Alternative for changes to the existing remedy or select another alternative 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.

The EPA is issuing this Proposed Plan as part of its public participation responsibilities under Section 117 of the Comprehensive Environmental Response, Compensation, and Liability Act, the law that established the Superfund program and Section 300.430(f)(2) of the National Oil and Hazardous Substances Pollution Contingency Plan, or NCP. This Proposed Plan summarizes information that can be found in greater detail in the Final Focused Feasibility Study Report dated June 2019, and other documents contained in the Administrative Record file for OU02. The EPA encourages the public to review these documents to gain a more comprehensive understanding of Superfund activities that have been conducted at OU02.

WHY CHANGES ARE NEEDED

The EPA Superfund program manages this project as a fund-lead site. Fund-lead sites are funded and managed directly by the EPA because the responsible party is unable to perform the work. The EPA has conducted two fund-lead Remedial Investigation/Feasibility Studies, or RI/FSs, at OU02 to investigate the nature and extent of contamination at the Valley Technologies property, assess the risk posed by the contamination and evaluate remedial alternatives for addressing the contamination. The first RI/FS concluded when the EPA issued the OU02 ROD dated September 26, 2001. The selected remedy in the OU02 ROD was later modified by the OU02 ESD dated August 16, 2005.

The selected remedy in the 2001 OU02 ROD, as modified by the 2005 OU02 ESD, addressed volatile organic compound, or VOC, contamination both in soil and groundwater. The soil components of the selected remedy included excavation and off-site disposal of contaminated shallow soil down to 16 feet below grade surface, or bgs, and in situ soil vapor extraction, or SVE, to address contamination in unsaturated soil below 16 feet bgs. The groundwater components included a groundwater extraction and

treatment system, or GETS, and groundwater monitoring. The EPA began on-site construction of the fund-lead remedial action in October 2005. Excavation and off-site disposal were completed in January 2006. Approximately 5,000 cubic yards of contaminated soil were hauled off to permitted landfills. The majority of the soil (over 90%) was disposed of as clean soil or special waste with the remaining soil (less than 10%) disposed of as hazardous wastes. Construction of the in situ SVE system, GETS and groundwater monitoring well network was completed in August 2006.

After the initial construction, the in situ SVE wells were redeveloped in the spring of 2007 because the system could not pull air from the subsurface. The well redevelopment did not fix the issue, and the SVE system has sat idle since that time. The in situ SVE system has never operated successfully and an alternative approach is needed to address contamination in unsaturated soil below 16 feet bgs.

The GETS has operated, as designed, generally reducing contamination in groundwater, but levels of groundwater contamination at monitoring wells, located on the Valley Technologies property, have remained unexpectedly high and persistent. The monitoring wells are located in areas that were excavated and backfilled with clean soil. These continued high levels of contamination in groundwater indicate the potential for additional soil source contamination that was not previously identified during the first OU02 RI/FS.

The EPA initiated a second, focused RI at OU02 to evaluate the unsaturated soil below 16 feet bgs and to investigate the potential for additional soil contamination. The second OU02 RI recharacterized the remaining soil contamination at and adjacent to the Valley Technologies property post excavation. Conclusions from the Focused Remedial Investigation Report dated November 12, 2018, include the following:

- Contamination remains in the unsaturated soil below 16 feet bgs that was supposed to be treated by the in situ SVE system.
- A previously unknown area of soil contamination was identified near the northeast corner of the Valley Technologies property.
- Levels of contamination in both areas are above cleanup levels established in the OU02 ROD, and contamination in soil continues to migrate to groundwater.

The proposed changes in this Proposed Plan to the selected remedy in the 2001 OU02 ROD, as modified by the 2005 OU02 ESD, are needed to address the remaining areas of soil contamination identified during the second OU02 RI.

SITE DESCRIPTION

The Site consists of two source areas, the former Wainwright Industries and current Valley Technologies properties, and a commingled, contaminated groundwater plume within the Meramec River alluvial aquifer (Figure 2). Both Wainwright Industries and Valley Technologies operated metal processing facilities that included the use of chlorinated organic compounds as degreasers and cleaning agents in the production process.

The Site consists of the following four OUs:

OU01 - Wainwright Remedial Soil
OU02 - Valley Technologies Soil
OU03 - Wainwright Remedial Groundwater
OU04 - Valley Technologies Groundwater and Area Wide Plume

OU01 addresses the soil contamination in an area within and adjacent to the property formerly owned by Wainwright Industries at 224 Benton Street. OU02 addresses the soil contamination within and adjacent to the property currently owned by Valley Technologies at 555 St. Louis Avenue. OU03 addresses groundwater contamination beneath OU01, and OU04 addresses the groundwater contamination beneath OU02 and the portions of the commingled, contaminated groundwater plume not addressed by OU03. OU01 and OU03 are managed as one OU called the Wainwright Operable Unit, or WOU. The WOU is discussed in this Proposed Plan to provide context, but the remedial alternatives discussed in this Proposed Plan are for OU02.

Historically, OU02 addressed both the soil contamination within and adjacent to the property currently owned by Valley Technologies and the groundwater contamination beneath the Valley Technologies source area and the area-wide contaminated groundwater plume not addressed by OU03. In March 2019, the EPA separated OU02 by media into two OUs. OU02 continues to address the soil contamination at the Valley Technologies property. The groundwater contamination at the Valley Technologies property and the area-wide contaminated groundwater plume were separated from OU02 and addressed under the newly created OU04. The action identified in this Proposed Plan are for OU02 and would amend the soil components of the selected remedy in the 2001 OU02 ROD, as modified by the 2005 OU02 ESD.

