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MO0210090056	WELDON SPRING - EX ARMY ORDNANCE PLANT			38D47M12S	7040		CONGRESSIONAL DISTRICT: 02				
0701737	HWY 94 EX ARMY PLANT			090D28M48S	10300200		OWNERSHIP: Federally Owned				
							NPL STATUS: A				
	ST CHARLES	MO	63301				FEDERAL FACILITY: Y				
	ST. CHARLES	29183					NON-NPL STATUS: N/A				

Site Aliases: USARMY WELDON SPRINGS FT LEONARD (FINDS),,,MO,;WELDON SPRING ORDNANCE WORKS (FORMER),,,MO,;WELDON SPRINGS ORDNANCE WORKS (FORMER),HWY 94 SOUTH,ST. CHARLES,MO,80611;

Site Description: COMBINED THIS SITE AND FT LEONARDWOOD TRAINING CENTER INTO WELDON SPRING ORDNANCE WORKS (FORMER) (MO5210021288).COMBINED THIS SITE AND FT LEONARDWOOD TRAINING CENTER INTO WELDON SPRING ORDNANCE WORKS (FORMER) (MO5210021288).

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						00	DS	DISCVRY	001		06/09/1987	EPA Fund

MO2210090005	WELDON SPRINGS - RAFFINATE PITS			38D47M12S	7040		CONGRESSIONAL DISTRICT: 02				
0701746	ST HWY 94			090D28M48S	10300200		OWNERSHIP: Federally Owned				
							NPL STATUS: A				
	ST CHARLES	MO	63301				FEDERAL FACILITY: Y				
	ST. CHARLES	29183					NON-NPL STATUS: N/A				

Site Aliases: USARMY WELDON SPRINGS FT LEONARD (FINDS),,,MO,;WELDON SPRINGS, QUARRY (USDOE),,,MO,;

Site Description: PART OF WELDON SPRING QUARRY/PLNT/PITS (MO3210090004).PART OF WELDON SPRING QUARRY/PLNT/PITS (MO3210090004).

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						00	DS	DISCVRY	001		01/01/1980	EPA Fund
						00	PA	PA	001	04/24/1986	07/25/1986	EPA Fund
						00	SI	SI	001	04/24/1986	07/25/1986	EPA Fund

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MO3210090004	WELDON SPRING QUARRY/PLANT/PITS (USDOE/ARM			+38.696940	7040		CONGRESSIONAL DISTRICT: 09				
0701753	25 MI W OF ST LOUIS			-090.724990	10300200		OWNERSHIP: Federally Owned				
				EPA HQ			NPL STATUS: F				
	ST. CHARLES	MO	63301				FEDERAL FACILITY: Y				
	ST. CHARLES	29183					NON-NPL STATUS: N/A				
							NPL UPDATE NUMBER: 7				

Site Aliases: USARMY WELDON SPRINGS FT LEONARD (FINDS),,,MO,;WELDON SPRING QUARRY/PLANT/PITS (USDOE/ARMY),25 MI W OF ST LOUIS,ST. CHARLES COUNTY,MO,63301;WELDON SPRING QUARRY/PLANT/PITTS (USDOE),,,,;WELDON SPRING QUARRY/PLANT/PITTS(USDOE),ST HWY 94 2 MI S US 40,ST CHARLES,MO,63301;WELDON SPRINGS - RAFFINATE PITS SS#073R,,,MO,;WELDON SPRINGS CHEMICAL PLANT SS#073T,,,MO,;

Site Description: The U.S. Department of Energy (DOE) and the U.S. Department of Defense (DOD) are performing environmental cleanup activities at the Weldon Spring Chemical Plant and the Weldon Spring Ordnance Works respectively, which were contaminated as a result of previous manufacturing activities. The Weldon Spring Ordnance Works, located west of St. Louis, Missouri in western St. Charles County, encompasses 6,974 hectare (17,232 acres). The Weldon Spring Chemical Plant is located on 88 hectare (217 acres) which were originally part of the ordnance works. It is situated about 3.2 km (2 mi) southwest of the junction of Missouri (State) Route 94 and U.S. Route 40/61.

The Weldon Spring Ordnance Works was constructed by the Army during the 1940s to produce the explosives trinitrotoluene and dinitrotoluene. In 1955, the 88 ha (217 acre) chemical plant area was transferred to the Atomic Energy Commission (predecessor to the DOE) for construction and operation of a uranium processing facility. This facility was operational through the 1960s. Radioactively and chemically contaminated waste was disposed of at the chemical plant area during this period.

The DOE is the lead agency for the remediation of the Weldon Spring Chemical Plant, while the DOD has been designated the lead agency for the Weldon Spring Ordnance Works. The United States Environmental Protection Agency Region VII (EPA) and the State of Missouri Department of Natural Resources (MDNR) are the agencies providing oversight for these two Superfund remedial action projects.

Much of the production history of these adjacent facilities includes common activities. They are listed individually on the Superfund National Priority List primarily because they are under separate Federal agency jurisdiction. Both the chemical plant and ordnance works areas are chemically contaminated from trinitrotoluene production activities during the 1940's. Remedial actions at both sites include permanent disposal in an on-site engineered facility as part of the final remedy. Currently, planning and construction are underway at the chemical plant area for a facility that will contain approximately 1.35 million cu yd of waste. Planning is also underway for the ordnance works project, although construction has not yet been initiated.

Given the similarity of waste to be disposed of, the proximity of the facilities, the more stringent landfill design requirements at the chemical plant, the environmental benefit of one facility versus two, and economic considerations, it is proposed that approximately 60,000 cubic yards (cu) of lead contaminated soil, incinerator ash product and construction debris from the ordnance works be placed in the chemical plant area disposal facility, A chemical stabilization/solidification (CSS) process will be used to treat all lead-contaminated soils from the ordnance works. Prior to disposal, any ash product that does not pass the toxicity characteristic leachate procedure will also be treated through the CSS process until it is no longer characteristically hazardous. This proposal eliminates the need for two disposal facilities in the same geographic location. The waste material from the ordnance works remedial activities represents less than 5% of the total waste volume expected to be generated by remedial activities at the chemical plant.

This Explanation of Significant Difference (ESD) has been prepared by the DOE to identify a significant change to the remedial action documented in the Record of Decision for the Chemical Plant Area of the Weldon Spring Site, DOE/OR/21548-376. September 1993 (ROD), as required under the Comprehensive Environmental Response, Compensation and Liability Act section 117(c). The ESD presents for public review, a modification to the remedial action allowing for the placement of a small volume of additional waste material from the ordnance works area in the disposal facility located at the chemical plant. Several small areas of the ordnance works are already defined as chemical plant vicinity properties where contaminated soils will be excavated and placed in the chemical plant facility.

An Explanation of Significant Differences for Operable Unit 01 of the Weldon Spring Quarry/Plant/Pits (USDOE/ARMY) site was completed in February 1996.

OU 4 & 5:

Much of the land surrounding the quarry consists of state-owned conservation areas containing second growth forest. Non-forested areas are largely used for crop production and pasture or are old-field habitat. Aquatic habitats in the vicinity of the site include the Missouri River, Little Femme Osage Creek, Femme Osage Slough and numerous small unnamed creeks, drainages and ponds throughout the Weldon Conservation Area.

The quarry was used by the Army for disposal of chemically contaminated materials in the 1940s and was later used for the disposal of radioactively contaminated material by the Atomic Energy Commission in the 1960s.

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Unconsolidated surficial materials are present in the area of the Weldon Spring quarry. The uppermost bedrock unit in the vicinity of the quarry is the Kimmswick Limestone. The contact between the Kimmswick Limestone and the underlying Decorah Group, which may provide primary pathways for contamination migration from the quarry area, is in contact with fine-grained soils, silty clay, and organic silt and clay north of Femme Osage Slough.

A Record of Decision (ROD) was completed in 1990 for the Quarry Bulk Waste Operable Unit (OU). A ROD was completed in 1998 for the Quarry Residuals OU.

OU 6:

The Chemical Plant area was used for trinitrotoluene (TNT) production from 1941 to 1945 and later as a uranium-processing facility from 1957 to 1966. The Quarry was used to dispose of uranium and thorium residues (drummed and uncontained), radioactively contaminated building rubble and process equipment, and TNT and dinitrotoluene (DNT) residues from cleanup of the former Ordnance Works.

