CDM

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Kansas City District

Federal Creosote Superfund Site
Operable Unit 3

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Long-Term Monitoring Program – Year 5

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Acronyms

af	artificial fill
BTEX	benzene, toluene, ethylbenzene, and xylenes
°C	degree Celsius
CDM	CDM Federal Programs Corporation
COCs	contaminants of concern
CLP	Contract Laboratory Program
DESA	Division of Environmental Science and Assessment
DNAPL	dense non aqueous phase liquid
DO	dissolved oxygen
EPA	Environmental Protection Agency
FB	field blank
Fe	iron
GWQS	Groundwater Quality Standards
IDW	investigation derived waste
LMAS	"leaky" multi-unit aquifer system
MEE	methane, ethane, and ethene
mg/L	milligrams per liter
mL/min	milliliter per minute
Mn	manganese
MS/MSD	matrix spike and matrix spike duplicates
msl	mean sea level
MW	monitoring well
NA	natural attenuation
NAPL	non-aqueous phase liquid
NJDEP	New Jersey Department of Environmental Protection
No.	number
NPL	National Priorities List
NTU	nephelometric turbidity units
OU	Operable Unit
ORP	oxidation-reduction potential
PAHs	polycyclic aromatic hydrocarbons
PCE	tetrachloroethene
QA/QC	Quality Assurance and Quality Control
Qal	alluvium
ROD	Record of Decision
RI	Remedial Investigation
RPDs	relative percent differences
SAP	Sampling and Analysis Plan
SIM	selected ion monitoring
Site	Federal Creosote Superfund Site
SVOC	semi-volatile organic compound
TCE	trichloroethene
TB	trip blank
µg/L	micrograms per liter

µm	micrometer
USACE	United States Army Corps of Engineers
VOC	volatile organic compound
WAD	Work Authorization Document

Section 1
Introduction

Under the United States Army Corps of Engineers (USACE), Kansas City District, Contract W912DQ-08-D-0018, Task Order 3, Work Authorization Document (WAD) 12, CDM Federal Programs Corporation (CDM) has been tasked with providing groundwater monitoring services for Operable Unit (OU) 3 at the Federal Creosote Superfund Site (Site) located in the Borough of Manville, New Jersey. The services authorized in WAD 12 include continued implementation of the groundwater remedy for OU3, which is long-term monitoring and institutional controls.

In 2005, CDM submitted a Final Sampling and Analysis Plan (SAP) (CDM 2005), which described the field activities and the quality assurance/quality control (QA/QC) program to be used for the long-term monitoring program at the Site. Based on United States Environmental Protection Agency (EPA) and USACE's approval, CDM collected two rounds of groundwater samples from 30 monitoring wells in 2005 and 2006. The results were reported in the Year-1 (Baseline) and Year-2 Groundwater Sampling Reports (CDM 2007a, CDM 2007b). Based on the findings of the two rounds of sampling, CDM submitted a SAP Addendum in 2007 (CDM 2007c), in which CDM presented the rationale, location, and screen intervals for 18 new monitoring wells. These 18 new monitoring wells were installed in summer 2007. In November, 2007, CDM collected a full round of groundwater samples from 48 monitoring wells, and the results were presented in Year-3 Groundwater Sampling Report (CDM 2009a). In 2008, based on groundwater contaminant distribution and well locations, EPA reduced the total number of wells for future monitoring to 28. These 28 wells were sampled in November 2008, and results reported in Year-4 Groundwater Sampling Report (CDM 2009b). The 2008 data from monitoring well MW-111S showed an increasing trend of contamination, therefore, EPA decided to add MW-111I in the monitoring network. This decision is documented in the field change request form in Appendix A.

This report is the fifth annual report for the long-term groundwater monitoring program. It presents the field activities and the results of the October/November 2009 groundwater sampling event, and discusses the extent of groundwater contamination and the possibility of biological degradation of creosote. This report is organized into four sections:

- Section 1 – Introduction
- Section 2 – Field Activities
- Section 3 – Field Activity Results
- Section 4 – References

1.1 Site Description and History

The site is a 137-property residential community known as the Claremont Development and portions of a commercial shopping mall known as Rustic Mall, located in the Borough of Manville, Somerset County, New Jersey (Figure 1-1). The site covers about 50 acres and is bordered to the north by the Norfolk-Southern Railroad, to the east and south by the CSX Railroad, and to the west by commercial and residential properties.

The site was formerly owned and occupied by the Federal Creosoting Company, which operated from approximately the 1910s to 1957. The plant operated as a wood treatment facility that used creosote as a preservative. Two unlined lagoons and associated canals receiving creosote wastes were located in the north central and southeast sections of the site. The lagoon in the north central section of the site and its associated canal are referred to as Lagoon A and Canal A, respectively. The southern lagoon and canal are referred to as Lagoon B and Canal B, respectively (Figure 1-2). Additionally, several impoundments, standing liquid areas, and stained areas were identified northeast of the main treatment facility along the western edge of the Claremont Development.

In the early 1960s, 15 acres of the property were developed for commercial and retail use. In the mid-1960s, 35 acres were developed for single family housing, known as the Claremont Development. The lagoons and the canals were reportedly filled in, without removing the creosote waste.

The contamination at the site was discovered in April 1996. The New Jersey Department of Environmental Protection (NJDEP) responded to an incident involving the discharge of an unknown liquid from a sump, which was located at one of the Claremont Development residences on Valerie Drive. In 1997, EPA initiated an investigation of the site to locate possible creosote contamination and divided the site into OUs to expedite the investigation and remediation. On January 19, 1999, the site was listed on the National Priorities List (NPL).

Under OU1 and OU2, EPA removed source material and contaminated surface and subsurface soil at the former lagoons, canals, and drip areas on residential properties at the Claremont Development. In September 2002, EPA issued a Record of Decision (ROD) for OU3 which addresses soils at the Rustic Mall and the site-wide groundwater contamination. Under the ROD, the selected remedy calls for excavation and offsite treatment/disposal of contaminated soil, and long-term monitoring with institutional controls for site-wide groundwater. Contaminated soil removal at Rustic Mall was completed in December 2007. Independent of the remedial action, the Rustic Mall property owner razed the buildings during remediation.

1.2 Site Geology and Hydrogeology

During the Remedial Investigation (RI) for OU2, a comprehensive study of the site geology and hydrogeology was performed. The information is summarized below.

1.2.1 Regional Geology and Hydrogeology

The surficial unconsolidated overburden deposits in the site vicinity are of glacial, interglacial, and post-glacial origin, principally deposited by fast-flowing rivers and streams carrying meltwater away from glaciers which advanced as far south as northern New Jersey during the Pleistocene epoch. At least two glacio-fluvial sand and gravel terraces have been mapped by Stanford (1992) in the Raritan Valley. The Upper Raritan Terrace Deposits are found above an elevation of 50 feet above mean sea level (msl), are of Middle Pleistocene age, and form a terrace about 20 to 30 feet above the present Raritan River alluvial plain. The deposits are remnants of interglacial fluvial deposits that were preserved after 60 to 100 feet of valley incision into bedrock occurred in both main and tributary valleys during the subsequent Illinoian glacial

event. Regionally, these deposits consist of sand and pebble gravel, with minor silt, clay and cobbles. Total thicknesses in this unit of up to 50 feet have been reported (Stanford 1992).

The subsequent Millstone Terrace Deposits (elevation 40 to 50 feet above msl) surround the Upper Raritan Terrace. Stanford (1992) correlates the Millstone Terrace with the Middle to Late Pleistocene Sangamon glacial event. Deposits with lithology similar to the Upper Raritan Terrace are up to 30 feet thick, forming a terrace about 10 to 15 feet above the present floodplain of the Millstone River.

Quaternary-age alluvial deposits, consisting of up to 20 feet of sand, silt, and clay with minor organic material, have subsequently been deposited in the river valley between the Millstone Terrace deposits and Raritan Terrace deposits. This unit is referred to as alluvium (Qal) by Stanford (1992). There are also areas of man-made infilling that are mapped as artificial fill (af).

Underlying the overburden deposits is a thick succession of Upper Triassic shales of the Passaic Formation. The Passaic Formation is part of a very thick stratigraphic succession (more than 15,000 feet) that constitutes the Newark Supergroup (Froelich and Olsen 1985), consisting of non-marine sedimentary rocks and igneous rocks ranging in age from Late Triassic to Early Jurassic. The Newark Supergroup sediments were deposited in the Newark Basin, extending along a southwestern trend from Rockland County, New York, across central New Jersey, to Lancaster County, Pennsylvania. The Newark Basin is a structural depression formed during the extension and downfaulting on a series of major faults along the passive margin of the early North Atlantic ocean basin (Manspeizer 1988). The Newark Basin is one of a series of elongate rift basins that exist along almost 600 miles of the northeastern margin of North America, similar to the configuration and depositional environment found in the present-day East African Rift system.

The Newark Basin was progressively infilled by fine-grained lake deposits. These deposits were derived from the erosion of Precambrian and Paleozoic basement rocks exposed to the northwest of the Newark Basin beyond basin boundary faults. To the southeast, the Newark Basin strata are unconformably overlain by Cretaceous sediments of the Coastal Plain. During and after the deposition of the lake sediments, border faults along the eastern margin of the basin were active, gently folding the basin strata, creating folds with axes oriented northwest to west. The gently northward-plunging axis of the Watchung Syncline, located immediately north of the site, is an example of one such basin fold.

Bedding attitudes near the site, as mapped by Parker (1993), show a generally east-west strike, with a gentle northerly dip of about 5° to 11°. The site is near the southern bedrock expression of the Watchung Syncline, a broad shallowly dipping synclinal structure recognizable in outcrop by the clearly visible hook-shaped outcrop pattern of the First Watchung Mountain basalt lava flow to the north of the site. The site is located within or near the axis of the syncline, such that bedding attitudes northeast of the site verge towards the north-northwest and bedding dips northwest of the site verge towards the northeast (Parker 1993).

The Passaic Formation (Olsen 1980), formerly mapped as the lower part of the Brunswick Formation (Kümmel 1897) (a formation name still widely used by well drillers), is predominantly composed of reddish-brown lacustrine siltstone, mudstone, shale and occasional

sandstone of fluvial origin. The Passaic Formation is the thickest and most widespread formation in the Newark Basin, having an estimated thickness of 9,000 feet in the vicinity of the site (Olsen et al., 1996).

Rocks of the Passaic Formation typically contain two prominent fracture types: (1) bedding-plane partings and (2) high angle fractures. Bedding-plane partings are the most numerous and have an average strike of N84° W and dip of 20° N. The high-angle fractures are oriented subparallel to these features, with an average strike of N79° W and a dip of 71° S, making the two fracture sets roughly orthogonal (Morin et al., 1996). Their intersections form linear features that also retain the approximately east-west strike. This phenomenon has important implications regarding groundwater flow through the formation. Secondary cementation of the fractures by gypsum, especially in bedding-plane partings, has occurred throughout the Passaic Formation. Down hole video logs suggest gypsum was deposited by gypsum-laden groundwater ascending along bedding partings as the partings became enlarged by stress relief resulting from erosional or glacial unloading (Michaliski and Britton 1996). Post-diagenetic dissolution of the gypsum cement has occurred within the formation at depths shallower than approximately 200 feet.

In the site's vicinity, the interbedded water-bearing units and aquitards of the Passaic Formation are part of a homoclinal structure with a typical dip in the range of 5° to 25° to the north, although bedding strikes vary slightly within the axis of the nearby Watchung Syncline. The shale has little primary permeability; the original primary porosity having been reduced by compaction and cementation. Virtually all groundwater movement in the Passaic aquifer system occurs through intersecting fracture sets and along partings between bedding planes. The Passaic aquifer is strongly anisotropic, where the axis of maximum hydraulic conductivity generally is parallel to the strike of bedding partings and high-angle fractures (Michalski 1990). The least permeable axis is oriented perpendicular to bedding.

1.2.2 Site Geology

The site is underlain by approximately 25 to 35 feet of unconsolidated sediments of glacio-fluvial origin, which in turn are underlain by the Late Triassic siltstone and shale of the Passaic Formation. The soil boring lithologic descriptions suggest the following sequence (from the ground surface to the bedrock surface) of deposits to be typical at the site: fill, sand and gravel, silt and clay, sand and gravel (with some silt and clay layers and seams), and weathered siltstone and shale (bedrock). The weathered zone of reddish-brown shale retains the two principal fracture sets; however, the weathering processes of the shale results in the reduction of primary fracture permeability by clogging more open fractures with clay (Michaliski 1990). Therefore, the generally smaller, near vertical fracture set may tend to remain more open in the weathered zone compared with bedding partings. This weathered zone is approximately 10 feet thick.

Extensive bedrock fracturing begins several feet below the top of the bedrock surface. Since the elevation of the bedrock surface does not significantly vary, the elevation of the fracturing is relatively consistent throughout the site. The extensive bedrock fracturing begins at an elevation of between five and 10 feet below msl and becomes more prevalent with depth. The dip angles associated with these fractures are not consistent between wells and may range from 5 to 60

degrees at the same elevations. At depths ranging from 80 to 208 feet, gypsum in-filling of fractures begins, reducing permeability to essentially zero.

During the RI, two geological cross sections, A-A′ and B-B′, were prepared. The locations of these cross sections are shown on Figure 1-3. The cross sections were modified and the locations of the wells installed in 2007 were added. The updated sections are presented in Figures 1-4 and 1-5.

1.2.3 Site Hydrogeology

A multi-phased investigation of the site was conducted to evaluate the occurrence, quality, and flow of groundwater in the overburden and bedrock aquifer (CDM 2001). In general, the weathering processes in shales result in the reduction of primary fracture permeability by clogging the more conductive fractures. The lowest hydraulic conductivity values come from shallow wells that are completed in aquitard units within the weathered zone. Although weathering tends to reduce the permeability, fractures formed during the weathering process may augment the storage potential of the weathered zone. As a result, pockets of perched water often form within and above the weathered zone. Strong downward vertical gradients can develop across the weathered zone in recharge areas. If the ground water stored within the weathered zone is contaminated, downward migration of contaminants through wells open across the zone can carry contamination to deeper aquifer zones.

Below the intensely weathered shallow zone, deep monitoring wells exhibit consistently high hydraulic conductivity and bulk permeability. However, significant head differences can exist between individual water-bearing units due to anisotropies within the fractured bedrock. Bedding plane partings generally exhibit transmissivities that average twice that of high-angle fractures but decrease in size and number with increasing depth. The magnitude and frequency of high-angle fractures show no apparent dependence upon depth. Consequently, fluid flow near the surface is controlled primarily by the highly transmissive, subhorizontal bedding plane partings. As depth increases, the high-angle fractures apparently become more dominant hydrologically (Morin et al. 1996). Boreholes that have not yielded water in the first 500 feet of drilling are not likely to penetrate water-yielding zones at deeper levels (Swain et al. 1992).

Groundwater at the site occurs in the overburden and the bedrock units under unconfined and semi-confined conditions. Localized perched groundwater zones are common in the overburden on top of the silt and clay layer that occurs at approximately six to ten feet below the surface at the site. For the purposes of this analysis, the groundwater has been separated into two units, the overburden unit and the bedrock unit. However, site data (e.g., contamination is found in both the overburden and bedrock) indicate that these units are hydrologically connected.

The hydrogeological analysis presented in the RI concluded that groundwater flow in the overburden is predominantly from the site to the southeast, toward the Millstone River. In the bedrock aquifer, a groundwater divide exists between monitoring well MW116I and the monitoring well MW118 cluster. Groundwater gradients to the northwest of the divide are toward the Raritan River and Manville municipal wells C1 and C2. Groundwater gradients to

the southeast of the divide are toward the Millstone River. Vertical groundwater gradients are downward near the divide and upward near the Millstone River.

1.2.4 Site Conceptual Hydrogeologic Model

A commonly accepted conceptual model of the Passaic aquifer is a "leaky" multi-unit aquifer system (LMAS) (Michalski 1990; Michalski and Klepp 1990; Michalski and Britton 1996). Below the largely impermeable weathered zone, the LMAS consists of thin water-bearing units and much thicker, strata-bound, intervening aquitards. The pervasive high-angle fractures impart a leaky character to the entire sequence. Groundwater flow down-dip along bedding partings is limited to the depth at which bedding partings are either closed due to lithostatic pressure or by the depth at which gypsum cementation has infilled the fissures, thus preventing further down-dip flow. The prevailing groundwater flow direction within individual aquifer units tends to be subparallel to strike of beds (Michalski and Britton 1996). The strongly cyclic nature of the Passaic Formation lithostratigraphy has resulted in multiple repetitions of similar sequences at consistent intervals. Multiple aquifer/aquitard couplets therefore can be anticipated in the aquifer system.

Evidence from the packer testing conducted as part of the RI indicates that flow occurs along both strike and along dip, as well as between areas that do not seem to fall along either strike or dip. The reaction of shallow wells to pumping of deep units is indicative of flow along joints and fractures. The prevalent high-angle fractures in the bedrock are associated with some of the zones of highest conductivity in the packer testing. The infilling of fractures with gypsum effectively reduces the hydraulic conductivity of the rock to zero (or near zero). Therefore, the groundwater flow at this site is more likely influenced by prevalent vertical joints and fractures in the rock, especially in the area of the Lost Valley. However, partings along bedding planes still provide a pathway for groundwater flow.

Contamination generated from creosote in the subsurface takes two forms: non-aqueous phase liquid (NAPL) phase and dissolved phase. Because creosote has higher density than water, it is also called dense NAPL (DNAPL). Movement of NAPL phase is independent of groundwater flow, instead being determined by gravity and interfacial tensions. The downward movement of NAPL is retarded by fine-grained units. NAPL moves along, around, and through breaks in discontinuous silts and clays. NAPL movement is also impeded by glacial till and weathered bedrock. Once NAPL has reached bedrock, it flows through vertical fractures, where present, into deeper bedrock. The potential downward movement of NAPL in bedrock is bounded by gypsum infilling of fractures, which effectively reduces the NAPL permeability of the bedrock to zero (or near zero). The dissolved phase of contamination moves with the groundwater gradient. As expected, the highest levels of contamination develop down gradient of the source areas and the areas near free product in the bedrock. Movement of dissolved phase can be retarded by sorption to aquifer solids. Retardation affects each compound according to its affinity for organic carbon, bound to aquifer solids.

1.3 Extent of Groundwater Contamination Found in Remedial Investigation

During the RI in 1999 and 2000, creosote-related groundwater contamination was detected both in overburden and in bedrock monitoring wells (MW). The most frequently detected contaminants were polycyclic aromatic hydrocarbons (PAHs) and benzene. High concentrations of contaminants were detected in the vicinity of former Lagoons A and B (Figure 1-2). Groundwater contamination was largely restricted to the vicinity of the former lagoons (CDM 2001). Subsurface transport of PAHs and benzene is retarded by various natural attenuation mechanisms including sorption and biotransformation.

For overburden groundwater contamination, excavation at OU1 and OU2 has removed the source material. Monitoring wells MW-1S, MW-11S, MW-12S, MW-101S, MW-102S, MW-104S, and MW-120S were abandoned during remedial construction. Free phase creosote observed in MW-12S during the RI has been excavated and treated off site. In the vicinity of Lagoon B, free phase creosote was observed in monitoring well MW-7S and high concentrations of PAHs and benzene were detected in MW-6S.

In bedrock, free phase creosote, a dense non aqueous liquid (DNAPL), was observed in several intermediate and deep monitoring wells (MW-2D, MW-2I, MW-5I, and MW-116I). Elevated concentrations of contaminants were also detected in MW-3I and MW-12I; a low concentration of benzene was detected in MW-114D. Low concentrations of PAHs were detected in MW-114I and MW-114D. Monitoring wells MW-2I, MW-2D, MW-3I, and MW-12I were abandoned during remedial construction.

1.4 Extent of Groundwater Contamination in 2008

Since 2005, groundwater samples were collected annually from selected monitoring wells to evaluate the extent and changes of groundwater contamination at the Site. The extent of groundwater contamination was generally stable from 2005 to 2008. Therefore results from 2008 are discussed below.

The 2008 groundwater sampling event included 28 monitoring wells strategically located to monitor the source area and the migration of contamination in the overburden and the bedrock aquifers.

The creosote-related volatile organic compounds (VOCs) contaminants detected in 2008 are benzene, styrene, and isopropylbenzene. The most frequently detected creosote-related PAHs are: naphthalene, 2-methylnaphthalene, acenaphthene, dibenzofuran, fluorine, phenanthrene, carbazole, fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, indeno(1,23-cd)pyrene and benzo(g,h,i)perylene.

Similar to the previous years, in both the overburden aquifer and the bedrock aquifer, free phase creosote or high contaminant concentrations indicating the presence of free phase creosote were detected in monitoring wells in the vicinity of the former Lagoon A (MW-2RS, MW-2RI, MW-2RD) and Lagoon B (MW-6S, MW-7S, and MW-5I). The DNAPL and highly contaminated groundwater could serve as the sources of groundwater contamination. Outside

these two source areas, creosote-related VOCs and PAHs were only detected at a limited number of wells, and contaminant concentrations were significantly lower than concentrations in the source areas. In the area outside former Lagoon A, creosote-related contaminants were detected in MW-116I, with only carbazole exceeding the NJDEP interim groundwater criterion. Creosote-related contaminants were also detected in MW-12RS and 104RS at trace concentrations. No creosote-related contaminants were detected in MW-1RS; and no creosote-related contaminants were detected in the two new monitoring well clusters, MW-123 and MW-124, which are located north of former Lagoon A. In the area outside former Lagoon B, trace levels of creosote-related contaminants were detected in MW-114I and MW-114D, with only the carbazole concentration in MW-114I exceeding the NJDEP interim groundwater criterion. Diethylphthalate, a creosote-related compound, was also detected in MW-125I and MW-126S at trace level, approximately 0.2 µg/L. No other creosote-related contaminants were detected in these two wells or other wells south of the Former Lagoon B. Creosote-related contaminants were also detected in MW-111S, located at the west end of former Canal B, with dibenzofuran and carbazole exceeding the NJDEP interim groundwater criteria. Overall, creosote-related contaminants were only observed within very limited areas near creosote sources.

Section 2
Field Activities

The objective of the fifth groundwater sampling round was to provide annual groundwater monitoring results for the long-term groundwater monitoring program. A round of synoptic water levels was collected from all available monitoring wells at the beginning of the event. Following the water level measurements, 29 wells were sampled and analyzed for Trace VOCs, semi-volatile organic compounds (SVOCs), Iron, Manganese, and natural attenuation (NA) parameters: alkalinity, nitrate/nitrite, sulfate, sulfide, and methane, ethane, and ethene (MEE). Ferrous iron was measured in the field.