SITE HISTORY

Wainwright Industries owned and operated a metal stamping and tool and die shop at the property located on the northwest corner of the intersection of Benton Street and Third Street from 1949 to 1979. Part of the manufacturing process included a solvent degreasing system that used the solvents trichloroethylene, or TCE, from 1963 to 1970 and perchloroethylene, or PCE, from 1970 to 1979. Wainwright Industries ceased operations at the facility in 1979, and several other nonmanufacturing businesses have been housed at the property since then. The current owner operates a landscaping business on the former Wainwright property.

Beginning in 1954, Valley Technologies operated two divisions in Valley Park, Missouri, Precision Forgings and Valley Heat Treat, until it began operating solely as Valley Technologies in the early 2000's. Precision Forgings manufactured aluminum pressings, and Valley Heat Treat provided heat treatment services on metal parts. Valley Technologies still operates a metal processing facility at the OU02 source area.

The Site was discovered in June 1982 when the MDNR found VOCs in a municipal water well supplying the city of Valley Park. After contamination was discovered, the city began aerating the municipal water supply to remove the contaminants. The Site was placed on the final National Priorities List on June 10, 1986.

In 1988, the city abandoned the municipal wells and connected to the St. Louis County Water Company, a predecessor to Missouri American Water. Residents of Valley Park currently receive their drinking water from Missouri American Water.

SITE CHARACTERISTICS

Soil Contamination at Valley Technologies

Soil sampling within and adjacent to the Valley Technologies property during the second OU02 RI confirmed remnant contamination from 2 to 25 feet bgs at contamination Zone A. Zone A is located along the southern border of the previously excavated Excavation Area 1 in the alley south of the Valley Technologies property (see Figure 3). Zone A has an area of approximately 1,000 square feet. Soil samples were collected at Zone A down to 30 feet bgs, and contamination was detected down to 25 feet bgs. Concentrations of TCE in soil were detected as high as 180 micrograms per kilogram, or µg/kg, at 2 to 5 feet bgs; 230 µg/kg at 15 to 20 feet bgs; and 230 µg/kg at 23 to 25 feet bgs. The volume of soil contamination detected at Zone A is approximately 25,000 cubic feet (1,000 square feet x 25 feet), or 926 cubic yards.

Soil sampling also found a previously unidentified area of contamination at contamination Zone B near the eastern border of the Valley Technologies property (see Figure 3). Zone B covers approximately 400 square feet. Groundwater elevations in Valley Park fluctuate in response to the changes in the Meramec River and have ranged between 8 to 37 feet bgs. During the sampling of Zone B, soil samples were collected down to 20 feet bgs where groundwater was encountered. Contamination in soil was detected down to the lowest interval sampled with concentrations of TCE as high as 8,000 and 8,500 µg/kg at 10 to 20 feet bgs. Samples collected approximately 10 to 20 feet in all directions of Zone B had significantly lower TCE concentrations or were non-detect, indicating that soil contamination in this area is localized. Potential contamination in soil that was saturated at the time of sampling but is unsaturated when groundwater elevations are at the lowest observed levels, from below 20 feet bgs to 37 feet bgs, could not be verified.

The volume of soil contamination at Zone B was calculated for both "detected" and "potential" contamination. The detected volume was calculated based on sampling data indicating contamination down to 20 feet bgs and represents the minimum volume of soil contamination at Zone B. The detected volume is 8,000 cubic feet (400 square feet x 20 feet), or 296 cubic yards. The potential volume assumes that all the soil in the unverified interval, between 20 to 37 feet bgs, is contaminated. The potential volume is 6,800 cubic feet (400 square feet x 17 feet), or 252 cubic yards. The maximum volume of soil contamination above the water table at Zone B is approximately 14,800 cubic feet (400 square feet x 37 feet), or 548 cubic yards, and was calculated by adding together the detected and potential volumes.

The contaminated soil at OU02 in the area of the Valley Technologies property is considered to be "principal threat wastes" because the contaminants are highly mobile and found at concentrations that pose a significant risk should exposure occurs.

Current and Future Land Use

Land use in city of Valley Park is a mix of residential, commercial and industrial and has not changed appreciably since the EPA's involvement began in the 1980s. Land use is not expected to change in the

foreseeable future. Contaminated soil within OU02 is restricted to Valley Technologies property, which is an industrial facility. The properties surrounding Valley Technologies are residential to the north and east and commercial and industrial to the south and west. Contaminated groundwater extends under residential and industrial areas. Residents have been connected to Missouri American Water since 1988.

The selected remedy in the 2001 OU02 ROD, as modified by the 2005 OU02 ESD, required an institutional control to prohibit the installation and operation of groundwater wells until the Meramec River alluvial aquifer is restored to beneficial use. An environmental covenant on the Valley Technologies property was filed at the County Recorder's office in St. Louis County in July 2017 to fulfill these requirements.

SCOPE AND ROLE OF THE ACTION

The Site has historically been addressed by two separate actions. The first action addressed the WOU (OU01 and OU03). OU01 addresses the soil contamination in an area within and adjacent to the property formerly owned by Wainwright Industries, and OU03 addresses groundwater contamination beneath OU01. The second action addressed OU02 and OU04. OU02 addresses the soil contamination within and adjacent to the property currently owned by Valley Technologies, and OU04 addresses the groundwater contamination beneath OU02 and the portions of the commingled, contaminated groundwater plume not addressed by OU03.

The EPA issued the WOU ROD on September 29, 1994, and modified the selected remedy with the WOU ESD, dated April 3, 1996. The remedy at the WOU included limited excavation and in situ SVE to address contaminated soil and a GETS, groundwater monitoring and institutional controls to address contaminated groundwater. On-site construction for the remedial action was conducted from April 1999 to June 1999.

After several years in operation, the in situ SVE system at OU01 was not meeting the remedial action objective, or RAO, to eliminate the soil source contaminating the groundwater. Additional sampling conducted in 2011 and 2012 revealed that the area of soil contamination is larger than assumed during the first WOU RI/FS. The EPA recommended additional site characterization at the WOU to fully evaluate the nature and extent of soil contamination.