The sources of contamination at the Chemical Plant from uranium processes are those shown in the original layout of the Chemical Plant. These consisted of approximately 40 buildings, four waste retention ponds (referred to as Raffinate Pits), two ponds (Ash Pond and Frog Pond), and two former dumps (north and south). Remediation of these source areas has been completed. Burgermeister Spring, which is hydrologically connected to the Chemical Plant groundwater, is in the August A. Busch Memorial Conservation Area.

The two communities closest to the site are Weldon Spring and Weldon Spring Heights, about 3.2 kilometers (2 miles) to the northeast. The combined population of these two communities is about 5,000. No private residences exist between Weldon Spring Heights and the site. Urban areas occupy about 6% of county land, and non-urban areas occupy 90%; the remaining 4% is dedicated to transportation and water uses. Francis Howell High School (FHHS) is about 1 kilometers (0.6 miles) northeast of the site along Missouri State Route 94 and is occupied regularly by about 1,700 faculty, staff members, and students.

The Missouri Department of Transportation (MoDOT) Weldon Spring maintenance facility, located adjacent to the north side of the Chemical Plant, employs about 10 workers. The Army Reserve Training Area to the west of the site is visited periodically by Army trainees and law enforcement personnel. About 300 hectares (741 acres) of land east and southeast of the high school is owned by the University of Missouri. The northern third of this land is being developed into a high-technology research park. The conservation areas adjacent to the site are operated by the Missouri Department of Conservation (MDC) and employ about 50 people. Two residences are located on the MDC property north of the Chemical Plant.

At the Chemical Plant, the 24-hectare (60-acre) disposal cell facility that includes the 300-foot (91-meter) buffer will remain under the custody of the U.S. Department of Energy (DOE). As currently planned only three buildings will remain within the Chemical Plant proper after project completion and site closure. The administration building would be made available for use by a local organization. The former access control building contains the Weldon Spring Site interpretive center. The center is a place where members of the public can obtain information about the site. A small water treatment enclosure is located near the leachate sump.

DOE expects that the U.S. Department of the Army (DA) will continue to use the adjacent Weldon Spring Training Area (WSTA) for field training. The MDC is expected to continue to maintain the remaining surrounding areas for recreational use.

The shallow bedrock aquifer that is beneath the boundary of the Chemical Plant property and the adjacent DA and MDC properties is not currently used for drinking water or for irrigation. However, on the basis of U.S. Environmental Protection Agency (EPA) guidance for groundwater classification, site groundwater could be classified as potentially usable from a water quality standpoint. That is, according to the EPA, a potential source of groundwater is one capable of yielding at least 150 gallons per day to a well or spring, which is sufficient for the needs of a family. Also, a drinking water source must have a total dissolved solids concentration of less than 10,000 milligrams per liter (mg/L) that can be supplied without treatment. Despite the unlikelihood of the impacted groundwater actually ever being used for household purposes, in accordance with EPA guidelines and for the purpose of making this remedial action determination, this shallow groundwater is categorized as a potentially usable resource.

No active private wells are located within 1 mile (1.6 kilometers) of the Chemical Plant. One well, which is used for irrigation at the Missouri Research Park, is located within 2 miles (3.2 kilometers), but it is cross gradient of the site and therefore should not be affected by the site. No active domestic wells are known to be within the Chemical Plant area, the adjacent Ordnance Works area, or in the Busch Conservation area. The privately owned domestic water wells that are located closest to the site are 2.1 miles (3.4 kilometers) to the north-northeast. These wells are estimated to be 70 to 91 meters (325 to 350 feet) below the ground surface. Although these wells produce water that includes groundwater from the shallow aquifer, the potential for impact from contaminated groundwater originating from the Chemical Plant site is low. Groundwater field studies have supported that the preferential flow direction for groundwater from the site is to the northwest toward Burgermeister Spring and the 6300 Drainage. If active wells were present between the site and this drainage, the likelihood for impact would be high.

In 1982, the Missouri Department of Health and Senior Services (DHSS), which was at that time called the Missouri Department of Health (MDOH), initiated a sampling program of private drinking water wells surrounding the Weldon Spring Site. The number of wells was expanded over time in an effort to fully investigate the area around the Chemical Plant and the former Army Ordnance Works area. When a well is no longer used for consumption, it is removed from the sampling program. Historically, wells closer to the site were sampled quarterly, and those in outlying areas were sampled annually. Presently, wells are sampled on a semiannual or annual basis. Sampling results indicate background levels of those parameters analyzed, including radiological parameters. The only impacted wells identified were at Twin Island Lakes (Dardenne Lakes) located northeast of the Chemical Plant and Ordnance Works area, where elevated nitroaromatic compounds were detected. This impact is not due to the DOE Weldon Spring Site and was investigated by the DA as part of its Ordnance Works Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) site. More extensive sampling performed by the DA determined that elevated levels of nitroaromatic compounds were present only in the samples from the Twin Island Lakes wells.

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A municipal water supply is currently available to serve the household needs of the area communities. Thus, for the foreseeable future, it is unlikely that the impacted groundwater beneath the Chemical Plant would be used for household purposes. In addition, the impacted, shallow portion of the aquifer is characterized by low yield. The deeper, unaffected, higher-yielding aquifers would more likely serve as a groundwater source in the unlikely event that groundwater use would ever occur

Access to spring water will remain similar to access under current conditions, consistent with recreational land use.

In 1986, the EPA and DOE entered into a federal facilities agreement (FFA). The EPA listed the Quarry on the National Priorities List (NPL) in 1987. The Chemical Plant was added in 1989. The FFA was amended in 1992 and complies with Section 120 of the CERCLA. The amended FFA includes agreements to ensure that the environmental impacts associated with past and present activities at the Weldon Spring Site are thoroughly investigated and that appropriate remedial action is taken, as necessary, to protect public health and the environment. It contains procedures for resolving disputes, assigning penalties for nonconformance, and ensuring public participation in the remedial action decision-making process. In addition, the amended FFA also facilitates the exchange of information between DOE and the State of Missouri by providing primary and secondary documents to the state for its review.

A Record of Decision (ROD) for the Weldon Spring site addresses solid wastes and soil, as Operable Unit (OU) 04. The expanded site was placed on the National Priorities List (NPL) on March 13, 1989 under the name "Weldon Spring Quarry/Plant/Pits (USDOE/Army)".

A Record of Decision (ROD) for the Weldon Spring Site was signed in September 1990.

In 2000, DOE published the Interim Record of Decision (IROD) for the remediation of trichloroethylene (TCE). The remedial action presented in that IROD was in-situ chemical oxidation (ISCO). This present Record of Decision (ROD), published in February of 2004, for remediation of operable unit 4 includes remediation of TCE by using a method that differs from the remedy selected in the 2000 IROD.

OU6:

The Weldon Spring site is located in St. Charles County, Missouri, about 48 kilometers (30 miles) west of St. Louis. The site consists of two nearby but geographically distinct properties - the Weldon Spring Chemical Plant and Raffinate Pit sites (Chemical Plant) and the Weldon Spring Quarry (Quarry). Both properties are under the jurisdictional control of the Department of Energy (DOE). Jurisdictional control refers to the federal jurisdiction and control that DOE exerts as the federal land-holding agency with jurisdiction over specific property on land owned by the United States. The Army has federal jurisdiction in a similar manner over its property on land owned by the United States.

The EPA placed the Quarry and the Chemical Plant on the National Priorities List (NPL) in 1987 and 1989, respectively. A Federal Facility Agreement was signed by the EPA and DOE in 1986, and it was amended in 1992.

Cleanup of the Weldon Spring site was implemented through a series of response actions that included removal actions to address immediate risks and stabilize conditions. Work that remained was subsequently organized into four Operable Units (OUs). The Quarry Bulk Waste action was an interim measure, and the Quarry Residuals Operable Unit (QROU) was designed to address the final response actions for the Quarry area.