2.1 Synoptic Water Level Measurements

On October 19, 2009 CDM collected one round of synoptic water level measurements from 59 monitoring wells. A total of 63 monitoring wells are at the Site, but four of them could not be located during the synoptic level measurements: MW-115S, I, and D, and MW-4D. Missing/damaged monitoring wells are discussed in Section 3.6. Site monitoring well locations are depicted on Figure 1-2. Well construction details are provided in Table 2-1. CDM personnel used water level meters to measure the water level and the total depth of each well from a surveyed reference point marked on the top of the inner casing.

The synoptic water level measurements were used to determine the direction of the groundwater flow gradient in the overburden aquifer as well as in the intermediate and deep portions of the bedrock aquifer, and are presented in Section 3.1.

2.2 Groundwater Sampling

Twenty-nine monitoring wells were sampled between October 20 and November 2, 2009 during the fifth groundwater sampling round. Compared to 2008, MW-111I was added into the monitoring network as documented in the field change request number 4 in Appendix A. Among the wells sampled, 15 were overburden wells, 9 were intermediate bedrock wells, and 5 were deep bedrock wells. The wells were selected by EPA based on historical analytical results and well locations. All monitoring wells installed in 2007 were sampled in this round.

EPA Region 2 low-flow groundwater sampling procedures were followed during groundwater sampling. At each well location, depth to water was first measured, and then a 2-inch diameter submersible pump (2-inch Grundfos Redi-Flo2 pump) was lowered to the middle of the screen interval or the middle of the water column, if the water level was lower than the top of the screen. The pumping rate was maintained between 200 and 500 milliliter per minute (mL/min), and the drawdown was kept within 0.3 foot as required by the sampling procedure. The pumped groundwater passed through a flow-through cell equipped with an YSI 650 MSD meter. The parameters: pH, conductivity, dissolved oxygen (DO), oxidation-reduction potential (ORP), and temperature were recorded every five minutes. Effluent samples from the flow-through cell were also taken every five minutes and measured for turbidity using a Lamotte 2020 Turbidity meter. Well purging continued until groundwater quality parameters were stabilized. After the stability criteria were satisfied, groundwater samples were collected.

At MW-7S approximately one foot of flowing creosote was observed on the tubing. Therefore, instead of using low-flow groundwater sampling procedures, which would have resulted in damage to the pump and flow-through cell, five well volumes were purged using a peristaltic pump, and groundwater samples were collected via a bailer. To prevent damage to monitoring equipment, no groundwater purging parameters were collected during purging.

Groundwater samples were analyzed for trace VOCs, low and Selected Ion Monitoring (SIM) SVOCs, iron, manganese, and NA parameters. SIM method was used for this round of sampling because the NJDEP groundwater standards were lower than the reporting limits of low SVOC analysis for selected compounds. Table 2-2 summarizes the samples collected and analyses performed. The analytical methods for each analysis are listed in Table 2-3. Ferrous iron was analyzed on-site following HACH method 8146. Groundwater samples for SVOCs were analyzed though the EPA's Contract Laboratory Program (CLP), DataChem, located in Salt Lake City, UT. Samples for trace VOCs, MEE, iron, manganese and natural attenuation parameters were sent to EPA Division of Environmental Science and Assessment (DESA) laboratory located in Edison, New Jersey.

Two field duplicates were collected. MW-601I-Y5 was a duplicate of MW-116I-Y5, and MW-602S-Y5 was a duplicate of MW-2RS-Y5. One field blank (FB) (rinsate blank) was collected every day for trace VOA, SVOC, iron and Manganese, and MEE analyses. Trip blanks (TB) were sent with each cooler containing samples for VOC or MEE analysis. Because this is the fifth round of groundwater sampling at the site, and no matrix interference was observed in previous rounds, matrix spike and matrix spike duplicate samples were not collected. This change was documented in the field change request number 3 in Appendix A. Field blank, trip blank and temperature blank samples were sent together with environmental samples at the end of every day.

The investigation derived waste (IDW), purged groundwater, was collected and stored in four 55-gallon drums. CEMCO, CDM's IDW disposal subcontractor, collected samples for waste characterization from the drums, and prepared the waste profile and manifest for EPA's signature. Based on the waste characterization sample results, the purged water was categorized as non-hazardous liquid, and was transported by CEMCO to Cycle-Chem, a treatment and disposal facility located in Elizabeth, NJ for proper disposal.

2.3 Well Inventory Survey

In addition to the field sampling effort, EPA requested that CDM conduct an inventory of all monitoring wells at the Federal Creosote site. EPA provided an electronic template of an inventory checklist to be completed for each well. The checklist contains basic information regarding the facility (site), well location, and well construction details, which were input in advance of the field inventory. The field inventory was completed in stages. First, depth to water readings were recorded during the synoptic readings recorded on October 19, 20099. Next, for wells that were sampled during this round, headspace readings and well condition were recorded during sampling activity at each well. For wells not sampled during this round, CDM completed the headspace readings and well condition portion of the checklist on October 29 and 30, 2009.

Four wells – MW-4D and the MW-105 cluster – on the Norfolk-Southern (N-S) railroad property could not be located in the field initially using landmarks. A GPS device was used with the coordinates in Table 2-1 to locate the spots where the wells should have been.

Section 3
Field Activity Results

The field activities performed in October/November 2009 were: measuring water levels at 59 wells, collecting one round of groundwater samples from 29 wells and conducting a well inventory survey. The 2009 sampling event is the fifth year of the long-term monitoring program.

3.1 Potentiometric Surfaces

CDM collected one round of synoptic water level measurements from 59 monitoring wells on October 19, 2009. The results are presented in Table 3-1. Figures 3-1, 3-2, and 3-3 display the equipotential surfaces within three portions of the subsurface: overburden, fractured bedrock at elevation 10 feet below msl (intermediate), and fractured bedrock at 120 feet below msl (deep). The two bedrock zones were chosen based on examination of geophysical logs during the RI, and correspond to portions of the borehole where abundant low angle fractures were encountered. The fracture zones at 10 and 120 feet below msl display little hydraulic connectivity and were contoured separately, following the convention begun with the RI. The resulting equipotential surfaces assist in evaluating groundwater movement. However, within a fractured rock aquifer, groundwater flow direction cannot be assumed to be perpendicular to contours of equal hydraulic head. A degree of hydraulic directionality is typical in the Passaic Formation, with interconnected fractures that vary in strike and dip. The resulting flow paths are typically sub-perpendicular to contours of equal hydraulic head.

A comparison of equipotential surfaces generated from the October 2009 and November 2008 data revealed generally similar groundwater elevations throughout the site (Appendix B). Inferred groundwater flow direction was primarily unchanged. In comparison to the 2008 synoptic groundwater gauging event, a more uniform groundwater gradient was noted in the intermediate bedrock within the southern portion of the site. Equipotential surfaces generated from both the October 2009 and November 2008 data indicate that the groundwater gradient in the overburden beneath the site is predominantly toward the southeast and the Millstone River. Bedrock potentiometric surfaces generated from the October 2009 and November 2008 data indicate that groundwater flow across the site is to the southeast. However, preferential flow along strike is typical in the Passaic Formation. The strike of the bedrock ranges from N63°E to N82°E (east-northeast to east). Consequently, the actual groundwater flow direction in the bedrock beneath the site may be to the east-southeast, along preferential flow paths. Both bedrock potentiometric surfaces show the groundwater divide location in the same general area. The groundwater divide trends northeast to southwest. November 2008 data indicate a hydraulic gradient from the potentiometric surface divide to the MW-112 cluster of 2.0×10^{-3} foot per foot at the -10 foot elevation and 1.9×10^{-3} foot per foot at the -120 foot elevation. The hydraulic gradient determined from the October 2009 data is 2.2×10^{-3} foot per foot at the -10 foot elevation and 2.2×10^{-3} foot per foot at the -120 foot elevation. The difference between the gradients measured during 2008 and 2009 is minor and may be related to variation in recharge. Please note that during the water level measuring event, monitoring wells MW-105S, MW-105I, MW-105D, and MW-4D could not be located, and were therefore not gauged.

3.2 Groundwater Sampling Results

Analytical sampling results were compared to site-specific screening criteria. The site-specific groundwater screening criteria were developed based on the New Jersey Class IIA Groundwater Quality Standards (GWQS), as amended on November 4, 2009 and the remedial goals contained in the OU3 ROD. New Jersey drinking water standards are also considered, however, the GWQS are in all cases as stringent as or more stringent than the New Jersey drinking water standards. Nine compounds were listed as contaminants of concern (COCs) in the OU3 ROD. They are benzo(a)pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, indeno(1,2,3-cd)pyrene, dibenz(a,h)anthracene, benzene, and naphthalene. For these COCs, the remedial goals are used. For other creosote-related compounds, NJDEP GWQS are used. Furthermore, for compounds that do not have specific criteria listed in the GWQS Table 1, interim generic criteria are used. The site-specific screening criteria for VOCs and SVOCs detected in the 2009 sampling round are presented in Table 3-2. The maximum concentrations detected and the locations where these concentrations were detected are also presented in Table 3-2. Table 3-3 presents a summary of all detected analytes in groundwater samples collected in 2009. Table 3-4 presents the concentration trends in wells in which creosote-related contaminants were consistently detected since the RI in 1999.

In addition to the laboratory analytical results, field water quality results including pH, DO, ORP, turbidity, conductivity, and temperature were recorded during the sampling activities. Final groundwater quality readings are provided in Table 3-5. Ferrous iron were analyzed in the field using HACH kits. The results are presented in Table 3-6 with results of other natural attenuation parameters.

Groundwater purging sheets are presented in Appendix C. The complete, validated analytical data for the 2009 event is included in Appendix D.

3.2.1 Volatile Organic Compounds

Twelve VOCs were detected in groundwater samples during the 2009 sampling event as shown in Table 3-3. The creosote-related contaminants are benzene, toluene, ethylbenzene, xylene (BTEX), styrene, and isopropylbenzene. Benzene, tetrachloroethene (PCE) and trichloroethene (TCE) were detected at concentrations exceeding the screening criteria. However, chlorinated solvents are not creosote-related contaminants and will not be further discussed. Benzene exceeded the remediation goal of 1 µg/L in monitoring wells MW-2RD, MW-2RI, MW-2RS, MW-5I, MW-6S, MW-7S, MW-110I, and MW-114D. Benzene has been consistently detected above the remediation goal in seven of these eight wells (all except for MW-114D) in previous years.

3.2.2 Semi-Volatile Organic Compounds

Thirty one SVOCs were detected in the 2009 samples as shown in Table 3-3. Among the creosote-related SVOCs, 20 (2-methylphenol, 4-methylphenol, naphthalene, 2-methylnaphthalene, acenaphthylene, acenaphthene, dibenzofuran, fluorene, phenanthrene, carbazole, fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene,

benzo(k)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, dibenz(a,h)anthracene, and benzo(g,h,i)perylene) were detected at concentrations exceeding the site-specific screening criteria. Using the SIM method, site-related contaminants were identified as low as 0.016 µg/L. As a result, creosote-related compounds were identified in 28 out of 29 monitoring wells. Among these 28 wells, creosote-related compounds were only detected using the SIM method in five wells: MW-1RS, MW-103S, MW-124S, MW-124I, and MW-124D. It should be noted that results presented in Table 3-3 and 3-4 are a combination of results from both low SVOC analysis and SIM analysis. Results from SIM analysis were used only when the low SVOC analysis results were non-detect.

3.2.3 Metals

Analysis for iron and manganese was conducted because naturally occurring biodegradation of creosote contaminants can increase iron and manganese levels in groundwater. The NJDEP GWQS for iron and manganese are 300 µg/L and 50 µg/L, respectively. A total of 20 wells of the 29 wells have iron concentrations exceeded the GWQS criteria. A total of 19 wells of the 29 wells have manganese concentrations exceeded the GWQS criteria. Note that natural attenuation of chlorinated compounds such as TCE or PCE detected at this site could also increase the iron concentration in groundwater.

3.2.4 DNAPL

Free phase creosote in a DNAPL form was observed in MW-7S during this round of groundwater sampling. Concentrations of creosote-related compounds in MW-6S, MW-5I, MW-2RS, MW-2RI, and MW-2RD were as high as that in MW-7S and creosote was historically observed in these wells. Therefore, NAPL most likely remains in the vicinity of those five wells.

3.3 Contaminant Distribution

Figures 3-4, 3-5, and 3-6 present the results of COCs in overburden and bedrock aquifers over time. Table 3-4 presents the concentrations of creosote-related compounds over time for wells where these compounds have been consistently detected in the monitoring program. The discussion of contaminant distribution refers to overburden and bedrock aquifers separately.

3.3.1 Overburden

Creosote-related VOC contaminants were detected in MW-2RS, MW-6S, MW-7S, and MW-111S. Creosote-related SVOC contaminants were detected in all the overburden wells except MW-110S. The multiple detections were due to the lowered detection limits using SIM analysis. MW-2RS is located north of former Lagoon A and is adjacent to the railroad tracks.

Contaminant concentrations in MW-2RS were high, indicating the presence of free phase creosote. MW-1RS and MW-104RS are cross-gradient of MW-2RS. Trace levels of groundwater contamination (SVOCs lower than 0.5 µg/L) were found in MW-1RS and MW-104RS in both 2008 and 2009 sampling events. MW-12RS is downgradient of MW-2RS. Creosote-related contaminants were detected in MW-12RS at trace levels in all three years of sampling events after it was installed in the summer of 2007. Only carbazole exceeded the NJDEP interim groundwater criterion of 5 µg/L in all three years. Further downgradient from MW-2RS, no creosote-related contaminants were found in MW-110S. Trace levels of SVOCs were detected in

MW-103S, but the concentrations were less than site-specific screening criteria. Therefore, even though there might be residual NAPL in MW-2RS that can serve as a continued source for groundwater contamination in the overburden, the contaminants do not appear to migrate significantly from the source area.

Side-gradient of the former Lagoon A and on the other side of the groundwater divide, creosote-related contaminants were identified in MW-124S and MW-123S at trace levels. Since Site-related contaminants would not migrate to those locations by groundwater flow, they might be from a separate source or potentially from cross contamination using the SIM analysis. SIM analysis is designed to detect extremely low concentrations with the reporting limits of 0.1 µg/L and the detection limits more than five times lower. However, if a clean sample was run right after a sample with relatively high concentrations, cross-contamination may occur.

MW-6S and MW-7S are located in the vicinity of former Lagoon B and adjacent to railroad tracks. Similar to the previous groundwater sampling rounds, BTEX and creosote-related contaminants were found in these two wells at high concentrations. Creosote was observed in MW-7S during the field sampling activity. The highly contaminated groundwater in MW-6S and MW-7S can serve as the source for groundwater contamination. However, creosote-related contaminants were only detected at trace levels (using the SIM analytical method) in groundwater monitoring wells MW-114S, MW-125S, and MW-126S, located downgradient from the former Lagoon B. No contaminants were observed at concentrations greater than the NJDEP GWQS, which indicates that creosote-related contaminants did not appear to migrate far away from the source.

MW-111S is located near the southwest end of the former Canal B. Even though benzene was not detected in this well, other creosote-related VOC and SVOC contaminants were consistently observed in this well since 1999. In addition, from 1999 to 2009, naphthalene shows a general decreasing trend, while acenaphthene, dibenzofuran, fluorine, phenanthrene, anthracene, and carbazole show general increasing trends (see Table 3-4 and Figure 3-7a). Downgradient from MW-111S, no creosote-related contaminant was detected in MW-127S from 2007 to 2009.

In general, free phase creosote still persists in the overburden aquifer at isolated locations in the vicinity of the former Lagoon areas and possibly at a small area with very limited quantity near the west end of Canal B (Figure 3-4). The removal of source material through the remedial action, and the aging of creosote (being released for more than 60 years) may result in the remaining fraction of contaminants to be less soluble and less mobile. This estimate is consistent with the limited detections of creosote-related contaminants from monitoring wells downgradient of the sources.

3.3.2 Bedrock

Creosote-related VOCs, BTEX, were detected in MW-2RI, MW-2RD, MW-5I, MW-110I, MW-114I, MW-114D, and MW116I. Creosote-related SVOCs were detected in all bedrock wells. Concentrations in MW-2RI, MW-2RD, MW-5I, MW-110I, MW-114I, MW-114D, MW-116I exceeded the Site-specific screening criteria for one or more compounds (see Table 3-3 and Figures 3-5 and 3-6).

MW-2RI and MW-2RD are located north of former Lagoon A, near the railroad tracks. High creosote-related contaminant concentrations were detected in this area during the RI, indicating the presence of free creosote in the vicinity. After these two wells were re-installed in 2007, creosote-related contaminant concentrations in MW-2D show a decreasing trend (Figure 3-7b). Creosote-related contaminant concentrations in MW-2I were generally comparable to the 1999 RI data, with naphthalene concentrations decreased in 2009.

MW-116I is located north of former Lagoon A, on the north side of the railroad tracks. Free creosote was observed in this well in 1999 during the RI. However, groundwater results from 2005 to 2009 did not indicate the presence of residual free creosote at this location. The concentrations of the soluble fraction of creosote, such as benzene, naphthalene, 2-methylnaphthalene, have significantly decreased since 2005 compared to their 1999 levels. Concentrations of the less soluble and/or strongly adsorbable compounds, such as acenaphthene, dibenzofuran, fluorene, phenanthrene, and carbazole have also shown a decreasing trend since 2005 (Figure 3-7c). One explanation of these concentration reductions is that the original DNAPL observed during the RI in 1999 was of limited quantity in the vicinity of the well screen or dropped into the bottom of the well from a fracture during well installation. In the past ten years, most of the soluble portion has been flushed away from this location by groundwater flow. Only the less soluble and adsorbed contaminants remain, and slowly release contaminants at low concentrations into the groundwater.

MW-124I and MW-124D were installed between MW-116I and the MW-118 well cluster to investigate the limit of contamination down dip from MW-116I. Creosote-related contaminants were not detected for the past three years using low-SVOC method, indicating that free phase creosote has not migrated down dip. The removal of DNAPL contaminants from the overburden significantly reduced the quantity of creosote at the source; thus limited the further movement of DNAPL down dip. As shown in Figure 3-2 and 3-3, MW-124I and MW-124D are located hydraulically upgradient of MW-116I and the former Lagoon A area; therefore the dissolved contaminants would not be expected to migrate from MW-116I to MW-124I and MW-124D. It should be noted that trace concentrations of creosote-related contaminants were detected in MW-124I and MW-124D using the SIM analytical method. But the concentrations were estimated because they were lower than the reporting limit of 0.1 µg/L. These detections were also significantly lower than site-specific screening criteria.

MW-123I and MW-123D are oriented sub-parallel along bedding strike and downgradient from MW-116I. Trace levels of creosote-related contaminants were detected in these two wells in 2008 and 2009 using the low SVOC analysis, but the concentrations were less than the site-specific screening criteria and the NJDEP GWQS.

MW-110I and MW-110D were installed in 2007 between former Lagoons A and B. Creosote-related contaminants were detected in MW-110I since 2007; and were detected in MW-110D in 2008 and 2009. For MW-110I, benzene concentrations exceeded the site-specific screening criterion of 1 µg/L from 2007 to 2009; carbazole concentrations exceeded the site-specific screening criterion of 5 µg/L in 2008 and 2009 (Table 3-4). Since MW-110I and MW-110D are located hydraulically downgradient from MW-2RI and MW-2RD, it may be at the fringe of the groundwater contaminant plume originating from MW-2RI and MW-2RD.

MW-5I is located in the vicinity of the former Lagoon B, and free creosote was previously observed in this well. Very high creosote-related contaminant concentrations were detected in this well in 2009, and they are comparable to the levels detected during the RI. Therefore, residual free creosote is most likely to be present at this location. It is not clear whether the free creosote observed in MW-7S is connected to this location through a preferential fracture pathway or not.

MW-114I and MW-114D are located south of MW-5I and hydraulically downgradient from MW-5I. Creosote-related contaminants were detected in both wells since the RI in 1999. In 2009, benzene was detected at 3.2 µg/L in MW-114D, and carbazole was detected at 17 µg/L in MW-114I, both exceeded the site-specific screening criteria. Generally, concentrations of the relatively soluble fraction of creosote demonstrate decreasing trends as shown in Figure 3-7d and 3-7e). Overall, contaminant concentrations in MW-114I were low, which indicates that this well is at the fringe of the stable bedrock contaminant plume. Further downgradient, no contaminants were detected above trace levels in MW125I.

MW-111I is located near the southwest end of the former Canal B with MW-111S and MW-111D. This well was sampled twice in 1999 and annually from 2005 to 2007. No creosote-related contaminants were detected in this well in these five rounds of sampling events therefore this well was dropped from the monitoring network in 2008. Because contaminant concentrations indicate an increasing trend in MW-111S, this well was added into the monitoring network in 2009. No creosote-related contaminants were detected in MW-111I in 2009 samples.

Similar to the groundwater contamination distribution in the overburden, migration of contaminant in the bedrock aquifer appears to be limited.

3.3.3 Summary of Groundwater Contaminant Distribution

For both overburden and bedrock aquifers, creosote-related contamination is limited to the locations (Former Lagoon A, Lagoon B, Canal B) where residual free phase creosote is directly observed or might be present based on contaminant levels. Away from these source areas, creosote-related contaminant concentrations have shown decreasing trends in MW-2D, MW-116I, MW-114I, MW-114D (Figure 3-7b to 3-7e). Using the SIM analysis, the detection limits has been lowered to 0.016 µg/L, which could facilitate in identifying contaminants. As a result, more creosote-related compounds were identified in wells known to be contaminated, and creosote-related contaminants were also identified in wells previously considered free of site-related contamination. However, creosote-related contaminants were also identified in every field blank sample in the SIM analysis, which raises the concern of cross-contamination on the analytical instrument, especially when samples with trace levels or no contaminants might be analyzed right after samples with high contaminant concentrations. It is recommended that in the future, SIM analysis shall only be requested for samples from wells known to contain trace levels of contaminants or no creosote-related contaminants.

Overall, the extent of the contaminant plume with concentrations exceeding the site-specific screening criteria remains the same.

3.4 Natural Attenuation Evaluation

During the groundwater sampling round that was completed during late October/early November 2009, groundwater samples were collected and analyzed in support of evaluation of the potential for groundwater contamination to naturally attenuate at the site. The samples were analyzed for the following parameters: nitrate/nitrite, alkalinity, sulfate, sulfide, iron, manganese, ferrous iron, and MEE; results are presented in Table 3-6. Field measurements including DO, ORP, pH, and temperature, also NA indicators, are presented in Table 3-5.