On September 29, 2016, the EPA and the responsible parties entered into an Administrative Order on Consent, or AOC, to conduct a second WOU RI/FS. The purpose of the second WOU RI/FS is to fully characterize the nature and extent of soil contamination in areas that were not addressed in the initial WOU RI/FS. The second WOU RI/FS is ongoing and scheduled to be completed by September 2019.

The EPA issued the OU02 ROD on September 26, 2001, and modified the selected remedy with the OU02 ESD, dated August 16, 2005. The remedy at OU02 addressed contamination in both soil and groundwater at Valley Technologies and the area-wide contamination groundwater plume. The major components of the selected remedy in the 2001 OU02 ROD included excavation of shallow soils and treatment using ex situ SVE; in situ SVE to remediate deep soils; a GETS, using air stripping and reinjection of treated water; institutional controls; groundwater monitoring; and installation of air emission controls on commercial wells using the contaminated aquifer. The 2005 OU02 ESD was issued to change ex situ SVE to off-site disposal of excavated soils; to eliminate the requirement for air stripper

systems on commercial wells; and to discharge the treated water into a storm sewer instead of reinjections.

The EPA began the fund-lead remedial design and remedial action in 2003. On-site construction for the fund-lead remedial action was conducted from September 2005 to August 2006.

The EPA conducts five-year reviews at the Site to evaluate the performance of the remedies and to assess whether the remedies for each OU and the entire Site are protective of human health the environment. The EPA completed the third five-year review at the Site in September 2013 and concluded that soil components of the remedial action at OU02 were not meeting the RAO to remediate contaminated soil sources identified at the Valley Technologies property to eliminate their contribution to groundwater contamination. As a follow-up to the third five-year review, the EPA initiated a second OU02 RI/FS in April 2014 to evaluate these issues.

In March 2019, the EPA separated OU02 by media into two OUs. OU02 continues to address the soil contamination at the Valley Technologies property. The groundwater contamination at the Valley Technologies property and the area-wide contaminated groundwater plume were separated from OU02 and are addressed under the newly created OU04. The action identified in this Proposed Plan is for OU02 and would amend the soil components of the selected remedy in the 2001 OU02 ROD, as modified by the 2005 OU02 ESD. The GETS is managed under OU04 and operating, as designed, to remove VOCs from groundwater.

Vapor Intrusion Assessment and Mitigation

Vapor intrusion assessments were conducted at both source areas (Wainwright Industries and Valley Technologies) and the area wide contaminated groundwater plume. The assessment at Wainwright Industries was conducted from April 2014 until March 2015 and resulted in mitigation systems being installed in the office areas of the former facility and an adjacent resident. The assessment for the Valley Technologies and the area wide groundwater plume was conducted from August 2012 to July 2016 at thirty-four properties. Of the thirty-four properties sampled, two properties detected site contaminants above levels of concern and were mitigated. The remaining thirty-two properties did not warrant further action.

SUMMARY OF SITE RISKS

During the second OU02 RI/FS, the EPA conducted a baseline risk assessment, or BLRA, to estimate the risks and hazards associated with the current and future effects of site contaminants. The BLRA included a human health risk assessment, or HHRA, and an ecological risk assessment, or ERA. The findings of the BLRA at OU02 are summarized in the Final Human Health and Ecological Risk Assessment Report dated April 30, 2018.

Human Health Risks

The EPA used a four-step HHRA process to assess site-related cancer risks and noncancer health hazards. The four-step process is comprised of: hazard identification, exposure assessment, toxicity assessment, and risk characterization.

Hazard Identification

Chemicals of potential concern, or COPCs, in environmental media (e.g., soil) are identified through comparisons of maximum detected concentrations to conservative, risk-based screening levels and, where relevant, to site-specific background levels. Exceedances of screening levels do not in themselves indicate an unacceptable risk. Rather, exceedance of a screening level indicates need for further evaluation in the HHRA. The EPA utilized the regional screening level, or RSL, for residential soils to select COPCs for the Valley Technologies property. The residential soil RSL is based on an excess cancer risk of 1E-06 or a hazard quotient, or HQ, of 0.1 for noncancer effects. No COPCs were identified for soil or surface water at the Valley Technologies property at concentrations above screening levels. As a result, the remaining steps in the human health risk assessment process (exposure assessment, toxicity assessment, and risk characterization) were unnecessary for OU02. The HHRA concluded that COPCs at OU02 posed no unacceptable risk to human health.

Ecological Risks

An ERA was conducted at OU02 to assess whether releases from the Valley Technologies property were impacting ecological receptors. The ecological assessment concluded that COCs in soil were not migrating to surface water and no complete pathways exists to ecological receptors. Therefore, no unacceptable risk exists to ecological receptors at OU02.

The BLRA concluded that direct contact to soil contamination at the Valley Technologies property does not pose unacceptable risks to human and ecological receptors. However, COCs in soil pose unacceptable indirect exposure risks through migration to groundwater. The migration of COCs from soil to groundwater results in concentrations in groundwater above maximum contaminant levels, or MCLs, as defined by the Safe Drinking Water Act. The proposed action is based on addressing source material (soil) to prevent leaching of contamination to groundwater.

Source Material

Soil at the Valley Technologies property is a continuing source of groundwater contamination. The source material present in Zones A and B are leaching the following COCs to the Meramec River alluvial aquifer resulting in concentrations in groundwater above MCLs:

- 1,1-Dichloroethylene, 1,1-DCE
- cis-1,2-Dichloroethylene, or cis-1,2-DCE
- 1,1,1-Trichloroethane, or 1,1,1-TCA
- 1,1,2-Trichloroethane, or 1,1,2-TCA
- Trichloroethylene, or TCE
- Vinyl Chloride

Risk Assessment Summary

Source material at OU02 continues to leach COCs to the Meramec River alluvial aquifer, therefore, it is the EPA's current judgement that the Preferred Alternative identified in this Proposed Plan, or one of the other active measures considered in this Proposed Plan, is necessary to protect public health or welfare or the environment from actual or threatened releases of hazardous substances into the environment.