Chemical Plant OU (CPOU):

The Chemical Plant area was part of a larger area used by the U.S. Department of the Army from 1941 to 1945 to manufacture trinitrotoluene (TNT) and dinitrotoluene (DNT). This resulted in contamination of soil, sediment, and some off-site springs with nitroaromatic compounds. The Chemical Plant area was later transferred to the U.S. Atomic Energy Commission (AEC) in 1956 for construction of the Weldon Spring Uranium Feed Materials Plant, which is now referred to as the Chemical Plant. The plant processed uranium ore concentrates, and the wastes that were generated were stored in the four Raffinate Pits located on the Chemical Plant property. The uranium processing operations resulted in radiological contamination of some locations generally within the areas previously contaminated by Army operations.

The remedial action completed for the CPOU addressed the conditions at 44 buildings and structures, including foundations; the dewatering and dredging of four Raffinate Pits; and the removal of contaminated soil and sediment within the boundaries of the Chemical Plant (including soil beneath the area now consisting of the disposal cell and buffer zone and areas at Frog Pond and Ash Pond). Removal of contaminated soil was also conducted at numerous vicinity properties outside the Chemical Plant. The contaminated soil and other wastes generated from the cleanup are now permanently disposed of at an engineered disposal cell constructed at the Chemical Plant. Wastes generated from cleanup of the Quarry area have also been disposed of in the disposal cell. At the time of its closure, the cell contained approximately 1.13 million cubic meters (1.48 million cubic yards) of waste.

The engineering evaluation/cost analysis (EE/CA) and decision document for the Southeast Drainage specified removal of radioactively contaminated soil and sediment from accessible areas of the Drainage, with the removed soil and sediment to be transported to the Chemical Plant for temporary storage and ultimate disposal in the disposal cell. The removal action was completed in 1999.

The Southeast Drainage is narrow and wooded with limited access and one of the objectives of this cleanup was to limit ecological damage to the drainage. It was determined that the soil cleanup goals developed for the CPOU described above were not appropriate for cleanup of this area and risk-based cleanup goals were developed for the drainage that were designed to be protective for recreational use and for a modified residential scenario involving a child living near the drainage and using it periodically for play activities. Post-cleanup soil and sediment

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sampling was conducted, and a post-cleanup risk assessment was performed to confirm that the drainage is protective for these uses and therefore protective for any reasonably anticipated land use. However, residual soil and sediment contamination remains in some locations within the drainage at levels exceeding those that would support unlimited use and unrestricted exposure (UUUE) as represented in this case by a standard conservative suburban residential exposure scenario described above. Therefore, land use restrictions are needed in the drainage to prevent residential use or other uses inconsistent with recreational use. The Southeast Drainage is located on property owned by state entities.

QROU:

The Quarry was originally mined for limestone aggregate used to construct the nearby former ordnance works. The Army subsequently used the Quarry for burning wastes from the manufacture of explosives and for the disposal of rubble contaminated with TNT during the operation of the ordnance works. These activities resulted in contamination of the soil and groundwater with nitroaromatic compounds. The AEC also disposed of radioactive wastes and rubble that came from demolition of a facility previously used to process radioactive materials located in St. Louis, Missouri (known as the Destrehan Street Plant) in the Quarry.

The 1998 QROU Record of Decision (ROD) was intended to address the residual contamination remaining at the Quarry Area following removal of the waste material from the Quarry proper. The bulk waste was removed and transported to the Chemical Plant Area for permanent disposal in the onsite disposal cell under the 1990 Quarry Bulk Waste Operable Unit ROD. The primary residual concern is the uranium contaminated groundwater beneath the Quarry and its immediate surrounding area north of the Femme Osage Slough. The conditions at the quarry area were determined to be protective for its current and reasonably anticipated future land use (recreational) because exposure to contaminated groundwater is not a concern for these uses.

The contaminated groundwater in the Quarry area is confined to the shallow system beneath the quarry and the marginal alluvium north of the slough. The impacted groundwater system was determined not to be a potential source of drinking water because of insufficient yields; however, uranium concentrations exceed the drinking water standard and the system is located adjacent to the Missouri River Alluvial aquifer which is currently used as a drinking water source. A two-year study was conducted to investigate the potential effectiveness of installing a groundwater removal and treatment system. This study confirmed the validity of model projections reported in the feasibility study, which had indicated that a groundwater removal and treatment system would not be effective in significantly reducing uranium mass or concentrations in the Quarry Area groundwater.

Chemical Plant Groundwater OU (GWOU):

The selected remedy in the 2004 GWOU Final ROD is monitored natural attenuation (MNA) of the contaminants of concern (COCs) with Institutional Controls (ICs) to prohibit the use of groundwater and spring water as a drinking water source during the period of remediation (or attenuation). The ROD also stipulates that ICs should prohibit uses that could impact groundwater flow in the area of contamination. A monitoring network has been established to evaluate whether the MNA performance goals described in the ROD are being met.

The reasonably expected future land use at the Chemical Plant area is recreational use, which would not make use of groundwater. Also, low groundwater yields and the availability of a municipal drinking water source reduce the likelihood of groundwater being used for residential purposes. Nevertheless, the potential future risk from residential use of the water was evaluated. This evaluation included an assessment of the risk from ingesting the groundwater at quantities typical for a resident scenario. The assessment indicated unacceptable cancer and noncancer risks for a resident from ingesting the contaminated groundwater. Hence, use restrictions need to be specified that will ensure that groundwater is not used as a residential drinking water source until cleanup standards for groundwater are met. The cleanup standards are set at levels that allow for UUUE. It is estimated that it would take approximately 100 years for contaminants in groundwater and spring water to naturally attenuate to the cleanup standards.

The buffer area necessary to prevent hydraulic impacts to the area of contamination was defined as extending 1,000 feet from the outer edge of where contaminated groundwater exceeds cleanup standards. The size of the buffer area was conservatively determined by considering the area that would be covered by the hydraulic capture of a well installed in the most transmissive location at the site (the location where the highest water yield could be obtained). The Chemical Plant area affected by the groundwater contamination is on property under the jurisdictional control of DOE and the Army and on property owned by state entities.

An Explanation of Significant Differences (ESD) addressing the CPOU, including the Southeast Drainage property, QROU and the GWOU was completed in February 2005.

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						00	DS DISCVRY	001		11/01/1979	EPA Fund

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MO3210090004	WELDON SPRING QUARRY/PLANT/PITS (USDOE/ARMY) - CONTINUED					00	PA	PA	001	10/01/1979	10/01/1979	Fed Fac
						00	PA	PA	002	11/01/1979	11/01/1979	Fed Fac
						00	PA	PA	003	04/24/1986	07/25/1986	Fed Fac
						00	SI	SI	001	04/24/1986	07/25/1986	Fed Fac
						00	SI	SI	002	04/24/1986	07/25/1986	Fed Fac
						00	SI	SI	003	04/24/1986	07/25/1986	Fed Fac
						00	HR	HAZRANK	001		04/12/1984	EPA Fund
						00	HR	HAZRANK	002		04/12/1984	EPA Fund
						00	NP	PROPOSED	001		10/15/1984	EPA Fund
						00	NF	NPL FINL	001		07/22/1987	Fed Fac
						00	MA	ST COOP	001	06/16/1989	04/15/1993	PRP Rsp Fed
						00	LZ	FF CR	001	10/30/1986		Fed Fac
						00	TG	TA GRANT	001	02/14/1989	01/01/1993	Fed Fac
						01	LV	FF RV	001	05/20/1987	12/28/1990	Fed Fac
						01	LV	FF RV	002	10/09/1987	10/02/1990	Fed Fac
						01	LV	FF RV	003	11/01/1987	01/15/1988	Fed Fac
						01	LV	FF RV	004	11/01/1987	11/22/1991	Fed Fac
						01	LV	FF RV	005	11/09/1987	06/09/1989	Fed Fac
						01	LV	FF RV	006	10/01/1988	04/28/1989	Fed Fac
						01	LV	FF RV	009	11/01/1987	03/15/1992	Fed Fac
						01	LV	FF RV	010	05/15/1991	01/15/1995	Fed Fac
						01	LW	FF RI/FS	001	08/22/1986	09/27/1993	Fed Fac
						01	AR	ADMM REC	002	06/01/1990	09/28/1993	Fed Fac
						01	RO	ROD	002		09/27/1993	Fed Fac
						01	LX	FF RD	010	01/19/1993	12/19/1994	Fed Fac
						01	LX	FF RD	012	03/25/1993	06/12/1995	Fed Fac
						01	LX	FF RD	013	04/28/1993	06/06/1995	Fed Fac
						01	LX	FF RD	018	05/15/1995	09/15/1997	Fed Fac
						01	LY	FF RA	009	04/10/1995	01/30/2004	Fed Fac
						01	LY	FF RA	013	10/26/1995	01/30/2004	Fed Fac
						01	LY	FF RA	015	04/08/1996	01/30/2004	Fed Fac
						01	LY	FF RA	020	09/04/1995	01/30/2004	Fed Fac
						02	LV	FF RV	008	08/27/1990	02/15/1993	Fed Fac
						02	LX	FF RD	009	11/17/1992	10/18/1993	Fed Fac
						02	LX	FF RD	011	02/26/1993	03/22/1995	Fed Fac
						02	LX	FF RD	016	09/30/1994	01/15/1997	Fed Fac
						02	LX	FF RD	017	06/15/1994	03/31/1995	Fed Fac
						02	LY	FF RA	007	05/11/1994	01/13/1995	Fed Fac
						02	LY	FF RA	008	08/08/1995	01/25/1996	Fed Fac
						02	LY	FF RA	014	01/01/1996	01/30/2004	Fed Fac
						02	LY	FF RA	016	04/23/1997	01/30/2004	Fed Fac
						03	EE	EE/CA	001	01/30/1996	08/22/1996	Fed Fac