This assessment of natural attenuation potential consists of evaluating: (1) the historically detected concentrations of creosote-related compounds including BTEX and PAHs, in conjunction with (2) the natural attenuation (NA) indicator parameter data, for evidence indicating potential occurrence of biodegradation processes.

Natural attenuation refers to all of the naturally occurring processes (biodegradation, dispersion, sorption, volatilization etc.) that affect the fate and transport of contaminants in soil, groundwater, and fractured bedrock to achieve a reduction in the total mass, toxicity, mobility, volume, or concentration of a contaminant. Under proper conditions, these processes can be effective in containing and remediating such contamination in a reasonable time frame.

Biodegradation consists of biologically facilitated degradation reactions that involve electron transfer, where the microorganisms gain energy for growth and reproduction by mediating redox reactions which require an electron donor and an electron acceptor. In this case, BTEX and PAHs act as electron donors in the biodegradation processes. BTEX is known to be readily biodegraded or biotransformed under both aerobic and anaerobic conditions. Biodegradation of PAHs with less than five rings (naphthalene, phenanthrene, fluorene, and fluoranthene etc.) generally occurs at a much slower rate, typically orders of magnitude slower than BTEX biodegradation. Biodegradation of PAHs can occur under both aerobic and anaerobic conditions. Higher molecular weight PAHs tend to be more recalcitrant to biodegradation.

DO is the preferred electron acceptor, as microorganisms can harvest more energy by mediating such oxidation reactions. However, when sufficient carbon source (e.g., contaminant) is present, DO can be depleted, resulting in the subsurface becoming anaerobic. The next preferred electron acceptor for BTEX and PAHs biodegradation is nitrate, followed by manganese (IV), iron (III), sulfate, and carbon dioxide. Increasingly reducing conditions are observed as the microorganisms move down this hierarchy of preferred electron acceptors. Complete mineralization of benzene and naphthalene has been reported in some laboratory-scale tests. Degradations of low molecular PAHs have been observed under nitrate-reducing, iron-reducing, sulfate-reducing, and methanogenic conditions (Rockne et al., 1998; Karthikeyan and Bhandari 2001). The exact pathway of anaerobic biodegradation of PAHs has yet to be discovered (Karthikeyan 2001).

Groundwater contamination has been observed in both the overburden and the bedrock aquifers. As depicted on Figure 3-1, the groundwater flow in the overburden beneath the site is predominantly to the southeast toward the Millstone River. As depicted on Figures 3-2 and 3-3, in the bedrock aquifers groundwater gradients to the northwest of the divide are toward the Raritan River and Manville municipal wells C1 and C2, while groundwater gradients to the

southeast of the divide are toward the Millstone River. Vertical groundwater gradients are downward near the divide and upward near the Millstone River.

Seven rounds of groundwater sampling events have been completed to date. The first two rounds occurred in 1999 prior to the excavation of source material and contaminated soil at the former lagoons, canals, lagoon exit trenches, and residential properties at the Claremont Development. A number of overburden monitoring wells (e.g., MW-11S, MW-12S) were removed and a number of bedrock monitoring wells (e.g. MW-2I, MW-2D) were abandoned as a result of the remedial activities undertaken, and therefore were not sampled during the annual groundwater sampling events in 2005 through 2009. To better monitor the groundwater quality at the site, 18 new monitoring wells were installed and sampled in 2007, with many of the wells installed in the vicinity of the former Lagoon A area. The locations of all the new monitoring wells are presented on Figure 2-1.

Contaminant Trend Analysis Summary

As illustrated on Figures 3-4 through 3-6 and in Table 3-4, the highest naphthalene and benzene concentrations were detected in monitoring wells in the vicinity of former Lagoons A (i.e., well cluster MW-2RS, 2RI,and 2RD, and/or MW-116I), and former Lagoon B (i.e., MW-6S, MW-7S, and MW-5I). In fact, NAPL was observed in MW-2I, MW-2D, MW-116I, MW-6S, MW-7S, and MW-5I during the RI in 1999. Naphthalene concentrations have significantly decreased in MW-116I, from greater than 3,000 µg/L in 1999 to 19 J µg/L in 2008, and other creosote-related contaminant concentrations have also decreased in MW-116I as shown in Table 3-4 and Figure 3-7c. Well cluster MW-2R was installed in 2007 in the immediate vicinity of former well cluster MW-2I/2D, which was abandoned as a result of the remediation actions discussed above. Compared to the historical results of MW-2I/2D, the concentrations of naphthalene and other creosote-related contaminants detected in the well cluster MW-2R exhibited a decreasing trend. For instance, naphthalene was detected at a concentration of 3,800 J µg/L and 170 J µg/L in MW-2RI and MW-2RD, respectively, during 2009, versus 6,500 µg/L and 7,400 µg/L in MW-2I and MW-2D, respectively, during November 1999. For the Lagoon B and Canal B area, NAPL was again observed in MW-6S, MW-7S, and MW-5I during the recent groundwater sampling rounds. Naphthalene and other creosote-related contaminants have also been detected in MW-111S, MW-110I, MW-114I, and MW-114D. Contaminant concentrations in these wells have generally exhibited decreasing trends with the exception of MW-111S. This well has exhibited generally increasing concentrations of dibenzofuran, phenanthrene, and carbozole since 1999; however, the contamination identified in MW-111S appears to be localized based on the analytical results of the downgradient well MW-127S.

Natural Attenuation Evaluation

For the purpose of this evaluation of NA potential, MW-2RS, and MW-6S and MW-7S, represent two distinct residual source areas in the overburden aquifer; Lagoon A and Lagoon B, respectively. Similarly, MW-2RI/2RD and MW-5I represent two distinct source areas in the bedrock aquifer, Lagoon A and Lagoon B, respectively. Although NAPL was observed in MW-116I in 1999, the recent contaminant concentrations detected in this well do not indicate the presence of NAPL. Therefore, MW-116I is not considered to be within the source area. The MW-124 well cluster (MW-124S, I, and D) is located hydraulically upgradient of Lagoon A and Lagoon B, and no creosote-related contaminants have been detected in any of the three wells

during the groundwater sampling events to date. For the purpose of this NA discussion, MW-124S, MW-124I, and MW-124 D will be used as the background wells in the overburden, intermediate, and deep aquifers, respectively.

In order to evaluate whether the subsurface conditions are conducive to intrinsic natural degradation of BTEX and site-specific PAHs, NA indicator parameters are individually evaluated. These parameters are pH, DO, temperature, ORP, nitrate/nitrite, manganese, ferrous iron, sulfate, sulfide, methane, and alkalinity as calcium carbonate. Note that measurements of pH, DO, temperature, ORP were not collected from MW-7S due to the presence of free product at the time of sampling.

pH

In general, pH between 5 and 9 standard units are considered to support active biological growth and biodegradation. The pH of the collected groundwater samples, with only one exception (recorded pH for MW-124D was 9.40, slightly above 9 standard units), ranged between 5 and 9 standard units. The groundwater pH at the site is relatively neutral and is supportive of natural biodegradation.

Dissolved Oxygen

DO is the preferred electron receptor for microorganisms that facilitate biodegradation. As presented in Table 3-5, the DO reading was 3.76 mg/L in the overburden aquifer background well (MW-124S), 5.99 mg/L in the intermediate bedrock aquifer background well (MW-124I), and 2.90 mg/L in the deep bedrock aquifer background well (MW-124D). As groundwater flows toward the wells within the contaminant source areas of the overburden aquifer and the intermediate bedrock aquifer, DO was reduced to less than or close to 0.5 mg/L in MW-2RS, MW-6S, MW-2RI, and MW-2RD. The depletion of DO is likely due to microorganisms using the DO as an electron acceptor. Note that the DO reading for MW-5I, 8.53 mg/L, appears to be inconsistent with the reducing conditions (i.e., low ORP) observed in this well and may not be representative of actual subsurface conditions. Based on the DO data, subsurface conditions are anaerobic in the Lagoon A and Lagoon B areas, in both the overburden and the bedrock aquifers. The significant reductions in DO concentrations in downgradient wells relative to DO concentrations on background wells suggest that biodegradation is occurring. Further, low DO concentrations in downgradient wells suggest that microorganisms may be using other electron acceptors to mediate biodegradation reactions.

Temperature

Active biological growth can generally occur under temperatures ranging from 10 to 35 degrees Celsius (°C), and biochemical process can be accelerated when the temperature is greater than 20 °C. The temperature of all the groundwater samples collected during the 2009 sampling event from the site ranged from 13.7 to 20.4 °C. Therefore, the observed temperature is supportive of natural biodegradation.

ORP

Oxidation/reduction potential (ORP) is an indicator of the ability of a solution to accept or transfer electrons. The most common electron acceptors in subsurface include DO, nitrate, manganese (IV), iron (III), sulfate, and carbonate, which require increasingly reducing conditions. It is difficult to obtain accurate ORP values for quantitative interpretation, as many oxidation-reduction reactions occurring simultaneously in groundwater can affect the ORP. However, for qualitative discussion purposes, ORP provides a reasonable measure of the degree of reducing conditions and, therefore, it is useful for identifying locations in the plume where reductive processes may be occurring. As shown in Table 3-5, in both the overburden aquifer and the bedrock aquifers, recorded ORP values were generally significantly lower in source area wells than background wells (e.g., -92.2 millivolts (mV) in MW-6S versus 88.1 mV in MW-124S, -231.6 mV in MW-2RI versus 114.8 mV in MW-124I, and -223.1 mV in MW-2RD versus 148 mV in MW-124D). This relative difference suggests that reducing conditions exist in the source areas, and that anaerobic biodegradation is likely occurring in the source areas of the overburden and intermediate bedrock aquifers.

Nitrate/Nitrite

Once the available DO has been depleted, nitrate is the next preferred electron receptor for anaerobic biodegradation of hydrocarbon compounds. As shown in Table 3-6, nitrate/nitrite concentrations were either detected at significantly lower concentrations in the source area wells than those in the background wells in the overburden aquifer (e.g., 0.11 mg/L in MW-2RS versus 4.7 mg/L in MW-124S etc.), or not detected at all in the source area wells in the bedrock aquifers. The data suggest that microbially-mediated nitrate reduction is occurring in the source areas both in the overburden aquifer and bedrock aquifers, and that anaerobic biodegradation is likely occurring in those aquifers.

Manganese

Once the available DO and nitrate sources have been depleted, biologically available manganese (IV) in the subsurface solid matrix can be utilized as alternate electron acceptor. Manganese (IV) is reduced into more soluble form, manganese (II), and thus enters the groundwater. An increase of manganese (II) concentration compared to background levels is an indicator that anaerobic biodegradation using manganese (IV) as an electron acceptor is occurring or has occurred. At this site, manganese (II) was not originally included in the analytical parameter list. As an alternative, total manganese results obtained from the metal analysis were used evaluate the manganese reduction.

In the overburden aquifer, elevated manganese concentrations occurred in source area wells MW-2RS, MW-6S and MW-7S (12 mg/L, 4.6 mg/L and 4.7 mg/L, respectively), compared to that in the background well MW-124S (0.17 mg/L). Similarly, in the bedrock aquifers, elevated manganese concentrations were exhibited in bedrock aquifer source area wells MW-2RI, MW-2RD and MW-5I (3 mg/L, 1.1 mg/L and 1.1 mg/L, respectively), compared to that in the background wells MW-124I/124D (0.0088 mg/L and 0.025 mg/L, respectively). The elevated concentrations of manganese in the groundwater samples collected from both the overburden aquifer source area and the bedrock aquifer source area compared to the background wells is consistent with the higher concentrations of soluble manganese (II) expected in groundwater

from the reduction of less soluble manganese (IV) by microorganisms. Based on these results, microbially-mediated reduction of manganese (IV) is likely occurring or has occurred in the source areas of the overburden aquifer.

Ferrous Iron

Once the available DO, nitrate sources, and biologic available manganese (IV) have been depleted, biologic available iron (III) in the subsurface solid matrix can be utilized as alternate electron receptor. Iron (III) is reduced into more soluble form, ferrous iron (Fe II), and thus enters the groundwater. An increase of ferrous iron concentration compared to background levels often indicates an anaerobic biodegradation using iron (III) as an electron acceptor is occurring or has occurred at a site.

In the overburden aquifer, ferrous iron concentrations were detected at 22.2 mg/L, 11.755 mg/L and 23.7 mg/L in source area wells MW-2RS, MW-6S and MW-7S, respectively, compared to 0.16 mg/L in the background well MW-124S. In the bedrock aquifers, ferrous iron concentration was detected at 1.77 mg/L and 0.2 mg/L in source area wells MW-5I and MW-2RD, respectively, but was not detected in another source area well MW-2RI or the background wells (MW-124I and MW-124D). Based on these results, microbially-mediated reduction of iron (III) is likely occurring or has occurred in the source areas of both the overburden aquifer and the bedrock aquifers.

Sulfate

Once the available DO has been depleted and only insufficient nitrate, manganese (IV), and iron (III) sources are present, sulfate may be utilized as an alternate electron acceptor. Sulfate is reduced to sulfide during anaerobic biodegradation.

As shown in Table 3-6, in both the overburden aquifer and the intermediate bedrock aquifer, generally much lower concentrations of sulfate were detected in the source area wells, compared to that in the background wells (e.g., non-detect in MW-2RI versus 34 mg/L in MW-124I). On the other hand, a higher than background levels of sulfate was detected in the deep bedrock aquifer source well MW-2RD (i.e., 99 mg/L versus 12 mg/L in MW-124D). Based on these results, anaerobic biodegradation utilizing sulfate as electron receptor likely is occurring or has occurred in the source areas of the overburden aquifer and the intermediate bedrock aquifer.

Methane

Methane is a by-product of anaerobic biodegradation. Therefore, elevated methane concentrations (above site background levels) are indicative of biodegradation in an anaerobic environment.

Elevated methane concentrations were observed in the source area wells of both the overburden aquifer and the bedrock aquifers. Specifically, in the overburden aquifer, methane was detected at 46 µg/L, 110 µg/L and 11 µg/L in source area wells MW-2RS, MW-6S and MW-7S, respectively, compared to non-detect in background well MW-124S (<2 µg/L); in the bedrock aquifers, methane was detected at 13 µg/L, 47 µg/L, and 37 µg/L in source area well MW-2RI,

MW-5I and MW-2RD, respectively, compared to non-detect in all the background wells. This suggests that anaerobic biodegradation is likely occurring or has occurred in the source areas of both the overburden aquifer and the bedrock aquifers at the site.

Alkalinity

Increased biological activity often results in elevated carbon dioxide concentrations in groundwater, and hence increased alkalinity due to the reaction between carbon dioxide and aquifer minerals. Therefore, elevated alkalinity is often indicative of biological activity and potential biodegradation.

Elevated alkalinity concentrations were observed in the source area wells of both the overburden aquifer (in Lagoon A area well MW-2RS) and the intermediate bedrock aquifer. Specifically, in the overburden aquifer, alkalinity was detected at 250 mg/L in source area wells MW-2RS, compared to 100 mg/L in background well MW-124S; in the intermediate bedrock aquifer, alkalinity was detected at 160 mg/L and 240 mg/L in source area well MW-2RI and MW-5I, respectively, compared to 81 mg/L in background well MW-124I. The alkalinity concentration detected in the deep bedrock aquifer source well MW-2RD (100 mg/L); however, is exactly the same as that in the background well MW-124D. Therefore, these data indicate that biodegradation is likely occurring or has occurred in the source areas of the overburden aquifer (only in Lagoon A area) and the intermediate bedrock aquifer at the site.

Summary of Natural Attenuation

Based on the above evaluation, which is also summarized in Table 3-7, groundwater in the vicinity of the remaining creosote source areas (specifically, MW-2RS, MW-6S and MW-7S in overburden aquifer, MW-2RI, MW-2RD, and MW-5I in the bedrock aquifers), has the following general characteristics: suppressed DO, low ORP, depleted nitrate/nitrite, decreased levels of sulfate, elevated levels of methane and alkalinity, and/or elevated levels of ferrous iron and manganese, relative to upgradient wells. Taken together, these geochemical characteristics and generally decreasing trend of BTEX and PAHs in source area wells strongly suggest that natural attenuation, via the anaerobic degradation pathway, is occurring within the source areas. The natural attenuation conditions observed in 2009 are consistent with the conditions observed in previous years. Natural attenuation of both BTEX and PAHs may have contributed to the apparent containment of the contaminant distribution in the vicinity of former Lagoons A and B, particularly considering the long site release history, which dates back to over 60 years ago.

3.5 Quality Assurance and Quality Control

Quality Assurance and Quality Control (QA/QC) measures were taken in the field according to the USACE and EPA approved SAP (CDM, 2005) and SAP Addendum (CDM, 2007c). The QA/QC samples collected are two field duplicates, nine field blanks (also called rinsate blank), and nine trip blanks. Sampling information relative to QA/QC is summarized on the Sample Summary Table (Table 2-2). A data usability worksheet is provided in Appendix E. Key information in the data usability worksheet is summarized in this section.

3.5.1 Blank Contamination

Low contaminant concentrations were detected in trip blanks and field rinsate blanks (Appendix E) as follows:

Field Blanks:

For volatile organic analysis:

- Acetone was detected in eight of the nine field blanks with concentrations ranging from 12 µg/L to 150 µg/L
- Methylene chloride was detected in seven of the nine field blanks with concentrations ranging from 0.66 µg/L to 1.3 µg/L
- Benzene was detected in eight of the nine field blanks with concentrations ranging from 0.5 µg/L to 2.3 µg/L
- Toluene was detected in five of the nine field blanks with concentrations ranging from 1.9 µg/L to 41 µg/L
- Ethylbenzene was detected in eight of the nine field blanks with concentrations ranging from 0.68 µg/L to 0.89 µg/L
- m,p-Xylene was detected in eight of the nine field blanks with concentrations ranging from 0.9 µg/L to 4 µg/L
- o-Xylene was detected in seven of the nine field blanks with concentrations ranging from 0.6 µg/L to 1.5 µg/L
-

For semi-volatile organic analysis:

- Benzaldehyde was detected in two of the nine field blanks with concentrations ranging from 0.16 µg/L to 0.36 µg/L
- Phenol was detected in nine of the nine field blanks with concentrations ranging from 0.7 µg/L to 2.3 µg/L
- Acetophenone was detected in nine of the nine field blanks with concentrations ranging from 0.21 µg/L to 0.63 µg/L
- Isophorone was detected in three of the nine field blanks with concentrations ranging from 0.19 µg/L to 0.22 µg/L
- Naphthalene was detected in six of the nine field blanks with concentrations ranging from 0.16 µg/L to 0.4 µg/L
- Caprolactam was detected in nine of the nine field blanks with concentrations ranging from 0.26 µg/L to 7.5 µg/L
- Diethylphthalate was detected in eight of the nine field blanks with concentrations ranging from 0.22 µg/L to 1.7 µg/L
- Phenanthrene was detected in one of the nine field blanks with a concentration 0.17 µg/L
- Di-n-butylphthalate was detected in seven of the nine field blanks with concentrations ranging from 0.28 µg/L to 0.43 µg/L
- bis(2-Ethylhexyl)phthalate was detected in six of the nine field blanks with concentrations ranging from 0.35 µg/L to 0.71 µg/L

For semi-volatile organic analysis by SIM:

- Naphthalene was detected in nine of the nine field blanks with concentrations ranging from 0.077 µg/L to 0.34 µg/L
- 2-Methylnaphthalene was detected in eight of the nine field blanks with concentrations ranging from 0.023 µg/L to 0.11 µg/L
- Acenaphthene was detected in three of the nine field blanks with concentrations ranging from 0.078 µg/L to 0.43 µg/L
- Fluorene was detected in three of the nine field blanks with concentrations ranging from 0.027 µg/L to 0.12 µg/L
- Pentachlorophenol was detected in two of the nine field blanks with concentrations ranging from 0.015 µg/L to 0.039 µg/L
- Acenaphthene was detected in three of the nine field blanks with concentrations ranging from 0.078 µg/L to 0.43 µg/L
- Phenathrene was detected in three of the nine field blanks with concentrations ranging from 0.02 µg/L to 0.42 µg/L
- Fluoranthene was detected in four of the nine field blanks with concentrations ranging from 0.017 µg/L to 0.066 µg/L
- Pyrene was detected in four of the nine field blanks with concentrations ranging from 0.022 µg/L to 0.054 µg/L
- Indeno(1,2,3-cd)pyrene was detected in four of the nine field blanks with concentrations ranging from 0.016 µg/L to 0.043 µg/L
- Benzo(g,h,i)pyrene was detected in four of the nine field blanks with concentrations ranging from 0.016 µg/L to 0.029 µg/L
- Acenaphthylene, anthracene, benzo(a)anthracene, benzo(b)fluoranthene, and dibenz(a,h)anthracene were each detected in one of the 10 field blanks with concentrations of 0.022 µg/L, 0.053 µg/L, 0.022 µg/L, 0.016 µg/L, and 0.023 µg/L respectively

Trip Blanks:

- Acetone was detected in one of the 10 trip blanks with a concentration of 5.6 µg/L
- Methylene chloride was detected in nine of the nine trip blanks with a concentration of 0.54 µg/L to 1.3 µg/L
- Toluene was detected in three of the nine trip blanks with concentrations ranging from 0.62 µg/L to 1.1 µg/L
- m,p-Xylene was detected in one of the nine trip blanks with a concentration of 0.54 µg/L

Blank contaminants are listed and evaluated in the data usability worksheet in Appendix E. The concentrations of contaminants detected in the blanks associated with this sampling event were evaluated and a non-detect "U" qualifier was used for compounds detected at the same level of concentrations in both the blank and the environmental sample.

3.5.2 Field Duplicate Sample Comparison

The relative percent differences (RPDs) of results for the two pairs of duplicate samples were calculated to determine the precision of laboratory results. The groundwater sample pairs are MW116I-Y5 and MW116I-Y5-DUP; and MW2RS-Y5 and MW2RS-Y5-DUP. The detailed results are shown in Appendix D. RPD calculations were not performed for duplicate pairs with detection in only one of the samples. When one or both results were below five times the CRQL

the absolute difference (ABS) was used to evaluate precision. The RPD criteria were met for all duplicate pairs. The ABS result for chrysene exceeded the CRQL for duplicate pair MW116I-Y5. Overall the duplicate analyses for this sampling event exhibited good precision.

Even though matrix spike and matrix spike duplicate (MS/MSD) samples were not collected or requested, DESA selected MS/MSD samples and conducted the analysis as required by laboratory QA/QC procedures. The DESA validation did not indicate a problem with MS/MSD results; therefore no matrix interference is anticipated.