REMEDIAL ACTION OBJECTIVES

The EPA is not proposing to amend the following RAO for the soil components of the selected remedy in the 2001 OU02 ROD:

- Remediate contaminated soil sources identified at the Valley Technologies property to eliminate their contribution to groundwater contamination.

The EPA is not proposing to amend the cleanup levels for the primary COCs that are documented in the 2001 OU02 ROD. The following cleanup levels for soil are site-specific soil performance standards based on protection to groundwater:

Contaminant of Concern	Soil Cleanup Levels (µg/kg)
1,1-DCE	22
Cis-1,2-DCE	510
1,1,1-TCA	80
1,1,2-TCA	49
TCE	66
Vinyl Chloride	16

SUMMARY OF ALTERNATIVES

Current OU02 Remedy

The action in this Proposed Plan would amend the soil components of the selected remedy in the 2001 OU02 ROD, as modified by the 2005 OU02 ESD. The major components of the soil remedy in the 2001 OU02 ROD include the following:

- On the Valley Technologies property, excavation of shallow soils to a depth of 16 feet or less and treatment using ex situ SVE
- On the Valley Technologies property, in situ SVE to remediate deep contaminated soils below 16 feet

Modifications to the soil remedy in the 2005 OU02 ESD include the following:

- Ex situ SVE treatment of excavated surface soils was replaced with off-site disposal

The construction of the soil remedy at OU02 was completed in August 2006. However, the remedy is not meeting the soil RAO due to two primary factors: 1) the in situ SVE system for contaminated deep soils has never operated, as designed and 2) a newly identified area of contamination has been found at contamination Zone B near the eastern border of the Valley Technologies property.

Amended Remedy

Remedial alternatives for amending the selected remedy at OU02 are summarized, as follows. These alternatives are discussed in greater detail in the Final Focused Feasibility Study Report dated June 2019.

Common Elements

Remedy components that apply to all alternatives, except the "no action" alternative, are referred to as common elements. The alternatives evaluated in this Proposed Plan do not share any common elements.

Soil contamination at the Valley Technologies property do not pose a direct contact threat to human or ecological receptors. Therefore, institutional controls are not required to restrict exposure to soil. An environmental covenant on the Valley Technologies property was filed at the County Recorder's office in St. Louis County in July 2017 to restrict groundwater use. The environmental covenant is a component of the groundwater remedy addressed under OU04.

REMEDIAL ALTERNATIVES

Alternative 1– No Further Action

Estimated Capital Cost: $0
Estimated O&M Cost: $0
Estimated Present Worth Cost: $0
Estimated Construction Timeframe: None
Estimated Time to Attain RAOs: Does not meet the RAO

Regulations governing the Superfund program generally require that the "no action", or "no further action", alternative be evaluated to establish a baseline for comparison. Under this alternative, the EPA would take no further action at OU02 to address source material that continues to leach COCs to the Meramec River alluvial aquifer. Therefore, no capital or O&M costs would be incurred. The "no further action" would not attain the RAO for soil.

Alternative 2 – In Situ Thermal Remediation, or ISTR

Estimated Capital Cost: $1,368,000
Estimated O&M Cost: $0
Estimated Present Worth Cost: $1,368,000
Estimated Construction Timeframe: 6 months
Estimated Time to Attain RAOs: 6 months

Alternative 2 involves heating the subsurface to volatilize organic compounds for vapor removal by SVE. For comparison and cost estimating, Electrical Resistance Heating, or ERH, is considered the preferred technology. ERH involves use of an electrical current to heat less permeable soils so that water and contaminants trapped in these low permeability, electrically conductive regions are vaporized and thus readied for vacuum extraction.

Electrodes would be placed directly into the soil matrix and activated so that electrical current passes through the soil, creating a resistance that heats the soil. The heat dries out the soil, causing it to fracture. These fractures render the soil more permeable, allowing use of SVE to remove contaminants. Heat created by electrical resistance also vaporizes trapped liquids for removal via SVE.

To heat soils, ERH typically delivers low-frequency electricity to electrodes arranged in a manner combining triangular arrays (three-phase heating) and six-electrode hexagonal arrays (six-phase heating). Temperature of each contaminant in the soil is also increased, thereby increasing the contaminant's vapor pressure and its removal rate. ERH also creates an in-situ source of steam to strip contaminants from soil. Most heating occurs between the electrodes; however, an area around the electrode field is also heated.

The radius around the field varies but is typically about 10 feet. ERH and most in-situ thermal remediation methods are typically coupled with SVE.

Under Alternative 2, the treatment area would be expanded at Zone A and B to 1,500 and 500 square feet, respectively, to ensure all soil contamination is treated. Zone A would be treated down to 25 feet bgs, and the volume of soil treated at Zone A would be 37,500 cubic feet (1,500 square feet x 25 feet bgs), or 1,389 cubic yards. Zone B would be treated down to 37 feet bgs, and the volume of soil treated at Zone B would be 18,500 cubic feet (500 square feet x 37 feet bgs), or 685 cubic yards. The total volume of soil treated under Alternative 2 would be 2,074 cubic yards.

Alternative 2 would require compliance with the following action-specific applicable or relevant and appropriate requirements, or ARARs, proposed for ISTR: (1) the Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities of the Resource Conservation and Recovery Act, or RCRA, in 40 Code of Federal Regulations, or CFR, 264, (2) the Missouri Air Quality Standards in 10 Code of State Regulations, or CSR, 10.6, and (3) the National Emission Standards of the Clean Air Act in 40 CFR Part 61 and 63. An evaluation would occur during design and pilot testing and would be optimized during system startup. Compliance with ARARs would require treatment of SVE off-gas by use of granular activated carbon, or GAC, thermal oxidation, or catalytic oxidation, as necessary.