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MO3210090004	WELDON SPRING QUARRY/PLANT/PITS (USDOE/ARMY) - CONTINUED					03	LV	FF RV	011	10/30/1997	05/15/1998	Fed Fac
						03	LX	FF RD	007	08/25/1994	05/03/1995	Fed Fac
						03	LX	FF RD	008	08/16/1994	11/27/1995	Fed Fac
						03	LX	FF RD	014	11/06/1992	11/10/1994	Fed Fac
						03	LX	FF RD	015	11/06/1992	06/12/1995	Fed Fac
						03	LX	FF RD	019	10/11/1993	06/28/1996	Fed Fac
						03	LY	FF RA	010	12/21/1996	01/30/2004	Fed Fac
						03	LY	FF RA	011	07/31/1995	01/30/2004	Fed Fac
						03	LY	FF RA	012	09/05/1995	01/30/2004	Fed Fac
						03	LY	FF RA	017	04/08/1996	01/30/2004	Fed Fac
						03	LY	FF RA	018	07/12/1995	01/30/2004	Fed Fac
						04	LV	FF RV	007	08/27/1990	11/15/1992	Fed Fac
						04	NI	FF FS	001	07/15/1988	03/05/1990	Fed Fac
						04	AR	ADMM REC	001	09/30/1989	09/30/1989	Fed Fac
						04	RO	ROD	001		09/28/1990	Fed Fac
						04	LX	FF RD	001	08/09/1990	01/15/1991	Fed Fac
						04	LX	FF RD	002	08/09/1990	02/15/1991	Fed Fac
						04	LX	FF RD	003	08/09/1990	02/15/1991	Fed Fac
						04	LX	FF RD	004	08/09/1990	02/15/1991	Fed Fac
						04	LX	FF RD	005	08/09/1990	09/23/1991	Fed Fac
						04	LX	FF RD	006	08/09/1990	03/15/1992	Fed Fac
						04	LY	FF RA	001	03/15/1991	10/15/1991	Fed Fac
						04	LY	FF RA	002	06/03/1991	03/15/1992	Fed Fac
						04	LY	FF RA	003	06/15/1991	03/15/1992	Fed Fac
						04	LY	FF RA	004	02/15/1992	07/15/1993	Fed Fac
						04	LY	FF RA	005	04/15/1992	04/15/1993	Fed Fac
						04	LY	FF RA	006	06/01/1993	02/21/1997	Fed Fac
						05	LW	FF RI/FS	003	10/24/1991	09/30/1998	Fed Fac
						05	AR	ADMM REC	003	07/01/1995	09/30/1998	Fed Fac
						05	RO	ROD	003		09/30/1998	Fed Fac
						05	LX	FF RD	020	03/31/1999	06/15/2000	Fed Fac
						05	LY	FF RA	022	01/30/2000	01/30/2004	Fed Fac
						06	LW	FF RI/FS	004	05/18/1995	09/29/2000	Fed Fac
						06	AR	ADMM REC	004	07/01/1995		Fed Fac
						06	RO	ROD	004		09/29/2000	Fed Fac
						06	RO	ROD	005		02/20/2004	Fed Fac
						06	LX	FF RD	021	10/15/2000	09/21/2001	Fed Fac
						06	LY	FF RA	021	03/01/2002	03/17/2005	Fed Fac
						06	CM	PCOR	001		08/22/2005	EPA Fund
						06	OM	OM	001	03/17/2005		Fed Fac

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MO5210021288	WELDON SPRING FORMER ARMY ORDNANCE WORK			+38.696380	7040		CONGRESSIONAL DISTRICT: 09				
0701773	ST HWY 94 2 MI S US 40			-090.729160	10300200		OWNERSHIP: Federally Owned				
				EPA HQ			NPL STATUS: F				
	ST. CHARLES	MO	63301				FEDERAL FACILITY: Y				
	ST. CHARLES	29183					NON-NPL STATUS: N/A				
							NPL UPDATE NUMBER: 12				

Site Aliases: BUSCH CONSERVATION AREA,,,,;FRANCIS HOWELL HIGH SCHOOL,,,,;FT LEONARD WOOD WELDON SPRGS SS#07BC,,,MO,;US ARMY TRNING CNTR & FT LNRD WD SS#07BC,,,MO,;WELDON SPRING CONSERVATION AREAS,,,,;WELDON SPRING FORMER ARMY ORDNANCE WORKS,ST HWY 94 2 MI S US 40,ST. CHARLES COUNTY,MO,63301;WELDON SPRING ORD WORKS,,,,;WELDON SPRING TRAINING AREA (WSTA),,,,;WELDON SPRINGS CHEMICAL QUARRY (FINDS),,,MO,;WELDON SPRINGS NATIONAL GUARD FACILITY,HWY 94 BY BUSCH WILDLIFE AREA,WELDON SPRINGS,MO,63301;WELDON SPRINGS ORDNANCE WORKS (FORMER) (QUARRY),ST HWY 94 2 MI S OF US 40,ST. CHARLES,MO,80648;WELDON SPRINGS-EX ARMY ORDNANCE PLANT,,,MO,;

Site Description: The Weldon Spring Ordnance Works (WSOW) is located in St. Charles County, approximately 30 miles west of St. Louis, Missouri and about 14 miles southwest of the City of St. Charles. It is bisected by State Highway 94, bounded on the north by U.S. Highway 40-61 and bounded on the south by the Missouri River. The original property of the WSOW consisted of 17,232 acres. Following 1946, the property was subsequently divided with most of the land (all but 2,000 acres) being transferred to the State of Missouri and the University of Missouri. The former Ordnance Works property at the present time includes the Weldon Spring Training Area (WSTA), Busch Conservation Area, Weldon Spring Conservation Area, Francis Howell High School, Weldon Spring Heights and the Missouri Research Park.

A portion of the original WSOW, 205 acres, was transferred in 1955 to the U.S. Atomic Energy Commission with an additional 15 acres from the Weldon Spring Training Area conveyed in 1964 for the construction and operation of Weldon Spring Uranium Feed Materials Plant. The plant was active from 1957 through 1966 and processed uranium and thorium ore concentrates. This area is now referred to as the Chemical Plant Area (CPA) and is part of the Weldon Spring Site (WSS). The WSS also includes a quarry area in the south of the WSOW. This site was placed on the National Priorities List (NPL) in 1987, and the U.S. Department of Energy (DOE) is the lead agency for actions at the WSS. The remainder of the WSOW is the approximate extent of the designated WSOW NPL site.

The WSOW operated from 1941 through 1945 as an explosives production facility to support war efforts during World War II. The WSOW produced trinitrotoluene (TNT) and dinitrotoluene (DNT) explosives. The WSOW was operated under contract by the Atlas Powder Company. Approximately 5,200 employees operated the facility in 1943 when the plant reached a peaked annual production of 164,000 tons of explosives. In January 1944, the TNT and DNT plants and support facilities were taken out of operation and placed on standby status. During this period, most of the production equipment and buildings were dismantled, cleaned, repaired, and "mothballed." In July 1944, reactivation was ordered and the entire WSOW was reassembled. Production continued until August 1945 when the contractor was notified to cease operations.