3.5.3 Deuterated Monitoring Compounds and Internal Standards

Deuterated monitoring compounds (DMCs) are added to each sample to evaluate the method's ability to extract and quantify related compounds. For several samples the DMC recoveries were outside criteria. Results associated with poor DMC recovery were qualified as estimated "J" by the data validator.

Internal standards (ISs) are added to each sample and used to calculate compound concentrations relative to the IS recovery. IS recoveries in several samples were outside criteria for the SVOC SIM analysis. Results associated with poor IS recoveries were qualified as estimated "J" by the data validator.

Poor DMC and IS recoveries generally indicate a matrix interference. However since the poor IS results occurred in only some of the SVOC SIM analysis the poor IS performance does not critically impact data objectives.

3.5.4 Initial and Continuing Calibration

Initial and continuing calibration checks are used to verify instrument performance prior to and during an analytical sequence. The calibration criteria for several SVOCs did not meet criteria. In these cases the associated sample results were qualified as estimated "J" by the validator.

The relative response factor (RRF) is an indication of signal strength for a particular compound. A low RRF indicates that the instrument may not be able to detect signals associated with low concentrations of a particular compound. In the SVOC SIM analysis Pentachlorophenol had an RRF that was below criteria. Associated positive results were qualified as estimated "J" and non-detect results were qualified as rejected "R" in 13 samples. These data cannot be used for any reason.

3.5.5 Field Measurements

Using the EPA Region II low flow sampling method, groundwater parameters pH, conductivity, turbidity, dissolved oxygen (DO), ORP, and temperature were measured. No equipment malfunctions or calibration errors were recorded in the data logs.

Ferrous iron was also measured in the field using a HACH analysis. There were no problems reported for these analysis and the field duplicate and blank analyses met criteria.

3.6 Well Condition Survey

As noted in Section 2.3, CDM completed the well inventory survey using an electronic checklist template provided by EPA. Following field work, the information was consolidated onto the individual field checklist forms, entered onto the electronic template provided by EPA, and checked against the form generated in the field. The completed well inventory checklists are provided in Appendix F.

Four wells – MW-4D and MW-115 cluster – have been damaged and/or buried since the 2008 sampling event. Using a GPS unit, the field crew was led to the locations where the wells should be. It appears that Norfolk-Southern Railroad has moved piles of stone on top of, or otherwise disturbed the ground around the wells. Specifically, MW-4D is located on Norfolk-Southern Railroad property near the apex of the polygon described by the Claremont development. It appears that a pile of stone has been placed on it. The MW-105 cluster is located on the railroad right of way, about midway between MW-4D and the MW-2 cluster. There is a 4-feet thick pile of stone about 5 feet from the resident's fence, which may be covering 2 of the wells. Remnants of one well were located in the area. The flush mount protective casing appears to have been stripped off, possibly by heavy machinery used to move the stone piles. The riser and casing appears at ground surface, and both pipes are damaged and crimped, with debris noted in them.

The well condition checklist forms were not completed for these four wells. None of the damaged or lost wells described above has been sampled since the RI, and no contamination was noted in any of these wells during the RI sampling. Therefore, CDM recommends that the wells should be located and properly abandoned.

Section 4
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TABLES

Table 2-1
Well Construction Information
Federal Creosote Superfund Site
Manville, New Jersey

Location	Total Depth of Boring (feet bgs)	Well Diameter (inches)	Well Screen Length (feet)	Well Screen Material	Top of Screen (feet bgs)	Bottom of Screen (feet bgs)	Depth to Bedrock (feet bgs)	Stickup (feet)	Date Installed	NJDEP Permit #	Easting (X)	Northing (Y)	Top of Inner Casing Elevation (ft)
Historical wells													
MW-4D	198	2	20	0.010-inch slot PVC	178	198	29.5	0.05	3/16/1998	DNA	470521.15	624197.12	42.66
MW-5I	56	2	10	0.010-inch slot PVC	45	55	23	-0.28	2/24/1998	DNA	469920.92	623229.01	40.40
MW-5S	24.5	2	10	0.010-inch slot PVC	14	24	23.5	-0.82	3/16/1998	DNA	469918.66	623223.85	39.81
MW-6S	22.6	2	10	0.010-inch slot PVC	14	24	22.6	-0.56	3/16/1998	DNA	469822.15	623105.06	40.50
MW-7S	25.3	2	10	0.010-inch slot PVC	14.5	24.5	25.3	-0.57	3/10/1998	DNA	469720.11	622979.63	40.72
MW-8D	198	2	20	0.010-inch slot PVC	178	198	29	-0.19	3/11/1998	DNA	469375.48	622557.79	41.76
MW-8I	55	2	10	0.010-inch slot PVC	45	55	29	-0.33	3/11/1998	DNA	469379.19	622563.37	41.62
MW-9S	28	2	10	0.010-inch slot PVC	18	28	28	-0.37	3/13/1998	DNA	469545.75	623079.69	44.63
MW-10I	50	2	10	0.010-inch slot PVC	40	50	263	-0.24	3/13/1998	DNA	469671.34	623216.52	43.04
MW-10S	24.5	2	10	0.010-inch slot PVC	14	24	24.5	-0.29	3/2/1998	DNA	469670.35	623215.28	43.02
MW103S	33.5	4	15	0.010-inch slot SS	17.4	32.4	33.5	-0.36	1/13/1999	25-53648	469353.02	623310.71	49.74
MW105D	200	4	10	0.010-inch slot SS	147.8	157.8	33	-0.36	6/16/1999	25-53790	469598.24	623852.91	46.36
MW105I	73	4	10	0.010-inch slot SS	62	72	33	-0.21	6/16/1999	25-53789	469567.56	623844.98	46.27
MW105S	33	4	15	0.010-inch slot SS	14.5	31.3	33	-0.25	2/3/1999	25-53654	469586.31	623848.42	46.64
MW106S	31.5	4	15	0.010-inch slot SS	14.9	29.9	31.5	-0.34	1/26/1999	25-53695	469732.66	623420.62	46.97
MW107S	37.5	4	15	0.010-inch slot SS	21.3	36.3	37.5	-0.31	2/9/1999	25-53655	470250.56	624046.57	52.97
MW108S	25.5	4	10	0.010-inch slot SS	13.9	23.9	25.5	-0.02	2/4/1999	25-53656	470179.06	623558.13	40.90
MW109S	33	4	15	0.010-inch slot SS	14.5	32.5	33	-0.28	1/20/1999	25-53646	469203.71	622667.03	49.01
MW110S	33	4	15	0.010-inch slot SS	16.7	31.7	33	-0.26	1/21/1999	25-53647	469215.72	622980.82	49.16
MW111D	200	4	10	0.010-inch slot SS	182	192	37	-0.4	6/10/1999	25-53778	468234.50	622289.52	53.07
MW111I	66	4	10	0.010-inch slot SS	55	65	37	-0.36	6/14/1999	25-53777	468252.90	622235.09	53.74
MW111S	37	4	5	0.010-inch slot SS	31.8	36.8	37	-0.24	2/24/1999	25-53779	468239.22	622258.08	53.44
MW112D	200	4	10	0.010-inch slot SS	184	194	25.5	0.25	6/10/1999	25-53781	470487.41	622220.13	41.71
MW112I	71	4	10	0.010-inch slot SS	60	70	25.5	-0.37	6/22/1999	25-53780	470455.36	622208.72	41.76
MW112S	25.5	4	15	0.010-inch slot SS	9.9	24.9	25.5	-0.07	2/22/1999	25-53782	470472.18	622215.96	41.92
MW113D	200	4	10	0.010-inch slot SS	150	160	23.8	-0.25	6/3/1999	25-53784	471480.60	623575.74	40.83
MW113I	131	4	10	0.010-inch slot SS	120	130	23.8	-0.28	6/22/1999	25-53783	471474.80	623549.63	40.13
MW113S	25.5	4	15	0.010-inch slot SS	8.3	23.3	23.8	0.05	2/23/1999	25-53785	471477.71	623563.27	40.58
MW114D	200	4	10	0.010-inch slot SS	168	178	21	2.25	6/11/1999	25-53787	470031.72	623056.65	40.62
MW114I	71	4	10	0.010-inch slot SS	60	70	21	2.23	6/24/1999	25-53786	470010.15	623039.46	40.74
MW114S	21	4	13	0.010-inch slot SS	6.6	19.6	21	2.29	2/16/1999	25-53788	470022.62	623049.15	40.79
MW115D	200	4	10	0.010-inch slot SS	112	122	31.9	2.13	6/4/1999	25-53792	470924.78	624885.22	47.35
MW115I	93	4	10	0.010-inch slot SS	82	92	31.9	2.21	6/23/1999	25-53791	470894.19	624876.69	48.45
MW115S	31.9	4	15	0.010-inch slot SS	15.6	30.6	31.9	3.01	3/11/1999	25-53793	470909.34	624881.95	48.92
MW116I	71.5	4	10	0.010-inch slot SS	61.3	71.3	33	-0.24	3/18/1999	25-53794	468690.61	623689.65	50.54
MW117D	200	4	10	0.010-inch slot SS	116	126	32.9	-0.47	6/24/1999	25-53798	468098.40	623782.98	47.79
MW117I	70.1	4	10	0.010-inch slot SS	60	70	32.9	-0.32	6/24/1999	25-53797	468105.35	623758.03	48.20
MW117S	33	4	15	0.010-inch slot SS	17.4	32.4	32.9	-0.45	3/10/1999	25-53801	468101.97	623769.97	48.07
MW118D	300	4	10	0.010-inch slot SS	224.8	234.8	32.7	-0.37	6/21/1999	25-53800	468176.74	624371.99	49.17
MW118I	81	4	10	0.010-inch slot SS	70	80	32.7	-0.36	6/21/1999	25-53799	468156.72	624350.37	46.65
MW118S	32.7	4	15	0.010-inch slot SS	16.4	31.4	32.7	-0.37	3/9/1999	25-53802	468162.77	624364.84	49.49
MW119S	35	4	15	0.010-inch slot SS	19.2	34.2	35	-0.35	8/31/1999	25-54916	468145.34	623165.44	51.07
MW121S	36	4	15	0.010-inch slot SS	19.6	34.6	35	-0.3	8/30/1999	25-54912	468704.12	622672.98	52.05

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MW122S	34.8	4	15	0.010-inch slot SS	19.2	34.2	34.8	-0.24	8/29/1999	25-54913	467998.29	622234.16	53.46
T-1	234	4	10	0.010-inch slot SS	102.2	112.2	DNA	3	7/8/1999	25-54570	469992.35	622948.86	42.46
Wells Installed in 2007													
MW-1RS	35	4	15	0.010-inch slot wire wrapped SS	19	34	35	-0.4	7/10/2007	2500068859	468516	623444	52.04
MW-2RD	200	4	10	0.010-inch slot wire wrapped SS	188	198	33	-0.4	8/22/2007	2500068862	468852	623570	50.14
MW-2RI	75	4	10	0.010-inch slot wire wrapped SS	64	74	33	-0.4	8/24/2007	2500068861	468841	623567	50.04
MW-2RS	33	4	15	0.010-inch slot wire wrapped SS	17	32	33	-0.4	7/13/2007	2500068860	468836	623559	50.13
MW-12RS	31.5	4	15	0.010-inch slot wire wrapped SS	15.5	30.5	31.5	-0.4	7/17/2007	2500068853	468877	623365	47.23
MW104RS	31.5	4	15	0.010-inch slot wire wrapped SS	15.5	30.5	31.5	-0.4	7/11/2007	2500068858	469239	623712	47.75
MW-110D	200	4	10	0.010-inch slot wire wrapped SS	180	190	31.5	-0.4	8/28/2007	2500068855	469227	622982	48.98
MW-110I	75	4	10	0.010-inch slot wire wrapped SS	60	70	31.5	-0.4	8/27/2007	2500068854	469198	622984	49.23
MW-123D	200	4	10	0.010-inch slot wire wrapped SS	188	198	33	-0.4	8/21/2007	2500068845	469368	624378	48.64
MW-123I	75	4	10	0.010-inch slot wire wrapped SS	50	60	33	-0.4	8/20/2007	2500068844	469379	624382	49.00
MW-123S	33	4	15	0.010-inch slot wire wrapped SS	17	32	33	-0.4	7/9/2007	2500068843	469388	624358	49.00
MW-124D	200	4	10	0.010-inch slot wire wrapped SS	185	195	33	-0.4	8/13/2007	2500068848	468468	623903	49.33
MW-124I	75	4	10	0.010-inch slot wire wrapped SS	53.5	63.5	33	-0.4	8/13/2007	2500068847	468472	623890	49.40
MW-124S	33	4	15	0.010-inch slot wire wrapped SS	18	33	33	-0.4	8/3/2007	2500068846	468476	623881	49.36
MW-125I	75	4	10	0.010-inch slot wire wrapped SS	48	58	22	-0.4	8/24/2007	2500068852	470119	622638	39.17
MW-125S	22	4	15	0.010-inch slot wire wrapped SS	6	21	22	-0.4	7/24/2007	2500068851	470107	622634	39.22
MW-126S	30.5	4	15	0.010-inch slot wire wrapped SS	13.5	28.5	30.5	-0.4	7/20/2007	2500068849	469695	622434	37.55
MW-127S	36.5	4	15	0.010-inch slot wire wrapped SS	20.5	35.5	36.5	-0.4	7/18/2007	2500068856	468405	621829	53.62

Notes:
bgs: below ground surface
DNA: data not available
SS: stainless steel

Table 2-2
Sample and Analysis Summary
Year 5 Groundwater Sampling
Federal Creosote Superfund Site
Manville, New Jersey

Sample ID	CLP Sample ID	Matrix	Collection Date	QC	Analysis
MW-1RS-Y5	B7MS3	Groundwater	10/29/2009	NA	trace VOC, TCL SVOC, Fe, Mn, Nitrate/nitrite, sulfate, sulfide, MEE, alkalinity, Ferrous iron
MW-2RD-Y5	B7MS4	Groundwater	10/29/2009	NA	trace VOC, TCL SVOC, Fe, Mn, Nitrate/nitrite, sulfate, sulfide, MEE, alkalinity, Ferrous iron
MW-2RI-Y5	B7MS5	Groundwater	10/29/2009	NA	trace VOC, TCL SVOC, Fe, Mn, Nitrate/nitrite, sulfate, sulfide, MEE, alkalinity, Ferrous iron
MW-2RS-Y5	B7MS6	Groundwater	10/29/2009	NA	trace VOC, TCL SVOC, Fe, Mn, Nitrate/nitrite, sulfate, sulfide, MEE, alkalinity, Ferrous iron
MW-602S-Y5	B7MQ0	Groundwater	10/29/2009	Dup of MW-2RS-Y5	trace VOC, TCL SVOC, Fe, Mn, Nitrate/nitrite, sulfate, sulfide, MEE, alkalinity, Ferrous iron
MW-5I-Y5	B7MS7	Groundwater	11/2/2009	NA	trace VOC, TCL SVOC, Fe, Mn, Nitrate/nitrite, sulfate, sulfide, MEE, alkalinity, Ferrous iron
MW-6S-Y5	B7MS8	Groundwater	11/2/2009	NA	trace VOC, TCL SVOC, Fe, Mn, Nitrate/nitrite, sulfate, sulfide, MEE, alkalinity, Ferrous iron
MW-7S-Y5	B7MS9	Groundwater	10/29/2009	NA	trace VOC, TCL SVOC, Fe, Mn, Nitrate/nitrite, sulfate, sulfide, MEE, alkalinity, Ferrous iron
MW-12RS-Y5	B7MS2	Groundwater	10/26/2009	NA	trace VOC, TCL SVOC, Fe, Mn, Nitrate/nitrite, sulfate, sulfide, MEE, alkalinity, Ferrous iron
MW-103S-Y5	B7MQ1	Groundwater	10/26/2009	NA	trace VOC, TCL SVOC, Fe, Mn, Nitrate/nitrite, sulfate, sulfide, MEE, alkalinity, Ferrous iron
MW-104RS-Y5	B7MQ2	Groundwater	10/29/2009	NA	trace VOC, TCL SVOC, Fe, Mn, Nitrate/nitrite, sulfate, sulfide, MEE, alkalinity, Ferrous iron
MW-110D-Y5	B7MQ3	Groundwater	10/28/2009	NA	trace VOC, TCL SVOC, Fe, Mn, Nitrate/nitrite, sulfate, sulfide, MEE, alkalinity, Ferrous iron
MW-110I-Y5	B7MQ4	Groundwater	10/28/2009	NA	trace VOC, TCL SVOC, Fe, Mn, Nitrate/nitrite, sulfate, sulfide, MEE, alkalinity, Ferrous iron
MW-110S-Y5	B7MQ5	Groundwater	10/28/2009	NA	trace VOC, TCL SVOC, Fe, Mn, Nitrate/nitrite, sulfate, sulfide, MEE, alkalinity, Ferrous iron
MW-111I-Y5	B7MQ6	Groundwater	10/22/2009	NA	trace VOC, TCL SVOC, Fe, Mn, Nitrate/nitrite, sulfate, sulfide, MEE, alkalinity, Ferrous iron
MW-111S-Y5	B7MQ7	Groundwater	10/22/2009	NA	trace VOC, TCL SVOC, Fe, Mn, Nitrate/nitrite, sulfate, sulfide, MEE, alkalinity, Ferrous iron
MW-114D-Y5	B7MQ8	Groundwater	10/20/2009	NA	trace VOC, TCL SVOC, Fe, Mn, Nitrate/nitrite, sulfate, sulfide, MEE, alkalinity, Ferrous iron
MW-114I-Y5	B7MQ9	Groundwater	10/20/2009	NA	trace VOC, TCL SVOC, Fe, Mn, Nitrate/nitrite, sulfate, sulfide, MEE, alkalinity, Ferrous iron
MW-114S-Y5	B7MR0	Groundwater	10/20/2009	NA	trace VOC, TCL SVOC, Fe, Mn, Nitrate/nitrite, sulfate, sulfide, MEE, alkalinity, Ferrous iron
MW-116I-Y5	B7MR1	Groundwater	10/26/2009	NA	trace VOC, TCL SVOC, Fe, Mn, Nitrate/nitrite, sulfate, sulfide, MEE, alkalinity, Ferrous iron
MW-601I-Y5	B7MP9	Groundwater	10/26/2009	Duplicate of MW-116I-Y5	trace VOC, TCL SVOC, Fe, Mn, Nitrate/nitrite, sulfate, sulfide, MEE, alkalinity, Ferrous iron
MW-123D-Y5	B7MR2	Groundwater	10/23/2009	NA	trace VOC, TCL SVOC, Fe, Mn, Nitrate/nitrite, sulfate, sulfide, MEE, alkalinity, Ferrous iron
MW-123I-Y5	B7MR3	Groundwater	10/23/2009	NA	trace VOC, TCL SVOC, Fe, Mn, Nitrate/nitrite, sulfate, sulfide, MEE, alkalinity, Ferrous iron
MW-123S-Y5	B7MR4	Groundwater	10/23/2009	NA	trace VOC, TCL SVOC, Fe, Mn, Nitrate/nitrite, sulfate, sulfide, MEE, alkalinity, Ferrous iron
MW-124D-Y5	B7MR5	Groundwater	10/27/2009	NA	trace VOC, TCL SVOC, Fe, Mn, Nitrate/nitrite, sulfate, sulfide, MEE, alkalinity, Ferrous iron
MW-124I-Y5	B7MR6	Groundwater	10/27/2009	NA	trace VOC, TCL SVOC, Fe, Mn, Nitrate/nitrite, sulfate, sulfide, MEE, alkalinity, Ferrous iron
MW-124S-Y5	B7MR7	Groundwater	10/27/2009	NA	trace VOC, TCL SVOC, Fe, Mn, Nitrate/nitrite, sulfate, sulfide, MEE, alkalinity, Ferrous iron

Table 2-2
Sample and Analysis Summary
Year 5 Groundwater Sampling
Federal Creosote Superfund Site
Manville, New Jersey

Sample ID	CLP Sample ID	Matrix	Collection Date	QC	Analysis
MW-125I-Y5	B7MR8	Groundwater	10/21/2009	NA	trace VOC, TCL SVOC, Fe, Mn, Nitrate/nitrite, sulfate, sulfide, MEE, alkalinity, Ferrous iron
MW-125S-Y5	B7MR9	Groundwater	10/21/2009	NA	trace VOC, TCL SVOC, Fe, Mn, Nitrate/nitrite, sulfate, sulfide, MEE, alkalinity, Ferrous iron
MW-126S-Y5	B7MS0	Groundwater	10/21/2009	NA	trace VOC, TCL SVOC, Fe, Mn, Nitrate/nitrite, sulfate, sulfide, MEE, alkalinity, Ferrous iron
MW-127S-Y5	B7MS1	Groundwater	10/22/2009	NA	trace VOC, TCL SVOC, Fe, Mn, Nitrate/nitrite, sulfate, sulfide, MEE, alkalinity, Ferrous iron
FB102009	B7MT0	Aqueous	10/20/2009	Field Blank	TCL SVOC
FB102109	B7MT1	Aqueous	10/21/2009	Field Blank	TCL SVOC
FB102209	B7MT2	Aqueous	10/22/2009	Field Blank	TCL SVOC
FB102309	B7MT3	Aqueous	10/23/2009	Field Blank	TCL SVOC
FB102609	B7MT4	Aqueous	10/26/2009	Field Blank	TCL SVOC
FB102709	B7MT5	Aqueous	10/27/2009	Field Blank	TCL SVOC
FB102809	B7MT6	Aqueous	10/28/2009	Field Blank	TCL SVOC
FB102909	B7MT7	Aqueous	10/29/2009	Field Blank	TCL SVOC
FB110209	B7MT8	Aqueous	11/2/2009	Field Blank	TCL SVOC
TB102009	NA	Aqueous	10/20/2009	Trip Blank	Trace VOC
TB102109	NA	Aqueous	10/21/2009	Trip Blank	Trace VOC
TB102209	NA	Aqueous	10/22/2009	Trip Blank	Trace VOC
TB102309	NA	Aqueous	10/23/2009	Trip Blank	Trace VOC
TB102609	NA	Aqueous	10/26/2009	Trip Blank	Trace VOC
TB102709	NA	Aqueous	10/27/2009	Trip Blank	Trace VOC
TB102809	NA	Aqueous	10/28/2009	Trip Blank	Trace VOC
TB102909	NA	Aqueous	10/29/2009	Trip Blank	Trace VOC
TB110209	NA	Aqueous	11/2/2009	Trip Blank	Trace VOC

Notes:

CLP	Contract Laboratory Program
ID	identification number
MEE	methane, methane, methene
MS/MSD	matrix spike/matrix spike duplicate
NA	not applicable
QC	quality control
SVOC	semi-volatile organic carbon
VOC	volatile organic carbon

CLP ID is only for samples for SVOC analysis

Table 2-3
Analytical Methods
Year 5 Groundwater Sampling
Federal Creosote Superfund Site
Manville, New Jersey

Analytical Parameter	Analytical Method	Sample Preservation [1]	Laboratory
Trace VOC	SOM01.2	Cool to 4°C, preserved with HCl	DataChem
Low SVOC	SOM01.2	Cool to 4°C	DESA
Nitrate/Nitrite	EPA 353.2 (b) or 300/300.1	prepreserved, H_2SO_4 to pH <2, Cool to 4°C	DESA
Iron and Manganese	ILM05.4 (a)	prepreserved, HNO_3 to pH < 2, Cool to 4°C	DESA
Ferrous iron	Field colorimetric HACH Method 8146	No preservation required	Field
Sulfate	EPA 375.3 (b) or EPA 375.4 or 300/300.1	Cool to 4°C	DESA
Sulfide	EPA 376.1 or EPA 376.2 (b)	Minimum aeration, no headspace, zinc acetate and NaOH, pH >9, Cool to 4 °C	DESA
Alkalinity	SM2320 (c) [2]	Cool to 4°C	DESA
Methane/ethane/ethene	RSK SOP 147 (d) or RSK SOP 175	Cool to 4°C, no headspace, avoid air and light	DESA

Notes:

-1 Adjust pH of aqueous VOC samples to <2 by the drop-wise addition of 1:1 HCl to the three 40 ml VOC vials prior to filling with sample. Determine the number of acid drops required on a third sample aliquot (of equal volume) - do not acidify samples if effervescence is observed and indicate on sample that no acid preservative has been added.