ERH with SVE overcomes the limitations of SVE alone by heating and desiccating clayey soils, thereby increasing soil permeability and airflow. This also directly vaporizes moisture and contaminants for air retrieval and treatment. Expected outcomes from Alternative 2 would be treatment of contaminated soil to below cleanup levels. Long-term operation and maintenance, or O&M, and five-year review would not be required.

Alternative 3 – Excavation and Off-Site Disposal, 25 Feet BGS Depth of Excavation at Zone A and Zone B

Estimated Capital Cost: $629,000
Estimated O&M Cost: $0
Estimated Present Worth Cost: $629,000
Estimated Construction Timeframe: 4 months
Estimated Time to Attain RAOs: Does not meet the RAO

Alternative 3 involves excavation and off-site disposal of two areas of soil contamination (Zone A and B) at the Valley Technologies property. Zone A is located along the southern border of the previously excavated Excavation Area 1 on the Valley Technologies property. Zone A has an area of 1,000 square feet and would be excavated to a depth of 25 feet bgs. The volume of soil excavated from Zone A would

be 25,000 cubic feet, or 926 cubic yards. Zone B is located along the eastern border of the Valley Technologies property. Zone B would be also excavated to a depth of 25 feet bgs. Excavating Zone B to 25 feet bgs would remove all of the detected volume and a portion of the potential volume of contaminated soil. The total volume of soil excavated from Zone B would be 1,000 cubic feet (400 square feet x 25 feet bgs), or 370 cubic yards. The total volume of soil excavated and disposed off-site under Alternative 3 would be 35,000 cubic feet, or 1,296 cubic yards.

Alternative 3 would require compliance with the following action-specific ARARs proposed for excavation and off-site disposal: (1) the Missouri requirements for the Hazardous Waste Transporter License, Missouri Title 10 CSR 25-6, and (2) the Land Disposal Restrictions of RCRA in 40 CFR 268. Compliance with action-specific ARARs would require proper characterization of excavated soil and disposal to appropriate permitted landfills.

The expected outcome from Alternative 3 would be excavation and disposal of soil contamination down to 25 feet bgs at Zone A and B. The depth of excavation would address all soil contamination at Zone A. Soil contamination would remain at Zone B below 25 feet bgs. Alternative 3 would not be protective of human health and the environment as source material would continue to leach COCs to the Meramec River alluvial aquifer. Alternative 3 would meet the RAO at Zone A but not at Zone B below 25 feet bgs. Long-term O&M would not be required. Five-year reviews would continue at OU02 as long as contamination in soil remains above cleanup levels.

Alternative 4 – Excavation and Off-Site Disposal, 25 Feet BGS Depth of Excavation at Zone A and 37 Feet BGS at Zone B

Estimated Capital Cost: $754,000
Estimated O&M Cost: $0
Estimated Present Worth Cost: $754,000
Estimated Construction Timeframe: 4 months
Estimated Time to Attain RAOs: 4 months

Alternative 4 involves excavation and off-site disposal of the same two areas of soil contamination (Zone A and B) at the Valley Technologies property proposed under Alternative 3. The excavation at Zone A would be the same as Alternative 3. Zone A has an area of 1,000 square feet and would be excavated to a depth of 25 feet bgs. The volume of soil excavated from Zone A would be 25,000 cubic feet, or 926 cubic yards. Under Alternative 4, Zone B would be excavated to a depth of 37 feet bgs to remove the maximum volume of soil contamination above the water table of 14,800 cubic feet, or 548 cubic yards. The total volume of soil excavated and disposed of off-site under Alternative 4 would be 39,800 cubic feet, or 1,474 cubic yards.

The expected outcome from Alternative 4 would be excavation and disposal of soil contamination down to 25 feet bgs at Zone A and 37 feet bgs at Zone B. The depth of excavation would address all soil contamination at Zone A and B. Long-term O&M and five-year reviews would not be required.

EVALUATION OF ALTERNATIVES

In accordance with the NCP, nine criteria are used to evaluate the different remediation alternatives individually and against each other in order to select a remedy. 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 evaluation of the alternatives against the nine criteria are discussed below.

1. Overall Protection of Human Health and the Environment

Alternatives 1 and 3 are not protective of human health and the environment. Under Alternative 1, source material in Zone A and B would continue to leach COCs to the Meramec River alluvial aquifer. Alternative 3 would eliminate COCs from Zone A but not at Zone B below 25 feet bgs. Therefore, Alternatives 1 and 3 are not retained for further evaluation. Alternatives 2 and 4 are protective as each would eliminate the leaching of COCs from the source material thereby restoring the aquifer to beneficial use.

2. Compliance with ARARs

There are no chemical-specific ARARs for soil. To-be-considered materials, or TBCs, were established in the 2001 OU02 ROD. TBCs, are non-promulgated advisories, criteria or guidance issued by Federal, State or local governments that are not ARARs but may be used to develop site-specific cleanup levels. The cleanup levels for soil are TBCs based on protection to groundwater.

Alternatives 2 and 4 would meet cleanup levels for soil contamination above the water table and meet the RAO to prevent contaminant migration from soil to groundwater at the completion of on-site construction.

Location-specific ARARs documented in the 2001 OU02 ROD regarded (1) requirements for the 100-year flood plain of the Resource Conservation and Recovery Act, or RCRA, in 40 Code of Federal Regulations, or CFR, 264.18, and (2) requirements for Interagency Cooperation - Endangered Species act of 1973, as Amended of the Fish and Wildlife Coordination Act in 50 CFR Part 402. Alternatives 2 and 4 would be compliant with location-specific ARARs.