The Army's Ordnance Department reassumed operations of WSOW from Atlas Powder Company in November 1945. The property was declared surplus in April 1946 and transferred to the War Assets Administration. WAA began transfer of WSOW property to various entities in 1949.

The WSOW was listed on the NPL on February 21, 1990 and is now being addressed under guidelines established in a three party Inter-Agency Agreement (IAG) effective August 8, 1991 between EPA Region VII, MDNR, and the U.S. Army. The U.S. Army is the lead agency for this site.

The WSTA is an active Army Reserve Training Area. Portions of the WSTA are also used by law enforcement personnel. The Missouri Department of Transportation Weldon Spring maintenance facility, located adjacent to the east and north of the WSTA, employs about 10 workers. About 300 hectares (741 acres) of land east and southeast of the high school is owned by the University of Missouri. The northern third of this land is being developed into a high-technology research park. The conservation areas surrounding the WSTA are operated by the MDOC and employ about 50 people. Two residences are located on the MDOC property north of the WSTA.

The two communities closest to the site are Weldon Spring and Weldon Spring Heights, about 3.2 kilometers (km) (2 miles [mi]) to the northeast of the WSTA. The combined population of these two communities is about 5,000. No private residences exist between Weldon Spring Heights and the WSTA. Urban areas occupy about 6% of county land, and nonurban areas occupy 90%; the remaining 4% is dedicated to transportation and water uses Francis Howell High School is about 1 km (0.6 mi) northeast of the WSTA along Missouri State Route 94 and is occupied regularly by about 1,700 faculty, staff members, and students. With the exception of Weldon Spring, all of these areas are within the original boundary of the WSOW.

The CPA is adjacent to the WSTA to the east and is within the boundary of the former WSOW. Three buildings remain at the CPA. These buildings include a small water treatment enclosure, an administrative building that is used by DOE and is available for use by local organizations, and an interpretive center provided by DOE for use by the public for obtaining information about the CPA and WSOW.

The DOE manages the CPA, a quarry site in the southern WSOW and several other areas in the WSOW under the Weldon Spring Site Remedial Action Project.

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As a whole, the shallow aquifer beneath the boundaries of the WSTA is currently not used for drinking water or irrigation purposes. No domestic wells are known to be active within the WSTA, the adjacent CPA, or the August A. Busch Conservation area.

No active private wells are located within 1.6 kilometers (1 mile) of the WSTA. The closest active domestic water wells from the site are located 3.4 kilometers (2.1 miles) to the north northeast. Although these wells produce water from the shallow aquifer, the potential for impact from contaminated groundwater is low due to their distance from the contamination and depth of the well screen.

An irrigation well is located at the Missouri Research Park within 3.2 kilometers (2 miles), of the impacted areas of the WSOW but is within the boundary of the original WSOW. This well is located cross gradient of the WSOW groundwater contamination which reduces the potential for any future impact.

The current source of water for the majority of residents in the area is municipal water provided by several companies. County zoning for future housing developments in the area of the WSTA indicate that when available, municipal water will continue to be the source of drinking water.

The Weldon Spring Heights is located within the original boundaries of the WSOW. This community obtains drinking water from a well installed in the St. Peters Sandstone. This well is cross-gradient to the contamination within the shallow aquifer at the WSOW and is therefore not likely to become contaminated in the future as a result of nitroaromatic contamination in the shallow bedrock aquifer.

Surface water on the WSTA is only used for ecological needs. Surface water on the adjacent Missouri Department of Conservation (MDOC) properties (and part of the former WSOW) is used for ecological and recreational activities.

Future land use for the WSTA includes ownership and maintenance by the Department of Army as a field training area. Development of some of the training facilities may require a potable water supply. There are no current plans to alter the use of the property currently held by the MDOC.

Operable Unit (OU) 1: Soils and Pipeline
OU1 addressed soils and pipelines associated with the former ordnance works. The remedial action included excavation and treatment of explosives-contaminated soils and pipeline that exceeded remediation goals. The remedial action also included disposal of contaminated materials in the DOE disposal cell and at approved off-site facilities. Approximately 120,000 tons of contaminated material was addressed under OU1. The primary goal of this remedial action was to eliminate adverse health effects from long-term exposure to soils and address safety concerns related to the pipelines. In addition, this selected and implemented remedial action significantly reduced and/or eliminated known sources of groundwater contamination at the former WSOW. This action is expected to eliminate further migration of nitroaromatic compounds in soils and reduce the potential for impacting groundwater. The OU1 Record of Decision (ROD) was signed in 1996 with an Explanation of Significant Differences (ESD) signed in 2004. OU1 remediation activities were completed in July 2004.

Operable Unit 2: Groundwater
In 1995, the U.S. Army Corps of Engineers (USACE) began the OU2 Remedial Investigation (RI). The primary objective of the OU2 RI was to evaluate the nature and extent of contamination by the chemicals of concern in the groundwater at the site attributable to former Department of Defense activities.

During the OU2 RI, it was determined that groundwater contamination at the site did not pose a threat to human health from recreational exposures nor did it pose potentially significant ecological risk. However, some areas on the WSOW were identified as having contaminant concentrations that exceeded federal and/or state levels for groundwater and/or surface water with regards to ingestion. Preliminary Remediation Goals (PRG) for OU2 were then proposed in a 1998 Feasibility Study (FS) that presented remedial alternatives for both the WSOW and the CPA sites, (a joint effort between the Army and DOE). The PRGs for groundwater that are presented in the 1998 FS are based on federal and state levels and a residential exposure scenario.

As part of the OU2 RI activities, an extensive groundwater monitoring program was instituted at the WSOW. A series of 83 monitoring wells and several springs have been periodically monitored (January 1990 to August 2003). The purpose of the monitoring program was to evaluate contaminant trends in the groundwater and identify whether natural processes could sufficiently reduce the concentration levels of groundwater contaminants. The Groundwater Monitoring Assessment Report (GMAR) concluded that natural attenuation of the contaminants was feasible at the WSOW with dilution and dispersion as the dominant natural processes.

Previous groundwater monitoring indicates that groundwater contamination is not migrating offsite, and any further increase in the extent of groundwater contamination is not expected.

The groundwater contamination encountered at the former WSOW is a result of nitroaromatic compounds leaching into the groundwater system from numerous historical surface and shallow subsurface releases associated with the former ordnance activities. The known nitroaromatic source areas within the soil, former process pipelines and other physical structures, were addressed through various remedial actions performed under OU1. All areas identified as having concentrations exceeding remediation goals (57 milligrams per kilogram [mg/kg] for TNT and 2.5 mg/kg for DNT) were remediated. Remediation goals were achieved at all identified areas with the exception of T13 at depth.

Approximately 1500 cubic yards of contaminated soil was remediated at T13 to depths as great as 22 feet below ground surface. A significant potential source of groundwater contamination was removed as a result. However, it is estimated that up to 428 cubic yards of contaminated soil may remain at T13 having concentration of less than 46 mg/kg DNT. T13 is upgradient of MW16 and is within the SP-5601/5603/5605 spring basin recharge area.

Residual contamination still exists within the weathered surface, fractures, and solution features of the underlying limestone bedrock. Some areas on the WSTA have been identified with dilute

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fractions of nitroaromatic compounds that still exceed remediation goals for OU2.

Various nitroaromatic compounds are the contaminants of concern at the WSOW. The nitroaromatic compounds include: 2,4,6-Trinitrotoluene (TNT), 2,4-Dinitrotoluene (2,4-DNT), 2,6-Dinitrotoluene (2,6-DNT), o-Nitrotoluene (o-NT), m-Nitrotoluene (m-NT), p-Nitrotoluene (p-NT) and Photolytic Degradation Products 1,3-Dinitrobenzene (DNB) and Nitrobenzene (NB).

The recent monitoring program has consisted of collecting samples from 83 wells and 13 springs throughout the WSOW. The network of wells and springs that were monitored at the WSOW are shown in Figure 3. The monitoring program demonstrated the areas at which contamination exceeded the Preliminary Remediation Goals (PRGs). These PRGs are carried forward as Remediation Goals (RGs).