-2 Monographic calculations in method SM4500-CO_2, option B or D may be used to determine carbonate relationships.

Methods:

(a) "Aqueous samples collected for trace volatile organic compounds was analyzed according to "Analytical Method for the Analysis of Trace Concentrations of Volatile Organic Compounds" Document number SOM01.1/1.2. SVOC was analyzed according to "Multi-Media, Multi-Concentration, Organic Analytical Service for Superfund". Document number SOM01.1/1.2. Iron and manganese was analyzed according to "Multi-Media, Multi Concentration, Inorganic Analytical Service for Superfund" Document number ILM05.3/5.4."

(b) Methods for Chemical Analysis of Water and Wastes: EPA-600/4-79-029, revised March 1983.

(c) Standard Methods for the Examination of Water and Wastewater, 18th Edition. HCO_3^- and CO_3^{2-} alkalinity are to be reported separately.

(d) Robert S. Kerr Environmental Research Laboratory Standard Operating Procedures, No. 147, Revision No. 0, January 1993.

ABBREVIATIONS USED:

C Celsius
HCl hydrochloric acid
H_2SO_4 sulfuric acid
HNO_3 nitric acid
NaOH sodium hydroxide
VOC volatile organic compound
SVOC semi-volatile organic compound

Table 3-1
Synoptic Water Level Measurements
Year 5 Groundwater Sampling
Federal Creosote Superfund Site
Manville, New Jersey

Well ID	Elevation of Top of Inner Casing (ft amsl)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	Date of Measurements	Depth to water* (ft)	Groundwater Elevation (ft amsl)	Total Depth Measured (ft btic)
MW-1RS	52.04	19	34	10/19/2009	21.1	30.94	34.6
MW-2RD	50.14	188	198	10/19/2009	20.6	29.54	199
MW-2RI	50.04	64	74	10/19/2009	20.24	29.80	74.7
MW-2RS	50.13	17	32	10/19/2009	19.95	30.18	33
MW-4D	42.66	178	198	10/19/2009	could not locate	-	196
MW-5I	40.40	45	55	10/19/2009	11.89	28.51	NA
MW-5S	39.81	14	24	10/19/2009	11.13	28.68	NA
MW-6S	40.50	14	24	10/19/2009	12.04	28.46	NA
MW-7S	40.72	14.5	24.5	10/19/2009	12.37	28.35	NA
MW-8D	41.76	178	198	10/19/2009	12.47	29.29	196.3
MW-8I	41.62	45	55	10/19/2009	14.01	27.61	54
MW-9S	44.63	18	28	10/19/2009	15.61	29.02	27.2
MW-10I	43.04	40	50	10/19/2009	14.25	28.79	49.4
MW-10S	43.02	14	24	10/19/2009	14.01	29.01	23.98
MW-12RS	47.23	15.5	30.5	10/19/2009	17.41	29.82	31.2
MW-103S	49.74	17.4	32.4	10/19/2009	20.45	29.29	32.8
MW-104RS	47.75	15.5	30.5	10/19/2009	18.05	29.70	31
MW-105D	46.36	147.8	157.8	10/19/2009	could not locate	-	200
MW-105I	46.27	62	72	10/19/2009	could not locate	-	72.8
MW-105S	46.64	14.5	31.3	10/19/2009	could not locate	-	32.94
MW-106S	46.97	14.9	29.9	10/19/2009	17.93	29.04	30.76
MW-107S	52.97	21.3	36.3	10/19/2009	23.87	29.10	36.94
MW-108S	40.90	13.9	23.9	10/19/2009	12.05	28.85	25
MW-109S	49.01	14.5	32.5	10/19/2009	20.45	28.56	32.6
MW-110D	48.98	180	190	10/19/2009	19.39	29.59	198.6
MW-110I	49.23	60	70	10/19/2009	20.32	28.91	73.2
MW-110S	49.16	16.7	31.7	10/19/2009	19.98	29.18	32.4
MW-111D	53.07	182	192	10/19/2009	23.8	29.27	198
MW-111I	53.74	55	65	10/19/2009	24.2	29.54	65.03
MW-111S	53.44	31.8	36.8	10/19/2009	24	29.44	35.6
MW-112D	41.71	184	194	10/19/2009	16.31	25.40	199.4
MW-112I	41.76	60	70	10/19/2009	16.72	25.04	70.5
MW112S	41.92	9.9	24.9	10/19/2009	17.14	24.78	24.3
MW113D	40.83	150	160	10/19/2009	13.54	27.29	200
MW113I	40.13	120	130	10/19/2009	12.9	27.23	133
MW113S	40.58	8.3	23.3	10/19/2009	13.66	26.92	22.5
MW114D	40.62	168	178	10/19/2009	12.45	28.17	198
MW114I	40.74	60	70	10/19/2009	13.18	27.56	72.8
MW114S	40.79	6.6	19.6	10/19/2009	12.76	28.03	21.5
MW115D	47.35	112	122	10/19/2009	20.76	26.59	199.5
MW115I	48.45	82	92	10/19/2009	21.41	27.04	94.3
MW115S	48.92	15.6	30.6	10/19/2009	20.24	28.68	33.1
MW116I	50.54	61.3	71.3	10/19/2009	20.39	30.15	70.6
MW117D	47.79	116	126	10/19/2009	16	31.79	198
MW117I	48.20	60	70	10/19/2009	17.5	30.70	69.5
MW117S	48.07	17.4	32.4	10/19/2009	16.76	31.31	31.7

Table 3-1
Synoptic Water Level Measurements
Year 5 Groundwater Sampling
Federal Creosote Superfund Site
Manville, New Jersey

Well ID	Elevation of Top of Inner Casing (ft amsl)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	Date of Measurements	Depth to water* (ft)	Groundwater Elevation (ft amsl)	Total Depth Measured (ft btic)
MW118D	49.17	224.8	234.8	10/19/2009	18.4	30.77	300
MW118I	49.65	70	80	10/19/2009	19	30.65	82.1
MW118S	49.49	16.4	31.4	10/19/2009	18.87	30.62	30.8
MW119S	51.07	19.2	34.2	10/19/2009	19.75	31.32	33.2
MW121S	52.05	19.6	34.6	10/19/2009	21.17	30.88	33.9
MW122S	53.46	19.2	34.2	10/19/2009	23.75	29.71	33.5
MW-123D	48.64	188	198	10/19/2009	19.67	28.97	198
MW-123I	49.00	50	60	10/19/2009	19.51	29.49	31.8
MW-123S	49.00	17	32	10/19/2009	19.59	29.41	59.7
MW-124D	49.33	185	195	10/19/2009	18.68	30.65	199.5
MW-124I	49.40	53.5	63.5	10/19/2009	18.6	30.80	59.6
MW-124S	49.36	18	33	10/19/2009	18.65	30.71	32.7
MW-125I	39.17	48	58	10/19/2009	12.53	26.64	57.6
MW-125S	39.22	6	21	10/19/2009	12.13	27.09	20.7
MW-126S	37.55	13.5	28.5	10/19/2009	10.31	27.24	28.3
MW-127S	53.62	20.5	35.5	10/19/2009	25.55	28.07	34.8
T-1	42.46	102.2	112.2	10/19/2009	15.41	27.05	118

Notes:
amsl: above mean sea level
bgs: below ground surface
btic: below top of inner casing
ft: feet
NA: not available
* : depth to water measured from the top of inner casing

Table 3-2
Groundwater Screening Criteria and Maximum Detections
Year 5 Groundwater Sampling
Federal Creosote Superfund Site
Manville, New Jersey

Chemical	Ground Water Quality Criteria*	ROD RG	Site-Specific Screening Criteria	Maximum Detection		Well with Maximum Detection
Chloroform	70	----	NA	0.51		MW-127S
Methyl Tert-Butyl Ether	70	----	NA	1.1	J	MW-5I
cis-1,2-Dichloroethene	70	----	NA	2.1		MW-110I
Benzene	0.2	1	1	**26**		MW-2RS
Trichloroethene	1	----	NA	1.3		MW-110I
Toluene	600	----	600	75		MW-6S-
Tetrachloroethene	0.4	----	NA	93		MW-127S
Ethylbenzene	700	----	700	170		MW-2RS-DUP
Xylene (total)	1000	----	1000	330		MW-2RS-DUP
Styrene	100	----	100	24		MW-6S
Isopropylbenzene	700	----	700	38		MW-2RS-DUP
2-Methylphenol ***	5	----	5	**5.1**	J	MW-6S
4-Methylphenol ***	5	----	5	**5**	J	MW-7S
Isophorone	40	----	40	0.19		MW-2RD
2,4-Dimethylphenol	100	----	100	54	J	MW-6S
Naphthalene	300	300	300	**9,300**	J	MW-6S
Caprolactum	5	----	5	0.99	J	MW-111S
4-Chloro-3-methylphenol	500	----	500	0.28	J	MW-125I
2-Methylnaphthalene	30	----	100	**890**		MW-6S
2,4,5-Trichlorophenol	700	----	700	0.21	J	MW-125I
1,1'Biphenyl	400	----	400	150		MW-2RI-
Diethylphthalate	6000	----	6,000	5.7		MW-123S
Dimethylphthalate	500	----	500	0.26	J	MW-123S
bis(2-Ethylhexyl)phthalate	2	----	2	0.25	J	MW-123S
Acenaphthylene **	100	----	100	**110**	J	MW-7S
Acenaphthene	400	----	400	**540**		MW-7S
Dibenzofuran **	100	----	100	**440**		MW-7S
Fluorene	300	----	300	**430**		MW-7S
Phenanthrene **	100	----	100	**850**		MW-7S
Anthracene	2000	----	2,000	84	J	MW-7S
Carbazole ***	5	----	5	**540**		MW-6S
Fluoranthene	300	----	300	**550**		MW-7S
Pyrene	200	----	200	**430**		MW-7S
Benzo(a)anthracene	0.05	5	5	**190**		MW-7S
Chrysene	5	5	5	**110**		MW-7S
Di-n-octyl phthalate	100	----	100	2.6	J	MW-2RS
Benzo(b)fluoranthene	0.05	5	5	**140**		MW-7S
Benzo(a)pyrene	0.005	5	5	**15**	J	MW-6S
Benzo(k)fluoranthene	0.5	5	5	**7.5**	J	MW-6S
Indeno(1,2,3-cd)pyrene	0.05	5	5	**58**	J	MW-7S
Dibenz(a,h)anthracene	0.005	----	0.005	**10**	J	MW-7S
Benzo(g,h,i)perylene **	100	----	100	50	J	MW-2RS
Pentachlorophenol	0.3	----	0.3	0.14	J	MW-125I
Iron	300	----	300	**29,000**		MW-7S
Manganese	50	----	50	**18,000**		MW-12RS

Notes:

Maximum detection in bold indicates exceedance.

J: Estimated Concentration

NA: not applicable because the compound is not site related.

ROD: Record of Decision

RG: Remediation goal

µg/L: micrograms per liter

"----": not applicable

*: New Jersey Department of Environmental Protection (NJDEP) Groundwater Quality Standard as amended on November 4, 2009.

**: NJDEP Interim Groundwaer Standards for non-carcinogen are used.

***: NJDEP Interim Groundwaer Standards for carcinogen are used. Carbazole is human carcinogen and 2-methylphenol or 4-methylphenol are possible human carcinogen

Table 3-3
Summary of Detected VOCs, SVOCs and Metals
Year 5 Groundwater Sampling
Federal Creosote Superfund Site
Manville, New Jersey

Chemical Name	Sample Code / Sample Name / Sample Date / Unit \\	Site-Specific Screening Criteria	NJDEP GWQS *	MW-103S-Y5 10/26/2009		MW-104RS-Y5 10/29/2009		MW-110D-Y5 10/28/2009		MW-110I-Y5 10/28/2009		MW-110S-Y5 10/28/2009		MW-111I-Y5 10/22/2009		MW-111S-Y5 10/22/2009		MW-114D-Y5 10/20/2009		MW-114I-Y5 10/20/2009	
Volatile Organic Compounds																					
Methyl Tert-Butyl Ether	µg/L	NA		-----	U	0.54		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	0.93	
cis-1,2-Dichloroethene	µg/L	NA		-----	U	-----	U	-----	U	2.1		-----	U	-----	U	-----	U	-----	U	-----	U
Chloroform	µg/L	NA		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U
Benzene	µg/L	1		-----	U	-----	U	-----	U	**1.3**		-----	U	-----	U	-----	U	**3.2**		-----	U
Trichloroethene	µg/L	NA		-----	U	-----	U	-----	U	1.3		-----	U	-----	U	0.75		-----	U	-----	U
Toluene	µg/L	600		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U
Tetrachloroethene	µg/L	NA		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	7.5		-----	U	-----	U
Ethylbenzene	µg/L	700		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	0.73		0.7		0.83	
m,p-Xylene	µg/L	1000*		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	0.9		-----	U	-----	U
O-XYLENE	µg/L	1000*		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	3.9		-----	U	-----	U
Styrene	µg/L	100		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U
Isopropylbenzene	µg/L	700		-----	U	-----	U	-----	U	2.1		-----	U	-----	U	3.5		-----	U	-----	U
Semi-Volatile Organic Compounds																					
2-Methylphenol	µg/L	5		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U
4-Methylphenol	µg/L	5		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U
Isophorone	µg/L	40		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U
2,4-Dimethylphenol	µg/L	100		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U
Naphthalene	µg/L	300		-----	U	-----	U	-----	U	0.33	J	-----	U	-----	U	26	J	0.26	J	1.2	J
Caprolactam	µg/L	5		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U
4-Chloro-3-methylphenol	µg/L	500		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U
2-Methylnaphthalene	µg/L	100		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	0.16	J	-----	U	-----	U
2,4,5-Trichlorophenol	µg/L	700		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U
1,1'Biphenyl	µg/L	400		-----	U	-----	U	-----	U	0.16	J	-----	U	-----	U	130		0.34	J	1.6	J
Acenaphthylene	µg/L	100		-----	U	-----	U	0.032	J	0.64	J	-----	U	-----	U	6.6		0.19	J	0.38	J
Acenaphthene	µg/L	400		-----	U	-----	U	1.7	J	25		-----	U	-----	U	160		1.5	J	39	
Dibenzofuran	µg/L	100		-----	U	-----	U	-----	U	0.26	J	-----	U	-----	U	**180**		-----	U	9.2	
Fluorene	µg/L	300		-----	U	-----	U	0.43	J	18		-----	U	-----	U	53		0.33	J	33	
Diethylphthalate	µg/L	6000		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	0.18	J	-----	U
Pentachlorophenol	µg/L	0.3		-----	R	-----	R	-----	R	0.036	J	-----	R	-----	R	0.12	J	0.016	J	-----	R
Phenanthrene	µg/L	100		0.029	J	-----	U	-----	U	0.14		-----	U	-----	U	**100**		0.02	J	0.86	J
Anthracene	µg/L	2000		-----	U	0.038	J	-----	U	0.98	J	-----	U	-----	U	10		0.017	J	0.81	J
Carbazole	µg/L	5		-----	U	-----	U	-----	U	**37**		-----	U	-----	U	**170**		-----	U	**17**	
Fluoranthene	µg/L	300		0.054	J	0.11		-----	U	1.8	J	-----	U	-----	U	12	J	-----	U	5.6	J
Pyrene	µg/L	200		0.06	J	0.19	J	-----	U	1.3	J	-----	U	-----	U	7		-----	U	4.3	J
Benzo(a)anthracene	µg/L	5	0.05	0.016	J	-----	U	-----	U	0.027	J	-----	U	0.02	J	0.54	J	-----	U	0.16	J
Chrysene	µg/L	5		-----	U	-----	U	-----	U	0.018	J	-----	U	-----	U	0.34	J	-----	U	0.051	J
bis(2-Ethylhexyl)phthalate	µg/L	2		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U
Di-n-octyl phthalate	µg/L	100		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U
Benzo(b)fluoranthene	µg/L	5	0.05	-----	U	-----	U	-----	U	0.018	J	-----	U	-----	U	0.17	J	-----	U	-----	U
Benzo(k)fluoranthene	µg/L	5	0.5	-----	U	0.015	J	-----	U	-----	U	-----	U	-----	U	-----	UJ	-----	U	-----	U
Indeno(1,2,3-cd)pyrene	µg/L	5	0.05	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U
Dibenz(a,h)anthracene	µg/L	0.005		-----	U	**0.065**	**J**	**0.017**	**J**	**0.022**	J	-----	U	-----	U	-----	U	-----	U	-----	U
Benzo(g,h,i)perylene	µg/L	100		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U
Benzo(a)pyrene	µg/L	5	0.005	-----	U	0.025	J	0.016	J	0.016	J	-----	U	-----	U	0.11	J	-----	U	-----	U
Inorganic Analytes																					
Iron	µg/L	300		230		15,000		410		810		260		270		3,300		470		-----	U
Manganese	µg/L	50		10		4,500		460		1,000		5		10		11,000		300		2,000	

Notes:
U: non-detect; J: Estimated result; R: Rejected, L: Biased low
*: New Jersey Department of Environmental Protection Groundwater Quality Standard. For xylene, the total concentration shall be less than 1,000 µg/L.
Results of creosote-realted compounds in bold and yellow shade exceeded the site-specific screening criteria.
Results in green shade did not exceed site-specific screening criteria, but exceeded the New Jersey Grpundwater Quality Criteria.

Table 3-3
Summary of Detected VOCs, SVOCs and Metals
Year 5 Groundwater Sampling
Federal Creosote Superfund Site
Manville, New Jersey

Chemical Name	Sample Code Sample Name Sample Date Unit \\	Site-Specific Screening Criteria	NJDEP GWQS *	MW-114S-Y5 10/20/2009		MW-116I-Y5 10/26/2009		MW-116I-Y5-DUP MW-601I-Y5 10/26/2009		MW-123D-Y5 10/23/2009		MW-123I-Y5 10/23/2009		MW-123S-Y5 10/23/2009		MW-124D-Y5 10/27/2009		MW-124I-Y5 10/27/2009		MW-124S-Y5 10/27/2009	
Volatile Organic Compounds																					
Methyl Tert-Butyl Ether	µg/L	70		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U
cis-1,2-Dichloroethene	µg/L	70		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U
Chloroform	µg/L	70		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U
Benzene	µg/L	1		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U
Trichloroethene	µg/L	1		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U
Toluene	µg/L	600		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U
Tetrachloroethene	µg/L	0.4		-----	U	-----	U	-----	U	-----	U	-----	U	0.75		-----	U	-----	U	-----	U
Ethylbenzene	µg/L	700		-----	U	1.2		1.2		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U
m,p-Xylene	µg/L	1000*		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U
O-XYLENE	µg/L	1000*		-----	U	1.2		1.2		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U
Styrene	µg/L	100		-----	U	-----	U	-----	U	-----	UL	-----	U	-----	U	-----	U	-----	U	-----	U
Isopropylbenzene	µg/L	700		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U
Semi-Volatile Organic Compounds																					
2-Methylphenol	µg/L	5		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U
4-Methylphenol	µg/L	5		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U
Isophorone	µg/L	40		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U
2,4-Dimethylphenol	µg/L	100		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U
Naphthalene	µg/L	300		0.064	J	19	J	23	J	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U
Caprolactam	µg/L	5		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U
4-Chloro-3-methylphenol	µg/L	500		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U
2-Methylnaphthalene	µg/L	100		-----	U	0.21	J	0.21		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U
2,4,5-Trichlorophenol	µg/L	700		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U
1,1'Biphenyl	µg/L	400		-----	U	34		30		-----	U	0.2	J	-----	U	-----	U	-----	U	-----	U
Acenaphthylene	µg/L	100		0.021	J	0.69	J	0.66	J	-----	U	0.017	J	0.015	J	-----	U	-----	U	-----	U
Acenaphthene	µg/L	400		2.5	J	39		36		-----	U	0.24	J	0.033	J	-----	U	-----	U	-----	U
Dibenzofuran	µg/L	100		0.43	J	92		79		-----	U	0.3	J	-----	U	-----	U	-----	U	-----	U
Fluorene	µg/L	300		1.8	J	26		25		-----	U	0.048	J	0.029	J	-----	U	0.016	J	-----	U
Diethylphthalate	µg/L	6000		0.2	J	-----	U	-----	U	-----	U	-----	U	5.7		-----	U	-----	U	-----	U
Pentachlorophenol	µg/L	0.3		-----	R	0.019	J	0.024	J	0.2	R	0.037	J	0.032	J	-----	R	-----	U	-----	R
Phenanthrene	µg/L	100		0.037	J	49		50		0.029	J	0.075	J	0.11		0.021	J	0.035	J	-----	U
Anthracene	µg/L	2000		0.057	J	6.6		7.6		0.015	J	0.025	J	0.033	J	-----	U	0.037	J	-----	U
Carbazole	µg/L	5		0.94	J	**28**		**32**		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U
Fluoranthene	µg/L	300		0.3	J	25		32		0.18		0.11		0.07	J	-----	U	-----	U	-----	U
Pyrene	µg/L	200		0.28	J	15		16		0.19	J	0.2	J	0.062	J	0.06	J	0.059	J	-----	U
Benzo(a)anthracene	µg/L	5	0.05	-----	U	1.2		1.6		0.027	J	-----	UJ	0.017	J	0.022	J	0.018	J	-----	U
Chrysene	µg/L	5		-----	U	0.43		0.1		0.018	J	-----	U	-----	U	0.032	J	0.026	J	-----	U
bis(2-Ethylhexyl)phthalate	µg/L	2		-----	U	0.17	J	0.23	J	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U
Di-n-octyl phthalate	µg/L	100		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U
Benzo(b)fluoranthene	µg/L	5	0.05	-----	U	0.22	J	0.28	J	0.019	J	-----	U	-----	U	0.064	J	0.05	J	0.023	J
Benzo(k)fluoranthene	µg/L	5	0.5	-----	U	0.071	J	0.18	J	-----	U	-----	U	-----	U	0.017	J	0.018	J	-----	U
Indeno(1,2,3-cd)pyrene	µg/L	5	0.05	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U
Dibenz(a,h)anthracene	µg/L	0.005		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U
Benzo(g,h,i)perylene	µg/L	100		-----	U	-----	U	-----	U	0.022	J	-----	U	0.015	J	-----	U	-----	U	-----	U
Benzo(a)pyrene	µg/L	5	0.005	-----	U	0.16		0.19	J	-----	U	-----	U	-----	U	0.029	J	0.029	J	-----	U
Inorganic Analytes																					
Iron	µg/L	300		-----	U	-----	U	-----	U	650		170		4,100		790		390		850	
Manganese	µg/L	50		17		3,100		3,300		100		290		340		25		9		170	