Action-specific ARARs were identified for the remedial alternatives evaluated. Action-specific ARARs proposed for Alternative 2 are (1) the Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities of RCRA in 40 CFR 264, (2) the Missouri Air Quality Standards in 10 CSR 10.6, and (3) the National Emission Standards of the Clean Air Act in 40 CFR Part 61 and 63. Action-specific ARARs proposed for Alternative 4 are (1) the Missouri requirements for the Hazardous Waste Transporter License, Missouri Title 10 CSR 25-6, and (2) the Land Disposal Restrictions of RCRA in 40 CFR 268. Alternatives 2 and 4 would be compliant with the action-specific ARARs associated with each alternative.

3. Long-term Effectiveness and Permanence

Alternative 2 provides a high level of long-term effectiveness by treating soil above the water table. Alternative 4 also provides a high level of long-term effectiveness as contaminated soil would be excavated and disposed off-site in a RCRA C or RCRA D facility. Alternatives 2 and 4 provide a high

level of permanence. Alternative 2 would treat contaminated soil with ISTR to permanently eliminate contamination. Alternative 4 would excavate and permanently dispose of contaminated soil off-site.

4. Reduction of Toxicity, Mobility or Volume of Contaminants through Treatment

Alternative 2 would provide a high level of reduction of toxicity, mobility, and volume by treating contaminated soil above the water table. Alternative 4 would provide a moderate level of reduction of toxicity, mobility and volume by reducing the mobility of soil COCs through treatment to meet RCRA standards prior to off-site disposal.

5. Short-Term Effectiveness

Alternatives 2 and 4 would both require monitoring and potential mitigation to reduce potential exposure during construction. Alternative 2 provides a higher level of short-term effectiveness by limiting construction activities to the site property, therefore, reducing exposure to the community, workers, and environment. Alternative 4 would haul soil contamination off-site which would increase the potential for exposure.

Alternatives 2 and 4 would achieve the RAO at the end of on-site activities for all soil contamination identified during the OU02 RI.

6. Implementability

Alternative 2 ranks moderate for implementability. ISTR is a newer technology and is therefore less commercially available but its use is increasing. Installation of ERH/SVE wells and operation of the blower and GAC unit requires minimal engineering controls, involving unsophisticated construction techniques with readily available equipment. Alternative 4 ranks low for implementability. Implementability for Alternative 4 would depend on groundwater elevations at the time of construction. Groundwater elevations ranged between 8 to 37 feet bgs during the second OU02 RI/FS, and "normal" groundwater elevations are typically around 25 feet bgs. Alternative 4 would not be fully implementable under "normal" conditions. Alternative 4 has other possible complications associated with relocating utilities, dewatering excavation pits and ensuring sidewall protection.

7. Cost

Alternative 4 has the lower estimated cost of $754,000, and Alternative 2 has the higher estimated cost of $1,368,000. Estimates for Alternatives 2 and 4 are for capital costs. Neither of the alternatives has O&M costs.

8. State/Support Agency Acceptance

The state of Missouri, as represented by MDNR, has been consulted throughout the RI/FS process. This criterion would be addressed in the Amended ROD once MDNR's comments on this Proposed Plan are received.

9. Community Acceptance

Community acceptance of the Preferred Alternative would be evaluated after the public comment period ends and would be described in the Amended ROD for OU02.

SUMMARY OF THE PREFERRED ALTERNATIVE

The Preferred Alternative (Alternative 2) to amend the remedy selected in the 2001 OU02 ROD, as modified by the 2005 OU02 ESD, is to treat soil in Zones A and B to eliminate leaching of COCs to the Meramec River alluvial aquifer. The Preferred Alternative would modify the currently selected remedy with respect to soil as follows:

Current Remedy	Proposed Remedy
Zone A Excavation of shallow soils to a depth of 16 feet or less and off-site disposal (completed in 2006) In situ SVE to remediate deep contaminated soils below 16 feet Zone B Not addressed in 2001 OU02 ROD	Zone A ISTR to remediate deep contaminated soils below 16 feet down to 25 feet bgs Zone B ISTR to remediate contaminated soil down to 37 feet bgs

Statutory Determination

Based on the information currently available, the EPA has determined that the Preferred Alternative is protective of human health and the environment; complies with ARARs (or justify a waiver); is cost-effective; utilizes permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable; and satisfies the preference for treatment as a principle element.

The amended remedy selected by the EPA for the OU02 may differ from the Preferred Alternative described in this Proposed Plan based on public comments or new information.

COMMUNITY PARTICIPATION

The EPA provides information regarding the cleanup of OU02 to the public through public meetings, the Administrative Record file for OU02 and announcements published on the site profile page. The EPA encourages the public to gain a more comprehensive understanding of the Site and the Superfund activities that have been conducted.

The dates for the public comment period; the date, 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. For further information on OU02 of the Valley Park TCE Superfund Site, please contact:

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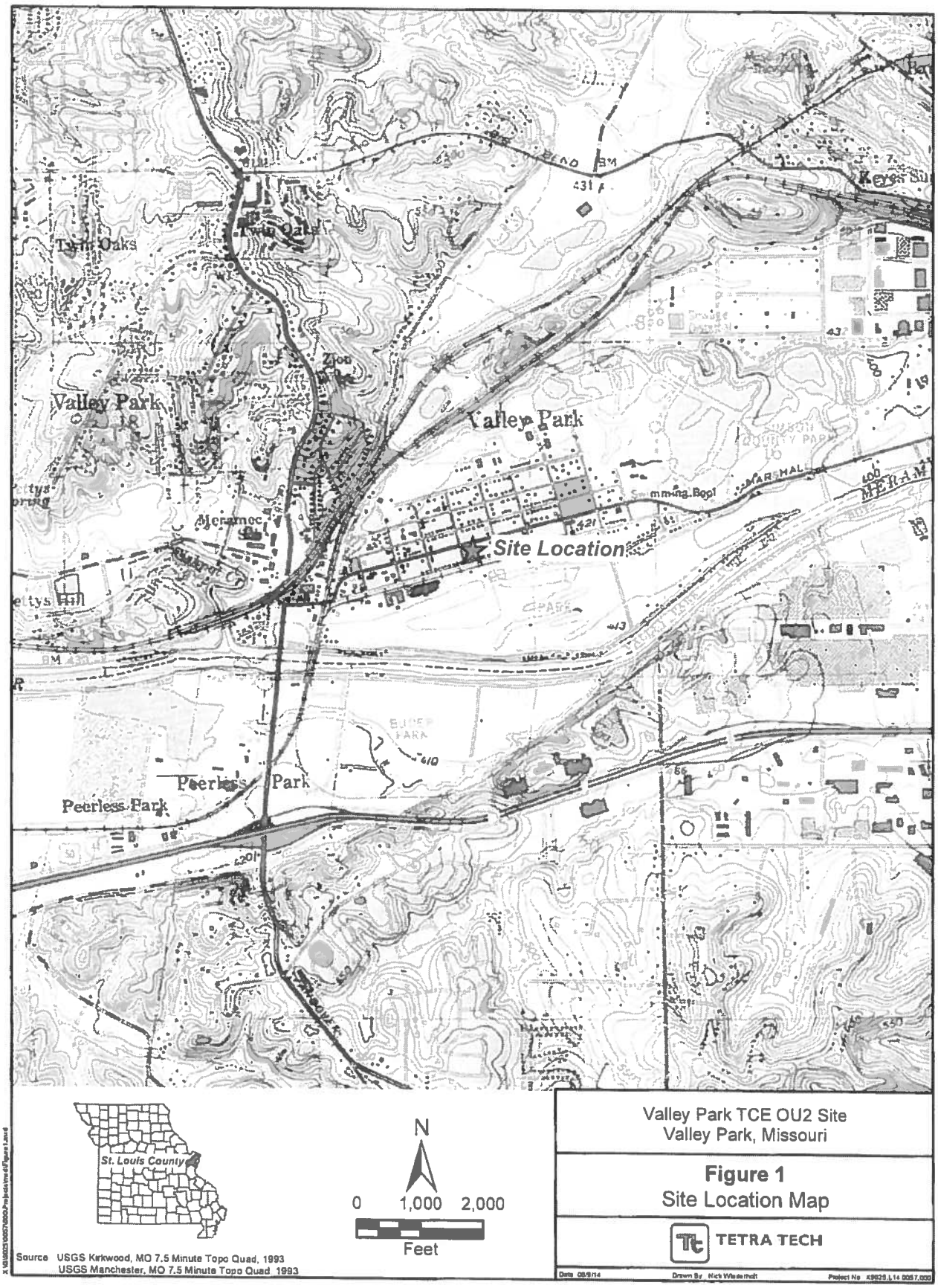
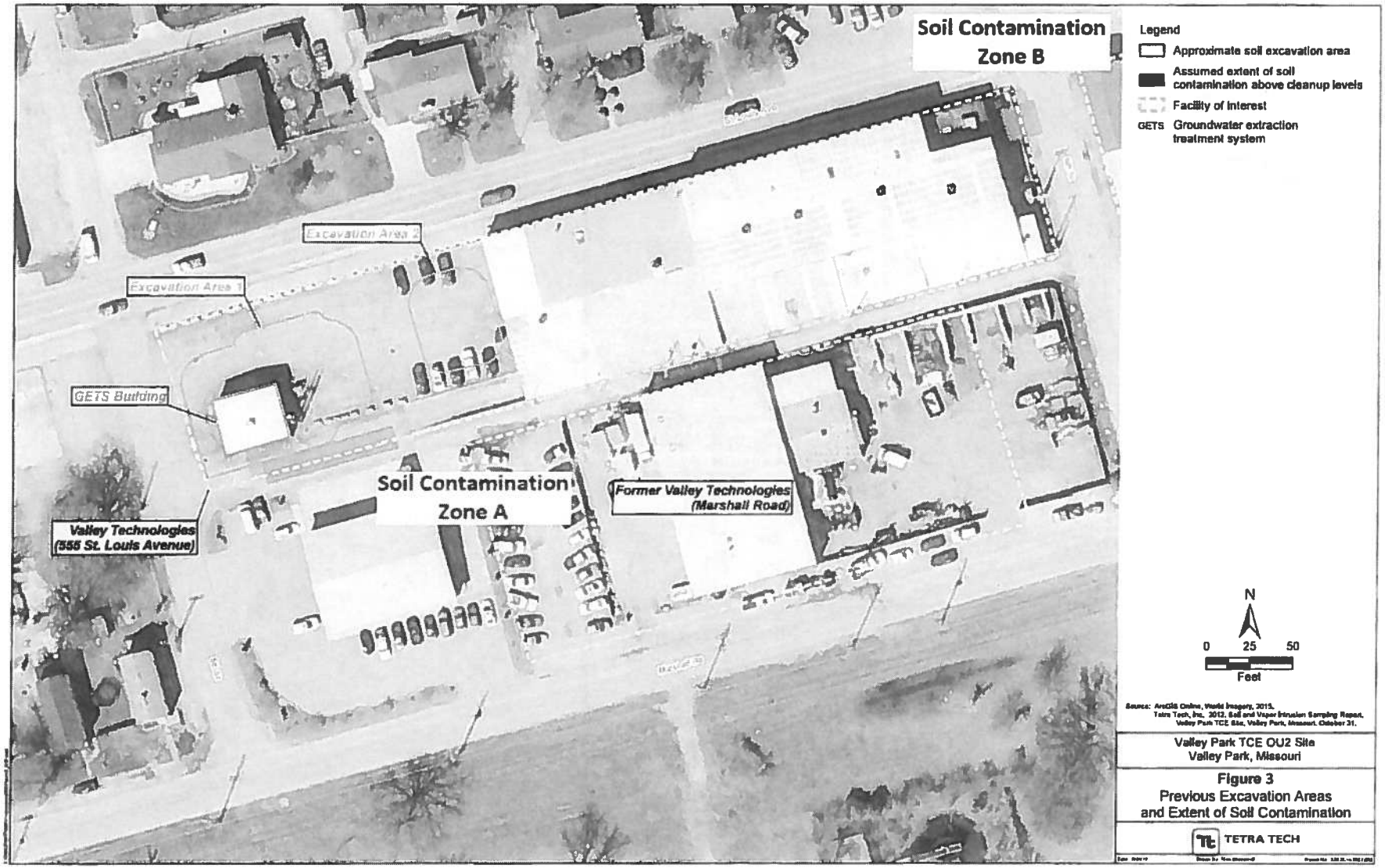
Tran.Hoai@epa.gov
(913) 551-7330