The RGs are based on state of Missouri water quality standards for 2,4-DNT and 1,3-DNB, and NB are 0.11 ug/L, 1.0 ug/L, and 17 ug/L, respectively. There are no federal standards for the nitroaromatic compounds of concern at WSOW. RGs for 2,6-DNT, o-NT, p-NT, m-NT, and TNT are risk-based.

These impacted areas are identified by color-coding of Spring Basin Recharge areas identified using dye-trace study data collected by the MDNR Division of Geology and Land Survey. Contamination is limited to the shallow bedrock aquifer (Burlington-Keokuk) or the springs at the WSOW. Contamination is not impacting the deeper aquifer or the sand and gravel alluvial aquifer of the Missouri River.

Of the 13 monitoring points at the WSOW with concentrations of nitroaromatics exceeding the RGs, eight are located on the WSTA. Of the five other monitoring points with exceedances of RGs, two points are located north of the WSTA within the same spring recharge basin and are of the same order of magnitude as the RGs. These points are all within the boundaries of the WSOW.

The remaining three monitoring points are located to the south and southeast of the WSTA (also within the boundaries of the WSOW). The monitoring points are springs located at a distance of 0.5 to 1.5 miles from the nearest road access across rugged terrain. Concentrations of nitroaromatics in these springs range from 1 to 2 orders of magnitude over the RGs but are still at concentrations that meet an acceptable recreational exposure scenario.

For each monitoring point with an exceedance of RGs, there is at least one downgradient monitoring point within the WSOW that is at or below the RGs. In most cases, the most downgradient monitoring point within the boundaries of the WSOW is non-detect for all nitroaromatics.

A Record of Decision addressing OU 2 was completed in September 2004.

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MO5210021288	WELDON SPRING FORMER ARMY ORDNANCE WORKS - CONTINUED					00	DS	DISCVRY	001		06/01/1981	EPA Fund
						00	LV	FF RV	001	10/17/1991	10/30/1991	Fed Fac
						00	LV	FF RV	002	06/12/1992	06/18/1992	Fed Fac
						00	LV	FF RV	003	11/19/1992	09/30/1993	Fed Fac
						00	PA	PA	001	08/24/1984	09/17/1985	Fed Fac
						00	SI	SI	001	04/24/1986	07/25/1986	Fed Fac
						00	HR	HAZRANK	001		01/08/1988	EPA Fund
						00	NP	PROPOSED	001		07/14/1989	EPA Fund
						00	NF	NPL FINL	001		02/21/1990	EPA Fund
						00	MA	ST COOP	001	01/01/1989	09/30/1991	PRP Rsp Fed
						00	LZ	FF CR	001	01/31/1997		Fed Fac
						00	HA	HEALTH	001	02/15/1991	06/30/1995	EPA Fund
						00	AR	ADMM REC	001	10/16/1991		Fed Fac
						00	AR	ADMM REC	002	06/12/1992		Fed Fac
						00	AR	ADMM REC	003	11/16/1992		Fed Fac
						01	LW	FF RI/FS	001	02/16/1990	09/26/1996	Fed Fac
						01	ED	R/H ASMT	001		10/15/1990	Fed Fac
						01	JF	ECO RISK	001		10/15/1990	Fed Fac
						01	AR	ADMM REC	004	05/01/1996		Fed Fac
						01	RO	ROD	001		09/26/1996	Fed Fac
						01	LX	FF RD	001	04/04/1994	12/31/1997	Fed Fac
						01	TS	TRTSTUDY	001	10/01/1992	01/11/1993	Fed Fac
						01	TS	TRTSTUDY	002	10/07/1992	01/05/1993	Fed Fac
						01	TS	TRTSTUDY	003	10/07/1992	03/02/1993	Fed Fac
						01	LY	FF RA	001	12/26/1997	09/30/2004	Fed Fac
						01	OF	O AND F	001	01/01/1998	06/30/2001	Fed Fac
						02	LW	FF RI/FS	002	06/30/1996	09/30/2004	Fed Fac
						02	RO	ROD	002		09/30/2004	Fed Fac
						02	LX	FF RD	002	02/15/2005	09/30/2005	Fed Fac
						02	LY	FF RA	002	06/30/2005	07/28/2005	Fed Fac
						02	CM	PCOR	001		08/24/2005	EPA Fund

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MO6210022830	WELDON SPRINGS CHEMICAL PLANT			38D41M53S	7040		CONGRESSIONAL DISTRICT: 09				
0701777	HWY 94 2 MI S US 40			090D43M50S	10300200		OWNERSHIP: Federally Owned				
							NPL STATUS: A				
	ST CHARLES	MO	63301				FEDERAL FACILITY: Y				
	ST. CHARLES	29183					NON-NPL STATUS: N/A				

Site Aliases: USARMY WELDON SPRINGS FT LEONARD (FINDS),,,MO,;WELDON SPRINGS, QUARRY (USDOE),,,MO,;

Site Description: PART OF WELDON SPRING QUARRY/PLNT/PITS (MO3210090004).PART OF WELDON SPRING QUARRY/PLNT/PITS (MO3210090004).

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00	DS	DISCVRY	001		11/01/1979	EPA Fund
00	PA	PA	001	11/01/1979	11/01/1979	EPA Fund
00	SI	SI	001	04/24/1986	07/25/1986	EPA Fund
00	HR	HAZRANK	001		04/12/1984	EPA Fund

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MOD006333975	FINDETT CORP.			+38.814440	7040		CONGRESSIONAL DISTRICT: 02				
0700845	RR 7			-090.544440	10300200		OWNERSHIP: Private				
				EPA HQ			NPL STATUS: R				
	ST. CHARLES	MO	63301				FEDERAL FACILITY: N				
	ST. CHARLES	29183					NON-NPL STATUS: N/A				

Site Aliases: FINDETT CORP (FINDS),GARDNERVILLE IND PARK ELM POINT RD,ST CHARLES,MO,63301;FINDETT CORP SERVICE,,,MO,;FINDETT CORP.,RR 7,ST CHARLES,MO,63301;FINDETT CORP.,RR 7,ST. CHARLES,MO,63301;HAYFORD BRIDGE ROAD GROUND WATER,,,MO,;HAYFORD BRIDGE ROAD GROUNDWATER SITE 1,,,,;

Site Description: The Hayford Bridge Road Groundwater Site (Site), also known as Findett Corporation Site, is located within the city of St. Charles (city), Missouri, near the intersection of Elm Point Road and Governor Drive. The city is located in St. Charles County. The Site is defined as the properties owned by Findett Corporation (Findett), including the property formerly owned by Cadmus Corporation (Cadmus), and all properties where groundwater contamination has migrated.

The Site is identified by the U.S. Environmental Protection Agency (EPA) and the Missouri Department of Natural Resources (DNR) as a hazardous site requiring management within the respective federal and state programs known as Superfund. The federal Superfund law is the CERCLA, as modified by the Superfund Amendments and Reauthorization Act (SARA).

The EPA is the lead agency in the management of the various investigative, enforcement, and remediation efforts at the Site. The DNR is the support agency. Funding for the studies and cleanup actions leading to this decision document have been provided by former Findett customers, referred to as Potentially Responsible Parties (PRPs).

As a Superfund project, the Site was divided into three operable units (OUs):
-OU 1 addresses the soil and groundwater contamination on the Findett property;
-OU 2 addresses the soil contamination on the former Cadmus property; and,
-OU 3 addresses the contaminated groundwater that migrated off OU 1 and OU 2.

The sources of contamination originated and continue to exist at the Findett property. Findett began operating in 1962 as an industrial facility which reprocessed heat transfer fluids, hydraulic fluids, solvents, and catalysts. The catalyst business spun off as a separate company (Cadmus) in 1973. The process fluids and materials contained hazardous substances, including volatile organic compounds (VOCs) and polychlorinated biphenyls (PCBs). Releases of VOC and PCB contamination to the environment - both soils and groundwater - occurred as a result of operating practices.