Notes:
U: non-detect; J: Estimated result; R: Rejected, L: Biased low
*: New Jersey Department of Environmental Protection Groundwater Quality Standard. For xylene, the total concentration shall be less than 1,000 µg/L.
Results of creosote-realted compounds in bold and yellow shade exceeded the site-specific screening criteria.
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Table 3-3
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Year 5 Groundwater Sampling
Federal Creosote Superfund Site
Manville, New Jersey

Chemical Name	Sample Code Sample Name Sample Date Unit \\	Site-Specific Screening Criteria	NJDEP GWQS *	MW-125I-Y5 10/21/2009		MW-125S-Y5 10/21/2009		MW-126S-Y5 10/21/2009		MW-127S-Y5 10/22/2009		MW-12RS-Y5 10/26/2009		MW-1RS-Y5 10/29/2009		MW-2RD-Y5 10/29/2009		MW-2RI-Y5 10/29/2009		MW-2RS-Y5 10/29/2009	
Volatile Organic Compounds																					
Methyl Tert-Butyl Ether	µg/L	70		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U
cis-1,2-Dichloroethene	µg/L	70		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U
Chloroform	µg/L	70		-----	U	-----	U	-----	U	0.51		-----	U	-----	U	-----	U	-----	U	-----	U
Benzene	µg/L	1		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	**3.6**		**1.7**		**26**	
Trichloroethene	µg/L	1		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U
Toluene	µg/L	600		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	43	
Tetrachloroethene	µg/L	0.4		-----	U	-----	U	-----	U	93		-----	U	-----	U	-----	U	-----	U	-----	U
Ethylbenzene	µg/L	700		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	8.3		54		160	
m,p-Xylene	µg/L	1000*		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	8.7		55		190	
O-XYLENE	µg/L	1000*		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	23		56		130	
Styrene	µg/L	100		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	9.1	
Isopropylbenzene	µg/L	700		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	4.2		20		38	
Semi-Volatile Organic Compounds																					
2-Methylphenol	µg/L	5		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	0.54	J	-----	U	-----	U
4-Methylphenol	µg/L	5		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	0.62	J	-----	U	1.7	J
Isophorone	µg/L	40		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	0.19	J	-----	U	-----	U
2,4-Dimethylphenol	µg/L	100		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	0.45	J	-----	U	6.1	J
Naphthalene	µg/L	300		-----	U	-----	U	-----	U	-----	U	0.12		0.35		170	J	**3,800**	**J**	**6,000**	**J**
Caprolactam	µg/L	5		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U
4-Chloro-3-methylphenol	µg/L	500		0.28	J	0.17	J	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U
2-Methylnaphthalene	µg/L	100		0.072	J	0.064	J	-----	U	-----	U	-----	U	-----	U	-----	U	**120**		96	
2,4,5-Trichlorophenol	µg/L	700		0.21	J	0.15	J	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U
1,1'Biphenyl	µg/L	400		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	12		150		150	
Acenaphthylene	µg/L	100		0.044	J	0.031	J	-----	U	-----	U	0.54	J	-----	U	0.41	J	4.9	J	13	J
Acenaphthene	µg/L	400		0.043	J	0.028	J	0.017	J	-----	U	11		-----	U	20		**420**		**440**	
Dibenzofuran	µg/L	100		-----	U	-----	U	-----	U	-----	U	20		-----	U	21		**320**		**330**	
Fluorene	µg/L	300		0.041	J	0.032	J	0.032	J	-----	U	3.2	J	-----	U	11		220		200	
Diethylphthalate	µg/L	6000		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U
Pentachlorophenol	µg/L	0.3		0.14	J	0.083	J	-----	R	-----	R	0.017	J	-----	R	-----	UJ	-----	UJ	-----	UJ
Phenanthrene	µg/L	100		0.038	J	0.029	J	0.052	J	-----	U	0.41	J	-----	U	6.8		**230**		**210**	
Anthracene	µg/L	2000		0.069	J	0.049	J	0.035	J	-----	U	0.92	J	-----	U	0.86	J	18	J	12	J
Carbazole	µg/L	5		-----	U	-----	U	-----	U	-----	U	**14**		-----	U	**40**		**250**		**250**	
Fluoranthene	µg/L	300		0.04	J	-----	U	0.15	J	-----	U	3.5	J	-----	U	1.2	J	21	J	14	J
Pyrene	µg/L	200		0.081	J	-----	U	0.21	J	-----	U	1.8	J	-----	U	0.77		11	J	9.5	J
Benzo(a)anthracene	µg/L	5	0.05	-----	U	-----	U	0.032	J	-----	U	0.015	J	-----	U	0.26		1.2	J	-----	UJ
Chrysene	µg/L	5		-----	U	-----	U	0.019	J	-----	U	-----	U	-----	U	0.085	J	0.54	J	1.6	J
bis(2-Ethylhexyl)phthalate	µg/L	2		-----	U	0.22	J	-----	U	-----	U	0.22	J	-----	U	-----	U	-----	U	-----	U
Di-n-octyl phthalate	µg/L	100		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	2.6	J
Benzo(b)fluoranthene	µg/L	5	0.05	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	0.14		-----	UJ	1.6	J
Benzo(k)fluoranthene	µg/L	5	0.5	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	0.055	J	0.13	J	-----	UJ
Indeno(1,2,3-cd)pyrene	µg/L	5	0.05	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	UJ	-----	UJ
Dibenz(a,h)anthracene	µg/L	0.005		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	**0.031**	**J**	**0.079**	**J**	**0.076**	**J**
Benzo(g,h,i)perylene	µg/L	100		-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	-----	UJ	-----	UJ	50	J
Benzo(a)pyrene	µg/L	5	0.005	-----	U	-----	U	-----	U	-----	U	-----	U	-----	U	0.11		0.25	J	0.11	J
Inorganic Analytes																					
Iron	µg/L	300		-----	U	2,400		1,900		10,000		14,000		1,500	L	320		540		22,000	
Manganese	µg/L	50		5		7		20		290		18,000		13		1,100		3,000		12,000	

Notes:
U: non-detect; J: Estimated result; R: Rejected, L: Biased low
*: New Jersey Department of Environmental Protection Groundwater Quality Standard. For xylene, the total concentration shall be less than 1,000 µg/L.
Results of creosote-realted compounds in bold and yellow shade exceeded the site-specific screening criteria.
Results in green shade did not exceed site-specific screening criteria, but exceeded the New Jersey Grpundwater Quality Criteria.

Table 3-3
Summary of Detected VOCs, SVOCs and Metals
Year 5 Groundwater Sampling
Federal Creosote Superfund Site
Manville, New Jersey

Chemical Name	Sample Code Sample Name Sample Date Unit \\	Site-Specific Screening Criteria	NJDEP GWQS *	MW-2RS-Y5-DUP MW-602S-Y5 10/29/2009		MW-5I-Y5 11/2/2009		MW-6S-Y5 11/2/2009		MW-7S-Y5 10/29/2009	
Volatile Organic Compounds											
Methyl Tert-Butyl Ether	µg/L	70		-----	U	1.1		-----	U	-----	U
cis-1,2-Dichloroethene	µg/L	70		-----	U	-----	U	-----	U	-----	U
Chloroform	µg/L	70		-----	U	-----	U	-----	U	-----	U
Benzene	µg/L	1		**25**		**2.3**		**11**		**5.1**	
Trichloroethene	µg/L	1		-----	U	-----	U	-----	U	-----	U
Toluene	µg/L	600		42		17		75		41	
Tetrachloroethene	µg/L	0.4		-----	U	-----	U	-----	U	-----	U
Ethylbenzene	µg/L	700		170		58	J	66		39	
m,p-Xylene	µg/L	1000*		190		80		120		50	
O-XYLENE	µg/L	1000*		140		59	J	57		39	
Styrene	µg/L	100		9.1		2.9		24		7.3	
Isopropylbenzene	µg/L	700		38		11		9.4		3	
Semi-Volatile Organic Compounds											
2-Methylphenol	µg/L	5		-----	U	-----	U	**5.1**	J	-----	U
4-Methylphenol	µg/L	5		1.5	J	4.7	J	4.4	J	**5**	J
Isophorone	µg/L	40		-----	U	-----	U	-----	U	-----	U
2,4-Dimethylphenol	µg/L	100		5.9	J	-----	U	54	J	23	J
Naphthalene	µg/L	300		**6,200**	**J**	**7,900**	**J**	**9,300**	**J**	**5,600**	**J**
Caprolactam	µg/L	5		-----	U	-----	U	-----	U	-----	U
4-Chloro-3-methylphenol	µg/L	500		-----	U	-----	U	-----	U	-----	U
2-Methylnaphthalene	µg/L	100		91		**730**		**890**		**370**	
2,4,5-Trichlorophenol	µg/L	700		-----	U	-----	U	-----	U	-----	U
1,1'Biphenyl	µg/L	400		150		100		140		140	
Acenaphthylene	µg/L	100		13	J	6.5	J	61	J	**110**	**J**
Acenaphthene	µg/L	400		**440**		340		**520**		**540**	
Dibenzofuran	µg/L	100		**320**		**260**		**320**		**440**	
Fluorene	µg/L	300		190		200		**360**		**430**	
Diethylphthalate	µg/L	6000		-----	U	-----	U	-----	U	-----	U
Pentachlorophenol	µg/L	0.3		-----	UJ	-----	UJ	-----	UJ	-----	UJ
Phenanthrene	µg/L	100		**200**		**240**		**440**		**850**	
Anthracene	µg/L	2000		9.8	J	19	J	40	J	84	J
Carbazole	µg/L	5		**250**		**390**		**540**		**280**	
Fluoranthene	µg/L	300		13	J	27	J	140		**550**	
Pyrene	µg/L	200		8.4	J	17	J	89	J	**240**	**J**
Benzo(a)anthracene	µg/L	5	0.05	-----	UJ	4.2	J	**31**	**J**	**190**	
Chrysene	µg/L	5		0.26	J	3.2	J	**25**	**J**	**110**	
bis(2-Ethylhexyl)phthalate	µg/L	2		-----	U	-----	U	-----	U	-----	U
Di-n-octyl phthalate	µg/L	100		-----	U	-----	U	-----	U	-----	U
Benzo(b)fluoranthene	µg/L	5	0.05	-----	UJ	3.3	J	**19**	**J**	**140**	
Benzo(k)fluoranthene	µg/L	5	0.5	-----	UJ	0.84	J	**7.5**	**J**	**36**	**J**
Indeno(1,2,3-cd)pyrene	µg/L	5	0.05	-----	UJ	1.6	J	**7.9**	**J**	**58**	**J**
Dibenz(a,h)anthracene	µg/L	0.005		**0.078**	**J**	**0.28**	**J**	**1.4**	**J**	**10**	**J**
Benzo(g,h,i)perylene	µg/L	100		-----	UJ	0.89	J	6.1	J	43	J
Benzo(a)pyrene	µg/L	5	0.005	0.091	J	2.1	J	**14**	**J**	**90**	**J**
Inorganic Analytes											
Iron	µg/L	300		22,000		250		20,000		29,000	
Manganese	µg/L	50		12,000		1,100		4,600		4,700	

Notes:
U: non-detect; J: Estimated result; R: Rejected, L: Biased low
*: New Jersey Department of Environmental Protection Groundwater Quality Standard. For xylene, the total concentration shall be less than 1,000 µg/
Results of creosote-realted compounds in bold and yellow shade exceeded the site-specific screening criteria.
Results in green shade did not exceed site-specific screening criteria, but exceeded the New Jersey Grpundwater Quality Criteria.

Table 3-4
Creosote-Related Contaminant Concentration Trend
Year 5 Groundwater Sampling
Federal Creosote Superfund Site
Manville, New Jersey

Chemical Name	Site-Specific Screening Criteria	Sample Code	MW-2RS			MW-2I			MW-2RI		
		Unit/Sample Date	11/19/2007	11/20/2008	10/29/2009	7/27/1999	11/12/1999		11/19/2007	11/20/2008	10/29/2009
Benzene	1	ug/L	**23**	50 U	**26**	25 U	100 U	Well Abandoned During Remediation	**2.4**	50 U	**1.7**
Toluene	600	ug/L	38	31 J	43	23 J	100 U		4.3	50 U	3.3
Ethylbenzene	700	ug/L	97	100	160	240	160		70	47 J	54
Xylenes (total)	1000	ug/L	135	75	320	350	170		74.3	39 J	111
Styrene	100	ug/L	15	11 J	9.1	25 U	100 U		2.7	50 U	2 U
Isopropylbenzene	700	ug/L	30	25 J	38	NA	NA		21	15 J	20
Phenol	2000	ug/l	5 U	500 U	50 U	2,000 U	10 U		5 U	500 U	50 U
2-Methylphenol	5	ug/l	5 U	500 U	50 U	2,000 U	10 U		5 U	500 U	50 U
4-Methylphenol	5	ug/l	5 U	500 U	1.7 J	2,000 U	10 U		5 U	500 U	50 U
2,4-Dimethylphenol	100	ug/l	3.9 J	500 U	6.1 J	2,000 U	10 U		5 U	500 U	50 U
Naphthalene	300	ug/l	**5,500**	**5700**	**6000 J**	**7,600**	**6,500**		**6,100**	**5300**	**3800 J**
2-Methylnaphthalene	100	ug/l	**170**	95 J	96	**320 J**	**150 J**		**360**	**190 J**	**120**
1,1'Biphenyl	400	ug/l	120	140 J	150	NA	NA		120	130 J	150
Acenaphthylene	100	ug/l	16	500 U	13 J	2,000 U	4 J		7.2	500 U	4.9 J
Acenaphthene	400	ug/l	300	**470 J**	**440**	330 J	170 J		280	**430 J**	**420**
Dibenzofuran	100	ug/l	**240**	**330 J**	**330**	**320 J**	**160 J**		**240**	**330 J**	**320**
Fluorene	300	ug/l	190 J	240 J	200	220 J	100 J		190 J	250 J	220
Phenanthrene	100	ug/l	**160**	**210 J**	**210**	**170 J**	**110 J**		**180**	**270 J**	**230**
Anthracene	2000	ug/l	14 J	18 J	12 J	14 J	10		16 J	27 J	18 J
Carbazole	5	ug/l	**210**	**410 J**	**250**	**270 J**	**230 J**		**200**	**340 J**	**250**
Fluoranthene	300	ug/l	18	500 U	14 J	2,000 U	9 J		20	23 J	21 J
Pyrene	200	ug/l	9.3	500 U	9.5 J	2,000 U	6 J		9.5	500 U	11 J
Benzo(a)anthracene	5	ug/l	5 U	500 U	0.5 UJ	2,000 U	10 U		5 U	500 U	1.2 J
Chrysene	5	ug/l	5 U	500 U	1.6 J	2,000 U	10 U		5 U	500 U	0.54 J
Benzo(b)fluoranthene	5	ug/l	5 U	500 U	1.6 J	2,000 U	10 U		5 U	500 U	0.5 UJ
Benzo(k)fluoranthene	5	ug/l	5 U	500 U	0.5 UJ	2,000 U	10 U		5 U	500 U	0.13 J
Benzo(a)pyrene	5	ug/l	5 U	500 U	0.11 J	2,000 U	10 U		5 U	500 U	0.25 J
Indeno(1,2,3-cd)pyrene	5	ug/l	5 U	500 U	0.5 UJ	2,000 U	10 U		5 U	500 U	0.5 UJ
Benzo(g,h,i)perylene	5	ug/l	5 U	500 U	**50 J**	2,000 U	10 U		5 U	500 U	0.5 UJ

Notes:
Results in bold and shade exceeded site-spefic criteria
U - non-detect
J - estimated value.
ug/L - micrograms per liter
NA - not analyzed

Table 3-4
Creosote-Related Contaminant Concentration Trend
Year 5 Groundwater Sampling
Federal Creosote Superfund Site
Manville, New Jersey

Chemical Name	Site-Specific Screening Criteria	Sample Code	MW-2D			MW-2RD		
		Unit/Sample Date	7/27/1999	11/11/1999		11/19/2007	11/20/2008	10/29/2009
Benzene	1	ug/L	**45**	**4**	Well Abandoned During Remediation	**12**	**5.2**	**3.6**
Toluene	600	ug/L	25	2		9.8	3.1 J	2.4
Ethylbenzene	700	ug/L	48	4		59	11	8.3
Xylenes (total)	1000	ug/L	340	28		68.8	19	31.7
Styrene	100	ug/L	25 U	1 U		3.4	5 U	2 U
Isopropylbenzene	700	ug/L	NA	NA		15	3.4 J	4.2
Phenol	2000	ug/l	2,000 U	10 U		5 U	150 U	5 U
2-Methylphenol	5	ug/l	2,000 U	10 U		5 U	150 U	0.54 J
4-Methylphenol	5	ug/l	2,000 U	10 U		5 U	150 U	0.62 J
2,4-Dimethylphenol	100	ug/l	2,000 U	10 U		5 U	150 U	0.45 J
Naphthalene	300	ug/l	**6,000**	**7,400**		**3,200**	**1600**	170 J
2-Methylnaphthalene	100	ug/l	**450 J**	**470 J**		**200**	22 J	0.1 U
1,1'Biphenyl	400	ug/l	NA	NA		73	47 J	12
Acenaphthylene	100	ug/l	2,000 U	9 J		10	150 U	0.41 J
Acenaphthene	400	ug/l	220 J	170 J		190	120 J	20
Dibenzofuran	100	ug/l	**260 J**	**170 J**		**180**	**110 J**	21
Fluorene	300	ug/l	150 J	93 J		140 J	62 J	11
Phenanthrene	100	ug/l	**170 J**	**110 J**		**160**	86 J	6.8
Anthracene	2000	ug/l	14 J	9 J		15 J	9.5 J	0.86 J
Carbazole	5	ug/l	**250 J**	**210 J**		**150**	**110 J**	**40**
Fluoranthene	300	ug/l	28 J	10		21	12 J	1.2 J
Pyrene	200	ug/l	2,000 U	6 J		9.9	7 J	0.77
Benzo(a)anthracene	5	ug/l	2,000 U	1 J		5 U	150 U	0.26
Chrysene	5	ug/l	2,000 U	1 J		5 U	150 U	0.085 J
Benzo(b)fluoranthene	5	ug/l	2,000 U	10 U		5 U	150 U	0.14
Benzo(k)fluoranthene	5	ug/l	2,000 U	10 U		5 U	150 U	0.055 J
Benzo(a)pyrene	5	ug/l	2,000 U	10 U		5 U	150 U	0.11
Indeno(1,2,3-cd)pyrene	5	ug/l	2,000 U	10 U		5 U	150 U	0.1 U
Benzo(g,h,i)perylene	5	ug/l	2,000 U	10 U		5 U	150 U	0.1 UJ

Notes:
Results in bold and shade exceeded site-spefic criteria
U - non-detect
J - estimated value.
ug/L - micrograms per liter
NA - not analyzed

Table 3-4
Creosote-Related Contaminant Concentration Trend
Year 5 Groundwater Sampling
Federal Creosote Superfund Site
Manville, New Jersey

Chemical Name	Site-Specific Screening Criteria	Sample Code	MW-5I						
		Unit/Sample Date	7/29/1999	11/15/1999	11/11/2005	10/25/2006	11/20/2007	11/24/2008	11/2/2009
Benzene	1	ug/L	**12**	**12 J**	**7.2 J**	**5.4**	**3.4**	50 U	**2.3**
Toluene	600	ug/L	29	25	28	23	18	14 J	17
Ethylbenzene	700	ug/L	48	45	72 J	73	61	45 J	58 J
Xylenes (total)	1000	ug/L	130	130	180 J	162	79	42 J	139 J
Styrene	100	ug/L	10	13 J	6.7	0.5 U	6.6	50 U	2.9
Isopropylbenzene	700	ug/L	NA	NA	9.9 J	10	8.1	50 U	11
Phenol	2000	ug/l	2,000 U	10 U	10 U	5 U	5 U	1000 U	50 UJ
2-Methylphenol	5	ug/l	2,000 U	10 U	10 U	5 U	5 U	1000 U	50 U
4-Methylphenol	5	ug/l	2,000 U	10 U	10 U	5 U	5 U	1000 U	4.7 J
2,4-Dimethylphenol	100	ug/l	2,000 U	10 UJ	10 U	5 U	5 U	1000 U	50 U
Naphthalene	300	ug/l	**6,600**	**11,000**	**7,500**	**2,100 J**	**8,000**	**11000**	**7,900 J**
2-Methylnaphthalene	100	ug/l	**860 J**	**840**	**940 J**	**690 J**	**550**	**700 J**	**730**
1,1'Biphenyl	400	ug/l	NA	NA	100 J	110 J	74	98 J	100
Acenaphthylene	100	ug/l	66 J	73	10 U	6.7	12	1000 U	6.5 J
Acenaphthene	400	ug/l	340 J	340	**450 J**	390 J	280	340 J	340
Dibenzofuran	100	ug/l	2,000 U	**300 J**	**380 J**	**290 J**	**240**	**260 J**	**260**
Fluorene	300	ug/l	280 J	220 J	320 J	230 J	210 J	200 J	200
Phenanthrene	100	ug/l	2,000 U	**220 J**	**270 J**	**210 J**	**200**	**260 J**	**240**
Anthracene	2000	ug/l	23 J	21	16	17	15 J	1000 U	19 J
Carbazole	5	ug/l	**420 J**	**500 J**	**640 J**	**390 J**	**300**	**380 J**	**390**
Fluoranthene	300	ug/l	24 J	20	24	21	34	31 J	27 J
Pyrene	200	ug/l	2,000 U	13	17	12	20	1000 U	17 J
Benzo(a)anthracene	5	ug/l	2,000 U	2 J	1 J	1.7 J	**5.9**	1000 U	4.2 J
Chrysene	5	ug/l	2,000 U	1 J	1 J	1.2 J	**5.7 J**	1000 U	3.2 J
Benzo(b)fluoranthene	5	ug/l	2,000 U	10 U	10 U	0.86 J	3.4 J	1000 U	3.3 J
Benzo(k)fluoranthene	5	ug/l	2,000 U	1 J	10 U	5 U	5 U	1000 U	0.84 J
Benzo(a)pyrene	5	ug/l	2,000 U	1 J	10 U	5 U	3.2 J	1000 U	2.1 J
Indeno(1,2,3-cd)pyrene	5	ug/l	2,000 U	10 U	10 U	5 U	5 U	1000 U	1.6 J
Benzo(g,h,i)perylene	5	ug/l	2,000 U	10 U	10 U	5 U	5 U	1000 U	0.89 J