Elizabeth Kramer
Community Involvement Coordinator
Kramer.Elizabeth@epa.gov
(913) 551-7186


Twin Oaks
Valley Park
Zoo
Valley Park
Meramec
Site Location
Peerless Park
Peerless Park
St. Louis County
N
0 1,000 2,000
Feet
Source USGS Kirkwood, MO 7.5 Minute Topo Quad, 1993
USGS Manchester, MO 7.5 Minute Topo Quad 1993
Valley Park TCE OU2 Site
Valley Park, Missouri
Figure 1
Site Location Map
TETRA TECH


Wainwright Industries
Valley Technologies
(555 St. Louis Avenue)
Former Valley Technologies
(Marshall Road)
Legend
Facility of interest
N
0
100
200
Feet
Source: ESRI, ArcGIS Online, Bing Aerial Imagery, 2014; MSP Gold, 2007
Valley Park TCE OU2 Site
Valley Park, Missouri
Figure 2
Site Layout Map
TETRA TECH


Soil Contamination Zone B
Excavation Area 2
Excavation Area 1
GETS Building
Soil Contamination Zone A
Former Valley Technologies (Marshall Road)
Valley Technologies (555 St. Louis Avenue)
Legend
Approximate soil excavation area
Assumed extent of soil contamination above cleanup levels
Facility of interest
GETS Groundwater extraction treatment system
N
0 25 50
Feet
Source: ArcGIS Online, World Imagery, 2015.
Tetra Tech, Inc. 2012. Soil and Vapor Intrusion Sampling Report. Valley Park TCE Site, Valley Park, Missouri. October 31.
Valley Park TCE OU2 Site
Valley Park, Missouri
Figure 3
Previous Excavation Areas and Extent of Soil Contamination
TETRA TECH

PUBLIC NOTICE

Public Meeting Announcement and Public Comment Period for Proposed Plan Valley Park TCE NPL Superfund Site

Valley Park, Missouri — May 2019

The U.S. Environmental Protection Agency (EPA) Region 7 will host a Public Meeting to discuss and solicit public input on the **Proposed Remedial Action Plan**, also known as the **Proposed Plan**, for the Valley Park TCE National Priorities List (NPL) Superfund Site (site) in Valley Park, Missouri. **Public comments on the Proposed Plan will be accepted from June 10, 2019, through July 10, 2019.** The Proposed Plan identifies EPA's Preferred Alternative, and other cleanup alternatives, for Operable Unit 2 (OU2). OU2 addresses the soil contamination within and adjacent to the property currently owned by Valley Technologies at 555 St. Louis Avenue. The facility treated metal parts that included the use of chlorinated organic compounds as degreasers and cleaning agents in the production process. The main contaminant of concern is trichloroethylene (TCE). **The Public Meeting will be held:**

Thursday, June 13, 2019
6:30 to 8:30 p.m.
Valley Park Lions Club, 1001 St. Louis Avenue
Valley Park, MO 63088

On June 10, the **Proposed Plan** and **Administrative Record** will be available for review at the following website (click on Site Documents and Data, then on Administrative Records): **www.epa.gov/superfund/valleyparktce**

EPA has assessed the ability of the public to access site information through an internet-based repository and has determined that the local community has this ability. The documents are also available during normal business hours at the EPA Region 7 Records Center, 11201 Renner Blvd., Lenexa, KS 66219; toll-free: 1-800-223-0425.

Written comments, questions about the Proposed Plan and Public Meeting, and requests for information can be sent to:

Elizabeth Kramer, Community Engagement Specialist, EPA Region 7, 11201 Renner Boulevard, Lenexa, KS 66219; phone: 913-551-7186, toll-free: 1-800-223-0425; email: **kramer.elizabeth@epa.gov.**

EPA is committed to providing reasonable accommodations to individuals with disabilities. For reasonable accommodations at the meeting, contact Jonathan Cooper at 1-800-223-0425 or cooper.jonathan@epa.gov.

USE THIS SPACE TO WRITE YOUR COMMENTS

Your input on the Proposed Plan for OU02 of the Valley Park TCE Superfund Site is important to the EPA. Comments provided by the public are valuable in helping the EPA select a final cleanup remedy for OU02.

You may use the space below to write your comments, then fold and mail to:

U.S. Environmental Protection Agency
c/o Elizabeth Kramer
11201 Renner Boulevard
Lenexa, KS 66219

Comments must be postmarked by July 10, 2019. If you have any questions about the comment period, please contact Elizabeth Kramer at (913) 551-7186. Those with electronic communications capabilities can submit their comments to the EPA via Internet at the following e-mail address: Kramer.Elizabeth@epa.gov.