The Site originally came to EPA's attention in the late 1970s when Findett reported handling PCBs. During an EPA inspection, an unlined "quench pond" was identified on the boundary between the Findett and Cadmus properties. Findett utilized the quench pond by releasing hot residues into it from the recycling processes. In 1977 and 1981, Findett excavated the pond and disposed of contaminated soils offsite. The PCB contamination in the surface soils was the primary concern in those early years of activity at the Site. Subsequent investigations identified that VOC contamination existed in the subsurface soils and groundwater.

In 1984, EPA nominated the Site for inclusion on the National Priorities List (NPL) for hazardous waste sites, mainly due to the potential exposure of contaminated groundwater to the nearby Elm Point Municipal Wellfield. The nomination was later withdrawn due to potential overlapping jurisdiction with EPA's Resource Conservation and Recovery Act (RCRA). However, the OU 1 Record of Decision (ROD) and corresponding Consent Decree with Findett were in place before the nomination withdrawal. As a result, the Site has continued being managed by EPA using the Superfund authority and as an "NPL-caliber" site. Management of a NPL-caliber site follows the same Superfund process as a site on the NPL, without the access to federal funding.

In the late 1980s, EPA conducted a remedial investigation and feasibility study (RI/FS) for OU 1 which led to a ROD in December 1988. The remedy selected in the OU 1 ROD required removing the PCB-impacted soils above the groundwater table (or a maximum of a five-foot depth) and installing/operating an extraction and treatment system to hydraulically control the contaminated, shallow groundwater on the Findett property. The EPA and Findett entered into a Consent Decree requiring Findett to implement the remedy. The groundwater system was constructed in 1990 and has operated for the past fifteen years. A combined five- and ten-year review, completed in 2000, concluded that the results indicate hydraulic control as intended. Findett implemented the soil remedy required by the Consent Decree (excavation and disposal of PCB-contaminated surface soils).

In 1995, EPA completed an evaluation of OU 2 which resulted in a decision document requiring removal of PCB-contaminated soils above the groundwater table (or a maximum of a five-foot depth). In October 2000, the EPA entered into an Administrative Order on Consent (AOC) with a group of PRPs to conduct the soil removal action. The soil removal action was completed in 2001.

Site Location
The Findett/Hayford Bridge Road Ground Water site is located in St. Charles County, in eastcentral Missouri. The site is just north of the City of St. Charles, approximately 25 miles northwest of St. Louis. The site is in the floodplain of the Mississippi River, which is approximately 3.2 miles to the north. The Elm Point Well Field, which is the primary drinking water supply for St. Charles,

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St. Louis. The site is in the floodplain of the Mississippi River, which is approximately 3.2 miles to the north. The Elm Point Well Field, which is the primary drinking water supply for St. Charles, is located 1800 feet northeast of the Findett plant site.

Loess bluffs form the southern or southwestern boundary of the Mississippi River floodplain and are located approximately one quarter mile south of the site. Land uses surrounding the site are primarily agricultural. A small industrial (Gardnerville) park on Elm Point Road and Governor Drive contains the Findett Corporation and Cadmus Corporation facilities and two other light commercial or industrial establishments, an excavating company ("Southern Property") and an insulation installation company. Much of the land in the area is as yet undeveloped and is used for hunting and trapping. Residences in the area are limited to a few farm homes on Huster Road approximately 1000 feet northeast of the site. A residential subdivision is located up on the bluff, approximately 1500 feet south of the site.

Enforcement Actions
The Findett Corporation has addressed PCB contamination on its facility. Several voluntary PCB soil cleanups have been conducted by Findett. One of these was conducted by Findett pursuant to an Administrative Order issued by EPA in 1981 under Section 311 of the Clean Water Act. Findett also monitored ground water for PCB contamination under a Consent Administrative Order issued in 1982 under Section 3013 of the Resource Conservation and Recovery Act (RCRA).

PCBs remain in the surface and near surface soils in concentrations above levels recommended as safe by EPA. PCBs up to 5400 mg/kg are present in surface soils on Findett and up to 6000 mg/kg in soils on Cadmus. The Findett Corporation has expressed a desire to remove additional PCB-contaminated soils on its property and to cap or cover any remaining residual contamination. A plan for the PCB cleanup has been submitted by Findett for EPA review.

At the time EPA began the RI the only known Potentially Responsible Party (PRP) was the Findett Corporation. The EPA sent a Notice Letter under Section 104 of CERCLA to the Findett Corporation advising them of the need for an RI/FS at the site conduct the RI/FS. The EPA, therefore, conducted the RI/FS advising Findett that they, and any other PRP, may be held liable for the costs of the work performed by EPA. Subsequent environmental sampling by EPA now indicates that there may be additional contaminant sources and additional PRPs, including the Cadmus Corporation. The EPA is following up on this.

A Record of Decision addressing the Findett Corp. Site was completed in December, 1988.
OU 3 addresses contaminated groundwater that migrated off the Findett property. In September 2001, the EPA and a group of PRPs entered into an AOC to conduct a RI/FS for OU 3. The RI/FS was completed in July 2005 with submittal of the final report. The OU 3 RI/FS Report is the primary document upon which EPA utilized in developing this decision document, the OU 3 ROD.

Currently, the OU 3 area is a mixture of uses including residential, commercial, and agricultural. Notably, commercial development in OU 3 is currently projected to increase due to the proximity to the relatively new Highway 370 which acts as an east/west bypass around St. Charles and Interstate I-70. Additional residential development in OU 3 is not anticipated.

Groundwater in OU 3 is the primary source for drinking water utilized by the city of St. Charles, both now and in the future. Currently, private wells in OU 3 are not used for potable purposes. However, there are no restrictions to prevent property owners from installing new wells for potable uses. The aquifer is an excellent source of groundwater. Surface water bodies in OU 3 include creeks and ponds. However, since OU 3 is in the floodplain of the Mississippi River, new construction is required to raise the surface elevation to minimize flooding. Developers use onsite soil by excavating in one section of their property and moving this soil to the area to be developed. The result is a new pond in the excavated area. Typically, the excavations do not penetrate through the upper cohesive clay soils, and into the transmissive aquifer layer. However, there are no restrictions to prevent property owners from excavating into the contaminated OU 3 groundwater.

A ROD addressing OU3 was completed in September 2005.

Previously this site was known as the "Findett Site". Some of the early documents on this site in the Administrative Record refer to the site by that name. Findett Corporation brought its prior handling of polychlorinated biphenyls (PCBs) in the middle 1970s to the attention of EPA and Missouri Department of Natural Resources (MDNR). In 1980, Findett completed a partial removal of some of the PCB contamination from its facility under EPA oversight.

At one time this site was a candidate for the National Priorities List (NPL). However, EPA Headquarters subsequently withdrew the site as a candidate for the NPL, under the theory that the authority of the Resource Conservation and Recovery Act (RCRA) could be used to require site cleanup. By then, EPA Region VII had already signed a ROD selecting a remedial action for the site and had entered into the consent decree (CD) with Findett Corporation for the implementation of that remedial action. Both the ROD and the CD cited the authority of Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Section 106, as opposed to RCRA. Both Findett Corporation and EPA have continued the cleanup and management of this site under CERCLA authorities.

The site is located in the floodplain of the Mississippi River, which is located about 3.2 miles to the north. The Mississippi River has flooded the site several times, including the summer of 1993, when the site was under as much as 20 feet of river water. Fortunately, the flood did not pick up and carry any of the PCB-contaminated soil away from the site. Rather, it appeared that the flood dropped some sediment on top of the contaminated soil as the flood water receded.

Topography around the site is very flat. The site drains to Dardenne Creek, which in turn drains into the Mississippi River. Ground water is very close to the surface of the ground at this site, generally about 5 feet below ground surface. Ground water flow at the site is generally to the north. Alluvial ground water about 1800 feet to the northeast of the site is used as a source of municipal drinking water from the Elm Point Well Field.

Although the shallow ground water near the site is contaminated with volatile organic compounds (VOCs) and recently with PCBs, such contaminants have not been found above detection limits

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Although the shallow ground water near the site is contaminated with volatile organic compounds (VOCs) and recently with PCBs, such contaminants have not been found above detection limits in the water withdrawn by the well field.

The bedrock below the alluvial deposits at the site is limestone/sandstone. The bedrock ground water is not used for drinking to EPA's knowledge.