Notes:
Results in bold and shade exceeded site-spefic criteria
U - non-detect
J - estimated value.
ug/L - micrograms per liter
NA - not analyzed

Table 3-4
Creosote-Related Contaminant Concentration Trend
Year 5 Groundwater Sampling
Federal Creosote Superfund Site
Manville, New Jersey

Chemical Name	Site-Specific Screening Criteria	Sample Code	MW-6S						
		Unit/Sample Date	2/25/1999	11/17/1999	11/11/2005	10/26/2006	11/20/2007	11/24/2008	11/2/2009
Benzene	1	ug/L	**46 J**	**68**	**3.4**	**31**	**25**	50 U	**11**
Toluene	600	ug/L	74 J	64 U	4.1	99	95	75	75
Ethylbenzene	700	ug/L	100 U	32	3.3	74	81	71	66
Xylenes (total)	1000	ug/L	100 U	94	8.7	178	176	54	177
Styrene	100	ug/L	100 U	17 J	1.3 J	29	23	14 J	24
Isopropylbenzene	700	ug/L	NA	NA	0.27 J	8.6	9.3	50 U	9.4
Phenol	2000	ug/l	99 U	37 J	10 U	5 U	5 U	1000 U	100 UJ
2-Methylphenol	5	ug/l	**83 J**	**150 J**	**12**	4.7 J	5 U	1000 U	**5.1 J**
4-Methylphenol	5	ug/l	**54 J**	**85 J**	10 U	3 J	5 U	1000 U	4.4 J
2,4-Dimethylphenol	100	ug/l	**770**	**470 J**	67	5 U	33	1000 U	54 J
Naphthalene	300	ug/l	**11,000**	**10,000 J**	**3,000 J**	**14,000**	**8000**	**13000**	**9,300 J**
2-Methylnaphthalene	100	ug/l	**750**	**640 J**	**630 J**	**660 J**	**450**	**700 J**	**890**
1,1'Biphenyl	400	ug/l	NA	NA	94 J	120 J	71	94 J	140
Acenaphthylene	100	ug/l	99 U	30 J	73	83 J	51	84 J	61 J
Acenaphthene	400	ug/l	300	360 J	350 J	390 J	270	380 J	**520**
Dibenzofuran	100	ug/l	**230**	**270 J**	**310 J**	**330 J**	**240**	**270 J**	**320**
Fluorene	300	ug/l	200	210 J	230 J	260 J	200 J	230 J	**360**
Phenanthrene	100	ug/l	**210**	**260 J**	**240 J**	**210 J**	**180**	**290 J**	**440**
Anthracene	2000	ug/l	15 J	22 J	13	19	14 J	1000 U	40 J
Carbazole	5	ug/l	**440**	**410 J**	**450 J**	**380 J**	**290**	**460 J**	**540**
Fluoranthene	300	ug/l	22 J	41 J	24	29	25	44 J	140
Pyrene	200	ug/l	11 J	28 J	19	19	15	36 J	89 J
Benzo(a)anthracene	5	ug/l	99 U	**5 J**	3 J	3.1 J	3.6 J	1000 U	**31 J**
Chrysene	5	ug/l	99 U	4 J	2 J	2.3 J	3.2 J	1000 U	**25 J**
Benzo(b)fluoranthene	5	ug/l	99 U	2 J	1 J	5 U	2.2 J	1000 U	**19 J**
Benzo(k)fluoranthene	5	ug/l	99 U	2 J	10 U	5 U	5 U	1000 U	**7.5 J**
Benzo(a)pyrene	5	ug/l	99 U	3 J	1 J	1.3 J	1.8 J	1000 U	**14 J**
Indeno(1,2,3-cd)pyrene	5	ug/l	99 U	10 UJ	10 U	5 U	5 U	1000 U	**7.9 J**
Benzo(g,h,i)perylene	5	ug/l	99 U	10 UJ	10 U	5 U	5 U	1000 U	**6.1 J**

Notes:
Results in bold and shade exceeded site-spefic criteria
U - non-detect
J - estimated value.
ug/L - micrograms per liter
NA - not analyzed

Table 3-4
Creosote-Related Contaminant Concentration Trend
Year 5 Groundwater Sampling
Federal Creosote Superfund Site
Manville, New Jersey

Chemical Name	Site-Specific Screening Criteria	Sample Code	MW-7S						
		Unit/Sample Date	2/24/1999	11/17/1999	11/10/2005	10/26/2006	11/20/2007	11/24/2008	10/29/2009
Benzene	1	ug/L	**25**	**32**	**16 J**	**9 J**	**13**	50 U	**5.1**
Toluene	600	ug/L	44 U	25 U	23 J	47	67	53	41
Ethylbenzene	700	ug/L	14 J	11 J	20 J	27	44	31 J	39
Xylenes (total)	1000	ug/L	52 X	53 X	51	70	111	29 J	89
Styrene	100	ug/L	25 U	13 J	9.2 J	11	12	50 U	7.3
Isopropylbenzene	700	ug/L	NA	NA	2.3 J	2.1	3.1	50 U	3
Phenol	2000	ug/l	7 J	10 U	10 U	5 U	5 U	500 U	100 U
2-Methylphenol	5	ug/l	**64**	**29**	3 J	4.8 J	5 U	500 U	100 U
4-Methylphenol	5	ug/l	**44 J**	**31**	10 U	4.8 J	5 U	500 U	**5 J**
2,4-Dimethylphenol	100	ug/l	**360**	**280 J**	36	30	8.9	500 U	23 J
Naphthalene	300	ug/l	**3,700**	**6,600**	**1800**	**5400**	**4900**	**7200**	**5,600 J**
2-Methylnaphthalene	100	ug/l	**450 J**	**510 J**	**300 J**	**280 J**	**250**	**510**	**370**
1,1'Biphenyl	400	ug/l	NA	NA	62	110 J	64	170 J	140
Acenaphthylene	100	ug/l	49	74	60	92 J	50	**110 J**	**110 J**
Acenaphthene	400	ug/l	230	340 J	330 J	360 J	250	**780**	**540**
Dibenzofuran	100	ug/l	**150**	**220 J**	**260 J**	**290 J**	**230**	**600**	**440**
Fluorene	300	ug/l	160	160	270 J	260 J	200 J	**660**	**430**
Phenanthrene	100	ug/l	**250**	**220 J**	**370 J**	**230 J**	**200**	**1800**	**850**
Anthracene	2000	ug/l	28 J	21	21	22	13 J	150 J	84 J
Carbazole	5	ug/l	**210**	**290 J**	**340 J**	**270 J**	**210**	**340 J**	**280**
Fluoranthene	300	ug/l	87	41	74	64 J	33	**880**	**550**
Pyrene	200	ug/l	72	33	55	48	20	**720**	**240 J**
Benzo(a)anthracene	5	ug/l	**21 J**	**6 J**	**10**	**12**	4.6 J	**280 J**	**190**
Chrysene	5	ug/l	**14 J**	4 J	**8 J**	**7.9**	3.5 J	**170 J**	**110**
Benzo(b)fluoranthene	5	ug/l	**9 J**	3 J	**7 J**	**7.1**	5 U	**150 J**	**140**
Benzo(k)fluoranthene	5	ug/l	**13 J**	4 J	2 J	2.7 J	5 U	**64 J**	**36 J**
Benzo(a)pyrene	5	ug/l	**11 J**	3 J	**5 J**	**5.5**	5 U	**120 J**	**90 J**
Indeno(1,2,3-cd)pyrene	5	ug/l	48 U	1 J	3 J	2.1 J	5 U	**60 J**	**58 J**
Benzo(g,h,i)perylene	5	ug/l	48 U	1 J	2 J	2.1 J	5 U	**46 J**	**43 J**

Notes:
Results in bold and shade exceeded site-spefic criteria
U - non-detect
J - estimated value.
ug/L - micrograms per liter
NA - not analyzed

Table 3-4
Creosote-Related Contaminant Concentration Trend
Year 5 Groundwater Sampling
Federal Creosote Superfund Site
Manville, New Jersey

Chemical Name	Site-Specific Screening Criteria	Sample Code	MW-12S			MW-12RS		
		Unit/Sample Date	2/22/1999	11/16/1999		11/16/2007	11/21/2008	10/26/2009
Benzene	1	ug/L	100 U	25 U		0.5 U	0.5 U	0.5 U
Toluene	600	ug/L	100 U	13 J		0.5 U	0.5 U	0.5 U
Ethylbenzene	700	ug/L	77	55		0.5 U	0.5 U	0.5 U
Xylenes (total)	1000	ug/L	170	150 X		0.5 U	0.5 U	1 U
Styrene	100	ug/L	100 U	25 U		0.5 U	0.5 U	2 U
Isopropylbenzene	700	ug/L	NA	NA		0.5 U	0.5 U	1 U
Phenol	2000	ug/l	750 U	400 U		5 U	5 U	5 U
2-Methylphenol	5	ug/l	750 U	400 U		5 U	5 U	5 U
4-Methylphenol	5	ug/l	750 U	400 U		5 U	5 U	5 U
2,4-Dimethylphenol	100	ug/l	750 U	400 U		5 U	5 U	5 U
Naphthalene	300	ug/l	**9,700**	**13,000**		5 U	5 U	0
2-Methylnaphthalene	100	ug/l	**380 J**	**540**		5 U	5 U	0.1 U
1,1'Biphenyl	400	ug/l	NA	NA	**Well Abandoned During Remediation**	5 U	5 U	5 U
Acenaphthylene	100	ug/l	97 J	**160 J**		5 U	0.26 J	0.54 J
Acenaphthene	400	ug/l	380 J	**570**		14	3.5 J	11
Dibenzofuran	100	ug/l	**250 J**	**430**		13	13	20
Fluorene	300	ug/l	190 J	**350 J**		3.8 J	0.72 J	3.2 J
Phenanthrene	100	ug/l	**270 J**	**350 J**		5 U	0.19 J	0.41 J
Anthracene	2000	ug/l	750 U	400 U		5 U	0.4 J	0.92 J
Carbazole	5	ug/l	**660 J**	**780**		**8**	**5.3**	**14**
Fluoranthene	300	ug/l	750 U	400 U		5 U	1.8 J	3.5 J
Pyrene	200	ug/l	750 U	400 U		5 U	1.2 J	1.8 J
Benzo(a)anthracene	5	ug/l	750 U	400 U		5 U	5 U	0.015 J
Chrysene	5	ug/l	750 U	400 U		5 U	5 U	0.1 U
Benzo(b)fluoranthene	5	ug/l	750 U	400 U		5 U	5 U	0.1 U
Benzo(k)fluoranthene	5	ug/l	750 U	400 U		5 U	5 U	0.1 U
Benzo(a)pyrene	5	ug/l	750 U	400 U		5 U	5 U	0.1 U
Indeno(1,2,3-cd)pyrene	5	ug/l	750 U	400 U		5 U	5 U	0.1 U
Benzo(g,h,i)perylene	5	ug/l	750 U	400 U		5 U	5 U	0.1 U

Notes:
Results in bold and shade exceeded site-spefic criteria
U - non-detect
J - estimated value.
ug/L - micrograms per liter
NA - not analyzed

Table 3-4
Creosote-Related Contaminant Concentration Trend
Year 5 Groundwater Sampling
Federal Creosote Superfund Site
Manville, New Jersey

Chemical Name	Site-Specific Screening Criteria	Sample Code	MW-110I			MW-111S					
		Unit/Sample Date	11/24/2007	11/14/2008	10/28/2009	7/26/1999	11/12/1999	10/17/2006	11/15/2007	11/25/2008	10/22/2009
Benzene	1	ug/L	**1.8**	**1.2**	**1.3**	1 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U
Toluene	600	ug/L	0.5 U	0.19 J	0.5 U	1 U	1 U	0.5 U	1.5	0.5 U	0.5 U
Ethylbenzene	700	ug/L	3	0.12 J	0.5 U	1 U	1 U	0.5 U	2.3	0.5 U	0.73
Xylenes (total)	1000	ug/L	0.5 U	0.5 U	1 U	1 U	0.8 J	1.3	3.8	1.2	4.8
Styrene	100	ug/L	0.5 U	0.5 U	2 U	1 U	1 U	0.5 U	0.5 U	0.5 U	2 U
Isopropylbenzene	700	ug/L	3.7	1.5	2.1	NA	NA	0.95	5.4	1.1	3.5
Phenol	2000	ug/l	5 UJ	5 U	5 U	0.2 J	10 U	5 U	5 U	5 U	5 U
2-Methylphenol	5	ug/l	5 UJ	5 U	5 U	10 U	10 U	5 UJ	5 U	5 U	5 U
4-Methylphenol	5	ug/l	5 UJ	5 U	5 U	10 U	10 U	5 UJ	5 U	0.34 J	5 U
2,4-Dimethylphenol	100	ug/l	5 UJ	5 U	5 U	10 U	10 U	5 UJ	5 U	5 U	5 U
Naphthalene	300	ug/l	5 UJ	3.7 J	0.33 J	10 U	10 U	92	61	11	26 J
2-Methylnaphthalene	100	ug/l	5 UJ	5 U	0.1 U	10 U	10 U	5 U	5 U	5 U	0.16 J
1,1'Biphenyl	400	ug/l	5 U	0.16 J	0.16 J	NA	NA	66	170	75	130
Acenaphthylene	100	ug/l	5 UJ	0.72 J	0.64 J	3 J	2 J	5 U	9.1	5.3	6.6
Acenaphthene	400	ug/l	3.3 J	29	25	38	33	84	200	200	160
Dibenzofuran	100	ug/l	5 U	0.24 J	0.26 J	26	41	**130**	**190**	**240**	**180**
Fluorene	300	ug/l	24	19	18	12	11	5.6	45	34	53
Phenanthrene	100	ug/l	4 J	0.46 J	0.14	10 U	45	52	66	76	**100**
Anthracene	2000	ug/l	5 UJ	1.5 J	0.98 J	2 J	6 J	5.2	7.3	9.5	10
Carbazole	5	ug/l	5 U	**40**	**37**	**24**	**30**	**88**	**110**	**240**	**170**
Fluoranthene	300	ug/l	3.1 J	2.2 J	1.8 J	21	12	10	14	16	12 J
Pyrene	200	ug/l	5 UJ	1.4 J	1.3 J	9 J	7 J	5.6	5.7	7.1	7
Benzo(a)anthracene	5	ug/l	5 UJ	5 U	0.027 J	0.5 J	10 U	5 U	5 U	0.45 J	0.54 J
Chrysene	5	ug/l	5 UJ	5 U	0.018 J	0.4 J	10 U	5 U	5 U	0.34 J	0.34 J
Benzo(b)fluoranthene	5	ug/l	5 R	5 U	0.018 J	10 U	10 U	5 U	5 U	5 U	0.17 J
Benzo(k)fluoranthene	5	ug/l	5 R	5 U	0.1 U	10 U	10 U	5 U	5 U	5 U	0.5 UJ
Benzo(a)pyrene	5	ug/l	5 R	5 U	0.016 J	10 U	10 U	5 U	5 U	5 U	0.11 J
Indeno(1,2,3-cd)pyrene	5	ug/l	5 R	5 U	0.1 U	10 U	10 U	5 U	5 U	5 UJ	0.5 U
Benzo(g,h,i)perylene	5	ug/l	5 R	5 U	0.1 U	10 U	10 U	5 U	5 U	5 U	0.5 U

Notes:
Results in bold and shade exceeded site-spefic criteria
U - non-detect
J - estimated value.
ug/L - micrograms per liter
NA - not analyzed

Table 3-4
Creosote-Related Contaminant Concentration Trend
Year 5 Groundwater Sampling
Federal Creosote Superfund Site
Manville, New Jersey

Chemical Name	Site-Specific Screening Criteria	Sample Code	MW-114D						
		Unit/Sample Date	7/22/1999	11/9/1999	11/8/2005	10/19/2006	11/12/2007	11/18/2008	10/20/2009
Benzene	1	ug/L	**7**	**12**	0.19 J	0.5 U	0.57	0.5 U	**3.2**
Toluene	600	ug/L	1 U	0.9 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethylbenzene	700	ug/L	13	24	0.1 J	0.5 U	0.5 U	0.5 U	0.7
Xylenes (total)	1000	ug/L	0.6 J	2	0.5 U	0.5 U	0.5 U	0.5 U	1 U
Styrene	100	ug/L	1 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
Isopropylbenzene	700	ug/L	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	1 U
Phenol	2000	ug/l	10 U	10 U	10 U	5 U	5 UJ	5 U	5 U
2-Methylphenol	5	ug/l	10 U	10 U	10 U	5 U	5 U	5 U	5 U
4-Methylphenol	5	ug/l	10 U	10 U	10 U	5 U	5 U	5 U	5 U
2,4-Dimethylphenol	100	ug/l	10 U	10 U	10 U	5 U	5 U	5 U	5 U
Naphthalene	300	ug/l	8 J	16	10 U	5 U	5 U	0.16 J	0 J
2-Methylnaphthalene	100	ug/l	10 U	10 U	10 U	5 U	5 U	5 U	0.1 U
1,1'Biphenyl	400	ug/l	NA	NA	10 U	5 U	5 U	5 U	0.34 J
Acenaphthylene	100	ug/l	3 J	6 J	10 U	5 U	5 U	5 U	0.19 J
Acenaphthene	400	ug/l	32	71	6 J	7.6	6.2	5.2	1.5 J
Dibenzofuran	100	ug/l	14	35	10 U	5 U	5 U	0.68 J	5 U
Fluorene	300	ug/l	14	30	10 U	5 U	5 U	1.2 J	0.33 J
Phenanthrene	100	ug/l	4 J	17	10 U	5 U	5 U	5 U	0.02 J
Anthracene	2000	ug/l	0.8 J	2 J	10 U	5 U	5 U	5 U	0.017 J
Carbazole	5	ug/l	3 J	**53**	10 U	5 U	5 U	1 J	5 U
Fluoranthene	300	ug/l	1 J	2 J	10 U	5 U	5 U	0.3 J	0.1 U
Pyrene	200	ug/l	0.4 J	10 U	10 U	5 U	5 U	0.31 J	0.1 U
Benzo(a)anthracene	5	ug/l	10 U	10 U	10 U	5 U	5 U	5 U	0.1 U
Chrysene	5	ug/l	10 U	10 U	10 U	5 U	5 U	5 U	0.1 U
Benzo(b)fluoranthene	5	ug/l	10 U	10 U	10 U	5 U	5 U	5 U	0.1 U
Benzo(k)fluoranthene	5	ug/l	10 U	10 U	10 U	5 U	5 U	5 U	0.1 U
Benzo(a)pyrene	5	ug/l	10 U	10 U	10 U	5 U	5 U	5 U	0.1 U
Indeno(1,2,3-cd)pyrene	5	ug/l	10 U	10 U	10 U	5 U	5 U	5 U	0.1 U
Benzo(g,h,i)perylene	5	ug/l	10 U	10 U	10 U	5 U	5 U	5 U	0.1 U

Notes:
Results in bold and shade exceeded site-spefic criteria
U - non-detect
J - estimated value.
ug/L - micrograms per liter
NA - not analyzed

Table 3-4
Creosote-Related Contaminant Concentration Trend
Year 5 Groundwater Sampling
Federal Creosote Superfund Site
Manville, New Jersey

Chemical Name	Site-Specific Screening Criteria	Sample Code	MW-114I						
		Unit/Sample Date	7/23/1999	11/9/1999	11/9/2005	10/19/2006	11/12/2007	11/18/2008	10/20/2009
Benzene	1	ug/L	1 U	1 U	0.84	0.5 U	0.5 U	0.5 U	0.5 U
Toluene	600	ug/L	1 U	0.5 J	1.4	0.5 U	0.52	0.5 U	0.5 U
Ethylbenzene	700	ug/L	1 U	1	6.3	1.4	2.3	1.2	0.83
Xylenes (total)	1000	ug/L	1 U	3	7.4	0.5 U	2.82	0.5 U	1 U
Styrene	100	ug/L	1 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
Isopropylbenzene	700	ug/L	NA	NA	1.3	0.56	0.96	0.7	1 U
Phenol	2000	ug/l	0.2 J	10 U	10 U	5 U	5 U	5 U	5 U
2-Methylphenol	5	ug/l	10 U	10 U	10 U	5 U	5 U	5 U	5 U
4-Methylphenol	5	ug/l	10 U	10 U	10 U	5 U	5 U	5 U	5 U
2,4-Dimethylphenol	100	ug/l	10 U	10 U	10 U	5 U	5 U	5 U	5 U
Naphthalene	300	ug/l	0 J	63	**310**	9	52	2.3 J	1 J
2-Methylnaphthalene	100	ug/l	10 U	10 U	42	5 U	5 U	5 U	0.1 U
1,1'Biphenyl	400	ug/l	NA	NA	12	1.5 J	5.2	2.4 J	1.6 J
Acenaphthylene	100	ug/l	0.3 J	1 J	10 U	5 U	5 U	0.4 J	0.38 J
Acenaphthene	400	ug/l	10	36	48	31	34	43	39
Dibenzofuran	100	ug/l	3 J	31	35	12	19	13	9.2
Fluorene	300	ug/l	3 J	20	28	16	24	25	33
Phenanthrene	100	ug/l	10 U	18	12	1.4 J	3.8 J	1.8 J	0.86 J
Anthracene	2000	ug/l	0.4 J	2 J	1 J	5 U	5 U	0.91 J	0.81 J
Carbazole	5	ug/l	10 U	**39**	**50**	**19**	**24**	**22**	**17**
Fluoranthene	300	ug/l	4 J	5 J	6 J	5 J	5.2	5	5.6 J
Pyrene	200	ug/l	2 J	3 J	4 J	3.4 J	3.4 J	4.1 J	4.3 J
Benzo(a)anthracene	5	ug/l	10 U	10 U	10 U	5 U	5 U	0.17 J	0.16 J
Chrysene	5	ug/l	10 U	10 U	10 U	5 U	5 U	0.049 J	0.051 J
Benzo(b)fluoranthene	5	ug/l	10 U	10 U	10 U	5 U	5 U	5 U	0.1 U
Benzo(k)fluoranthene	5	ug/l	10 U	10 U	10 U	5 U	5 U	5 U	0.1 U
Benzo(a)pyrene	5	ug/l	10 U	10 U	10 U	5 U	5 U	5 U	0.1 U
Indeno(1,2,3-cd)pyrene	5	ug/l	10 U	10 U	10 U	5 U	5 U	5 U	0.1 U
Benzo(g,h,i)perylene	5	ug/l	10 U	10 U	10 U	5 U	5 U	5 U	0.1 U