An early activity of the Findett Service Company (predecessor to the Findett Corporation) at the site was to reclaim usable products from degraded industrial fluids. Some of these fluids contained PCBs. Findett would receive deliveries of degraded fluids and separate the usable or recyclable components by distillation and condensation techniques. The resulting "still bottom" residue in the distillation vessel reached a very high temperature, which was cooled by discharging such residue into the "quench pond".

The residues transferred to the quench pond contained PCBs, as well as other high boiling residues, which had not been removed by the distillation. Currently, the quench pond is located on the southern boundary of the Findett property which separates the Findett and Cadmus facilities.

Alluvial ground water beneath the site is contaminated with various VOCs, including dichloroethylenes, trichloroethylene, benzene, toluene, and recently with PCBs. Ground water contamination is being addressed by the remedial action selected in the December 28, 1988 ROD. No change in the ground water components of that remedial action are being made in this Amendment to the 1988 ROD.

Surface soil is also contaminated with these VOCs and with PCBs. Although Findett has completed a partial removal of PCB-contaminated soil from the quench pond, concentrations of PCBs up to 100,000 parts per million (ppm) remain in the soil on Findett property. The PCB cleanup level of 25 ppm selected in the 1988 ROD is unchanged. The site contains some soil contaminated with more than 25 ppm PCB which is not on the Findett property, which is not addressed by the 1988 ROD or by this Amendment. Rather, that PCB-contaminated soil at the site, which is not on Findett property, is being addressed by a separate nontime-critical removal action.

The operable unit remedial action selected by EPA for this site in 1988 addressed contaminated shallow ground water. Shallow ground water was contaminated with VOCs and is being extracted in order to control or prevent migration from the site.

Findett Corporation is performing this remedial action pursuant to the CD with EPA. Until 1994, only VOCs were found in the shallow ground water at the site. Recently, PCBs were also detected in the upper ground water unit in the range of 1 to 15 micrograms per liter (ug/l) in two onsite monitoring wells. Therefore, Findett added granulated activated carbon (GAC) to the ground water treatment to remove the PCBs from the water, in addition to the air stripping to remove the VOCs. The use of GAC was contemplated in the remedial investigation/feasibility study (RI/FS) and in the 1988 ROD. Therefore the 1988 ROD did not have to be amended to allow the use of GAC.

This amendment makes no change to the ground water component of the remedial action.

The remedial action selected in the 1988 ROD also included the removal of soil on Findett property above the water table, which contained more than 25 ppm PCB. This component of the 1988 remedial action is addressed by this Amendment.

A ROD Amendment addressing operable unit (OU) 1 of the Hayford Bridge Road Ground Water Site (also known as the Findett Corporation Site) was completed in September 1995.

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EPA ID / SITE ID	SITE NAME / STREET 1 / STREET 2 / CITY / COUNTY NAME	STATE / COUNTY (FIPS) CODE	ZIP CODE	LATITUDE / LONGITUDE / SOURCE	SMSA / HYDRO UNIT	OU	ACTION CODE, NAME	SEQ	ACTUAL START DATE	ACTUAL COMPLETE DATE	CURRENT ACTION LEAD
						00	DS DISCVRY	001		06/01/1980	EPA Fund
						00	RS RV ASSESS	001	01/16/1990	08/23/1990	EPA Fund
						00	RS RV ASSESS	002	03/28/1991	03/29/1991	EPA Fund
						00	BB PRP RV	001	09/16/1982	12/15/1982	PRP Rsp Fed
						00	PA PA	001	02/01/1983	02/01/1983	EPA Fund
						00	SI SI	001	04/01/1983	08/01/1983	EPA Fund
						00	HR HAZRANK	001		09/06/1983	EPA Fund
						00	NP PROPOSED	001		10/15/1984	EPA Fund
						00	NR REM PROP	001		02/11/1991	EPA Fund
						00	MA ST COOP	001	06/16/1989		EPA Fund
						00	CR CI	001	09/28/2005		EPA Fund
						00	FE 5 YEAR	003	12/21/2009	09/24/2010	EPA Fund
						01	FP FPA	001	09/29/1984	07/15/1987	PRP Rsp Fed
						01	CO RI/FS	001	11/20/1987	12/28/1988	EPA Fund
						01	NA PRP RI	001	09/16/1982	01/15/1987	PRP Rsp Fed
						01	AR ADMM REC	001	11/15/1988		EPA Fund
						01	RO ROD	001		12/28/1988	EPA Fund
						01	BE PRP RD	001	05/22/1989	09/19/1990	PRP Rsp Fed
						01	BE PRP RD	002	05/08/1992	07/23/1997	PRP Rsp Fed
						01	BF PRP RA	001	09/19/1990	09/29/2000	PRP Rsp Fed
						01	BF PRP RA	002	07/23/1997	09/29/2004	PRP Rsp Fed
						01	ME PRP LR	001	09/29/2000		PRP Rsp Fed
						01	FE 5 YEAR	001	08/01/1997	09/28/2000	EPA In-House
						01	FE 5 YEAR	002	12/10/2004	09/29/2005	EPA Fund
						02	EE EE/CA	001	02/14/1990	11/07/1995	EPA Fund
						02	BB PRP RV	002	01/08/2001	09/12/2001	PRP Rsp Fed
						02	AR ADMM REC	002	09/15/2001		EPA Fund
						03	BB PRP RV	003	04/11/2013		PRP Rsp Fed
						03	BD PRP RI/FS	001	09/27/2001	09/28/2005	PRP Rsp Fed

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MOD006333975	FINDETT CORP. - CONTINUED					03	CR	CI	002	08/05/2005		EPA Fund
						03	AR	ADMM REC	003	10/26/2005		EPA Fund
						03	AR	ADMM REC	004	03/29/2013		EPA Fund
						03	RO	ROD	002		09/28/2005	Fed Enforce
						03	BE	PRP RD	003	03/26/2007	03/13/2008	PRP Rsp Fed
						03	BF	PRP RA	003	03/13/2008		PRP Rsp Fed
MOD064658933	HAYFORD BRIDGE ROAD GROUNDWATER SITE 2			38D48M49S	7040		CONGRESSIONAL DISTRICT: 02					
0700997	ELM POINT RD & GOVENOR DR			090D32M05S	10300200		OWNERSHIP: Private					
							NPL STATUS: A					
	ST CHARLES	MO	63301				FEDERAL FACILITY: N					
	ST. CHARLES	29183					NON-NPL STATUS: N/A					

Site Aliases: CADMUS CORP (FINDS),,,MO,;FINDETT,,,MO,;

Site Description: EFFECTIVE 7/30/99, HAYFORD BRIDGE ROAD GW SITE 2 (CADMUS- 079G) HAS BEEN COMBINED WITH THE FINDETT CORP.SITE (0795) (A.KA. HAYFORD BRIDGE ROAD GW SITE 1). WORK BIENG DONE ON HAYFORD BRIDGE ROAD GW SITE 2 IS BEING ADDRESSED AS OPERABLE UNIT 2 UNDER THE FINDETT CORP. SITE FINDETT IS CONSIDERED AN NPL EQUIVALENT SITE . FACILITY IS INDUSTRIAL OPERATION ADJACENT TO SITE WHICH IS A CANDIDATE FOR NPL. SAMPLING OF SITE BY EPA FOUND HAZARDOUS SUBSTANCES IN SHALLOW SOILS & WATER ON THE SITE.FACILITY IS INDUSTRIAL OPERATION ADJACENT TO SITE WHICH IS A CANDIDATE FOR NPL. SAMPLING OF SITE BY EPA FOUND HAZARDOUS SUBSTANCES IN SHALLOW SOILS & WATER ON THE SITE.

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						00	DS	DISCVRY	001		05/02/1986	EPA Fund
						00	RS	RV ASSESS	001	02/01/1993	06/28/1995	EPA Fund
						00	PA	PA	001	07/20/1987	07/20/1987	EPA Fund
						00	SI	SI	001	01/29/1987	11/20/1987	EPA Fund
						00	MA	ST COOP	001	09/12/1990	09/30/1992	EPA Fund
						00	CR	CI	001	05/25/2006		EPA Fund
						00	AR	ADMM REC	001	10/26/2005		EPA Fund

TOTAL NUMBER OF SITES IN REPORT: 7