Notes:
Results in bold and shade exceeded site-spefic criteria
U - non-detect
J - estimated value.
ug/L - micrograms per liter
NA - not analyzed

Table 3-4
Creosote-Related Contaminant Concentration Trend
Year 5 Groundwater Sampling
Federal Creosote Superfund Site
Manville, New Jersey

Chemical Name	Site-Specific Screening Criteria	Sample Code	MW-116I						
		Unit/Sample Date	7/29/1999	11/11/1999	11/3/2005	10/24/2006	11/9/2007	11/25/2008	10/26/2009
Benzene	1	ug/L	5 U	20 U	0.35 J	0.5 U	0.5 U	0.5 U	0.5 U
Toluene	600	ug/L	5 U	20 U	0.17 J	0.5 U	0.5 U	0.5 U	0.5 U
Ethylbenzene	700	ug/L	40	44	3.7	3.9	2.6	0.73	1.2
Xylenes (total)	1000	ug/L	76	73	3.6	3.7	3.1	0.9	1.7 U
Styrene	100	ug/L	5 U	20 U	0.11 J	0.5 U	0.5 U	0.5 U	2 U
Isopropylbenzene	700	ug/L	NA	NA	2.1	1.7	1.5	0.75	1 U
Phenol	2000	ug/l	1,000 U	10 U	10 U	5 U	4.7 UJ	5 U	5 U
2-Methylphenol	5	ug/l	1,000 U	10 U	10 U	5 U	4.7 U	5 U	5 U
4-Methylphenol	5	ug/l	1,000 U	10 U	10 U	5 U	4.7 U	5 U	5 U
2,4-Dimethylphenol	100	ug/l	1,000 U	10 U	10 U	5 U	4.7 U	5 U	5 U
Naphthalene	300	ug/l	**3,800**	**3,100**	30	70	73	23	19 J
2-Methylnaphthalene	100	ug/l	**440 J**	**190 J**	58	5 U	4.7 U	5 U	0.21 J
1,1'Biphenyl	400	ug/l	NA	NA	47	50	44	35	34
Acenaphthylene	100	ug/l	15 J	3 J	10 U	5 U	4.7 U	0.87 J	0.69 J
Acenaphthene	400	ug/l	**430 J**	230 J	77	71	56	42	39
Dibenzofuran	100	ug/l	**380 J**	**190 J**	**140**	**140**	**110**	77	92
Fluorene	300	ug/l	**340 J**	150 J	57	49	37	28	26
Phenanthrene	100	ug/l	**300 J**	**180 J**	**120**	94	67	56	49
Anthracene	2000	ug/l	23 J	20	12	11	11	10	6.6
Carbazole	5	ug/l	**290 J**	**170 J**	**52**	**53**	**46**	**40**	**28**
Fluoranthene	300	ug/l	33 J	27	36	30	32	30	25
Pyrene	200	ug/l	22 J	17	22	16	19	15	15
Benzo(a)anthracene	5	ug/l	1,000 U	2 J	2 J	1.3 J	1.6 J	1.4 J	1.2
Chrysene	5	ug/l	1,000 U	1 J	1 J	5 U	4.7 U	0.61 J	0.43
Benzo(b)fluoranthene	5	ug/l	1,000 U	10 U	10 U	5 U	4.7 U	0.31 J	0.22 J
Benzo(k)fluoranthene	5	ug/l	1,000 U	10 U	10 U	5 U	4.7 U	0.24 J	0.071 J
Benzo(a)pyrene	5	ug/l	1,000 U	10 U	10 U	5 U	4.7 U	0.27 J	0.16
Indeno(1,2,3-cd)pyrene	5	ug/l	1,000 U	10 U	10 U	5 U	4.7 U	5 UJ	0.1 U
Benzo(g,h,i)perylene	5	ug/l	1,000 U	10 U	10 U	5 U	4.7 U	0.45 J	0.1 U

Notes:
Results in bold and shade exceeded site-spefic criteria
U - non-detect
J - estimated value.
ug/L - micrograms per liter
NA - not analyzed

Table 3-5
Groundwater Field Parameters
Year 5 Groundwater Sampling
Federal Creosote Superfund Sites
Manville, New Jersey

Sample Well	Sampling Date	Final Depth to Water (ft. TIC)	Flow Rate (mL/min.)	Total Volume Purged (gal.)	pH	Specific Conductivity (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)	Temp (°C)
MW-1RS-Y5	10/29/2009	21.24	200	2	6.24	0.557	18	7	134.1	17.58
MW-2RS-Y5	10/29/2009	20.02	300	5	6.6	0.750	2.49	0.66	-216.1	17.76
MW-2RI-Y5	10/29/2009	20.26	300	5	7.59	0.911	7.85	0.8	-231.6	15.46
MW-2RD-Y5	10/29/2009	20.6	300	6	7.42	0.613	2.1	0.11	-223.1	13.89
MW-5I-Y5	11/2/2009	12.08	300	4	7.23	0.751	15.3	8.53	-149.8	15.66
MW-6S-Y5	11/2/2009	11.7	350	4	6.38	0.255	10.3	0.48	-92.2	16.93
MW-7S-Y5	10/28/2009	Parameters not collected due to presence of free-phase creosote								
MW-12RS-Y5	10/26/2009	17.45	300	9	6.31	0.604	12.20	0.25	-34.8	19.76
MW-103S-Y5	10/26/2009	20.45	300	6	5.5	0.38	0.07	9.4	214.9	19.98
MW-104RS-Y5	10/29/2009	18.03	300	6	6.18	1.634	63.70	0.56	6.1	17.47
MW-110S-Y5	10/28/2009	20.00	300	5	5.78	0.266	8.46	13.21	146.1	17.82
MW-110I-Y5	10/28/2009	21	300	5	7.23	0.623	4.25	0.46	-107.4	15.09
MW-110D-Y5	10/28/2009	19.59	200	1	7.31	2.119	0.65	0.41	-74.1	13.68
MW-111S-Y5	10/22/2009	24.06	500	17	6.38	0.867	14.10	0.50	0.3	18.54
MW-111I-Y5	10/22/2009	24.3	300	5	7.73	0.427	3.37	5.04	10.5	17.95
MW-114S-Y5	10/20/2009	12.80	300	8	5.72	0.193	0.00	3.50	146.6	17.25
MW-114I-Y5	10/20/2009	13.30	200	5	7.43	0.682	0.55	0.44	-223.9	14.31
MW-114D-Y5	10/20/2009	12.50	250	4	7.27	2.234	0.33	0.72	-63.3	13.76
MW-116I-Y5	10/26/2009	20.54	200	2	7.86	0.898	2.19	1.20	-43.6	16.27
MW-123S-Y5	10/23/2009	19.60	200	2	6.11	2.036	49.80	1.37	70.2	19.09
MW-123I-Y5	10/23/2009	21.50	300	6	8.90	1.240	0.85	2.66	69	17.85
MW-123D-Y5	10/23/2009	19.80	300	7	7.47	0.138	10.45	0.70	17.9	16.69
MW-124S-Y5	10/27/2009	18.65	400	8	6.30	3.752	7.11	3.76	88.10	17.94
MW-124I-Y5	10/27/2009	18.66	300	5	6.51	0.891	0.54	5.99	114.80	16.95
MW-124D-Y5	10/27/2009	18.75	200	2	9.40	0.358	6.21	2.90	148	15.40
MW-125S-Y5	10/21/2009	12.05	300	4	6.01	0.357	7.92	42.00	151.7	20.35
MW-125I-Y5	10/21/2009	13.20	300	3	7.36	0.494	1.83	0.53	9.6	16.45
MW-126S-Y5	10/21/2009	10.34	200	2	5.60	0.405	20.0	5.02	204.3	18.15
MW-127S-Y5	10/22/2009	25.73	200	2	6.10	0.803	42.80	7.13	64.5	17.76

Notes:
ft - feet
TIC - top of inner casing
mL/min - milliliters per minute
mS/cm - milliSiemens per centimeter
NTU - Nephelometric Turbidity Units
mg/L - milligram per liter
mV - millivolts
°C - degrees Celcius
DO - dissolved oxygen
ORP - oxidation reduction potential
Temp - temperature

Table 3-6
Results for Natural Attenuation Parameters
Year 5 Groundwater Sampling
Federal Creosote Superfund Site
Manville, New Jersey

Sample Code	Sample Date	Nitrate/ Nitrite	Total Iron	Ferrous Iron	Total Manganese	Sulfate	Sulfide	Methane	Ethane	Ethene	Alkalinity, total (as $CaCO_3$)
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	µg/L	mg/L
MW-1RS	10/29/2009	3.8	1.50 L	BDL	0.01	63	0.014	2 U	2 U	2 U	190
MW-2RS	10/29/2009	0.11	22.00	22.2	12.00	22	0.01	46	2.5	2.2	250
MW-2RS-DUP	10/29/2009	0.11	22.00	21.8	12.00	20	0.012	44	2 U	2 U	250
MW-6S	11/2/2009	0.15	20.00	11.755	4.60	14	0.01 U	110	2 U	2 U	83
MW-7S	10/29/2009	0.17	29.00	23.7	4.70	8.9	0.01 U	11	2 U	2 U	98
MW-12RS	10/26/2009	0.05 U	14.00	8.3	18.00	41	0.014	230	2 U	2 U	150
MW-103S	10/26/2009	5.1	0.23	BDL	0.01	42	0.01	2 U	2 U	2 U	14
MW-104RS	10/29/2009	0.34	15.00	5.3	4.50	44	0.01	2.2	2 U	2 U	80
MW-110S	10/28/2009	5.2	0.26	BDL	0.01	55	0.01 U	2 U	2 UJ	2 UJ	17
MW-111S	10/22/2009	0.05 UL	3.30	2.28	11.00	11	0.01 U	300	2 U	2 U	110
MW-114S	10/20/2009	1.1	0.05 U	BDL	0.02	32	0.015	2 U	2 U	2 U	32
MW-123S	10/23/2009	4.4	4.10	0.7	0.34	46	0.01 U	2 U	2 U	2 U	89
MW-124S	10/27/2009	4.7	0.85	0.16	0.17	68	0.01 U	2 U	2 UJ	2 UJ	100
MW-125S	10/21/2009	3.7	2.40	0.17	0.01	29	0.015	2 U	2 U	2 U	52
MW-126S	10/21/2009	3.4	1.90	0.04	0.02	41	0.01	2 U	2 U	2 U	30
MW-127S	10/22/2009	4.2	10.00	3.3	0.29	29	0.01 U	2 U	2 U	2 U	29
MW-2RI	10/29/2009	0.05 U	0.54	BDL	3.00	1 U	0.38	13	2 U	2 U	160
MW-5I	11/2/2009	0.05 U	0.25	1.77	1.10	1 U	0.046	47	2 U	2 U	240
MW-110I	10/28/2009	0.05 U	0.81	0.18	1.00	9.2	0.01 U	61	2 UJ	2 UJ	210
MW-111I	10/22/2009	5.3	0.27	0.05	0.01	31	0.01 U	2 U	2 U	2 U	110
MW-114I	10/20/2009	0.05 U	0.05 U	0.1	2.00	5.1	0.02	12	2 U	2 U	220
MW-116I	10/26/2009	0.36	0.05 U	BDL	3.10	21	0.01 U	2.7	2 U	2 U	150
MW-116I-DUP	10/26/2009	0.35	0.05 U	BDL	3.30	21	0.01	2.8	2 U	2 U	150
MW-123I	10/23/2009	6.2	0.17	0	0.29	64	0.01 U	4.5	7.2	2 U	39
MW-124I	10/27/2009	5.7	0.39	BDL	0.01	34	0.01 U	2 U	2 UJ	2 UJ	81
MW-125I	10/21/2009	1.7	0.05 U	0.06	0.01	24	0.014	2 U	2 U	2 U	170
MW-2RD	10/29/2009	0.05 U	0.32	0.2	1.10	99	1.2	37	2 U	2 U	100
MW-110D	10/28/2009	0.05 U	0.41	0.45	0.46	1,500	0.01 U	2.3	2 UJ	2 UJ	87
MW-114D	10/20/2009	0.05 U	0.47	0.41	0.30	1,500	0.012	2.5	2 U	2 U	67
MW-123D	10/23/2009	2.7	0.65	BDL	0.10	440	0.01 U	2 U	2 U	2 U	100
MW-124D	10/27/2009	3.7	0.79	BDL	0.03	12	0.01	2 U	2 UJ	2 UJ	100

Notes:
NA : not analyzed ND: non-detect BDL: below detection limit of 0.03 mg/L for ferrous iron.

Table 3-7
Summary of Natural Attenuation Evaluation
Year 5 Groundwater Sampling
Federal Creosote Superfund Site
Manville, New Jersey

Aquifer	Well ID	Concentration Trend of Creosote-related Contaminants	pH	Dissolved Oxygen	Temperature	ORP	Nitrate/ Nitrite	Dissolved Manganese	Ferrous Iron	Sulfate	Methane	Alkalinity, total (as $CaCO_3$)
Overburden	MW-2RS	U	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	MW-6S	U	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	MW-7S	U	N/A	N/A	N/A	N/A	Y	Y	Y	Y	Y	Y
Intermediate Bedrock	MW-2RI	Y	Y	Y	Y	Y	Y	Y	U	Y	Y	Y
	MW-5I	U	Y	U	Y	Y	Y	Y	Y	Y	Y	Y
Deep Bedrock	MW-2RD	Y	Y	Y	Y	Y	Y	Y	Y	U	Y	U

Notes:
Y - collected data indicated that subsurface conditions were conducive to natural attenuation, or there was evidence of natural attenuation.
U - collected data did not indicate or were inconclusive that subsurface conditions were conducive to natural attenuation, or there was evidence of natural attenuation.
N/A - not applicable, no field parameters were collected from MW-7S due to the presence of DNAPL.

FIGURES

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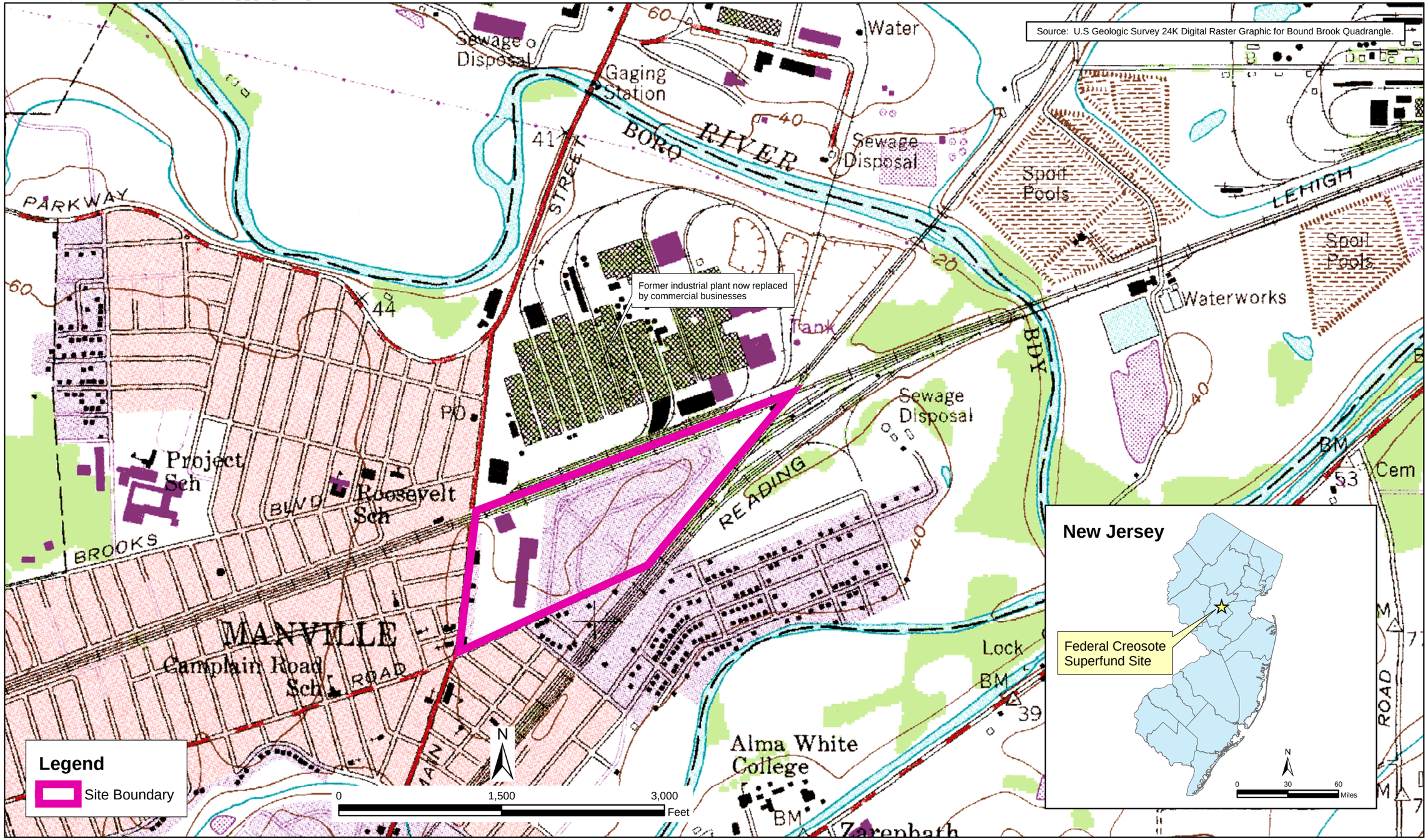

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Federal Creosote Superfund Site
Manville, New Jersey

Figure 1-1
Site Location Map

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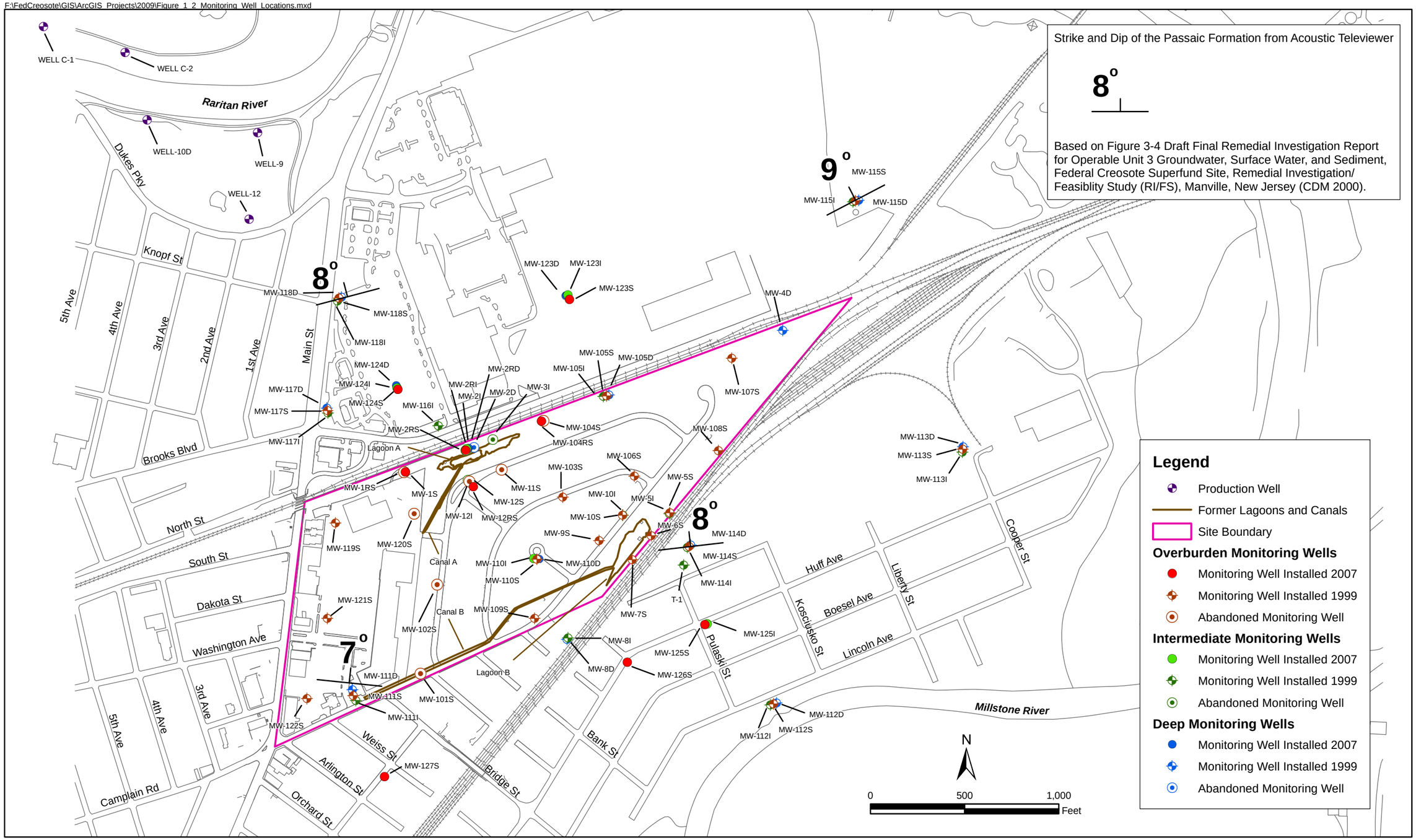

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Federal Creosote Superfund Site
Manville, New Jersey

Figure 1-2
Monitoring Well Locations

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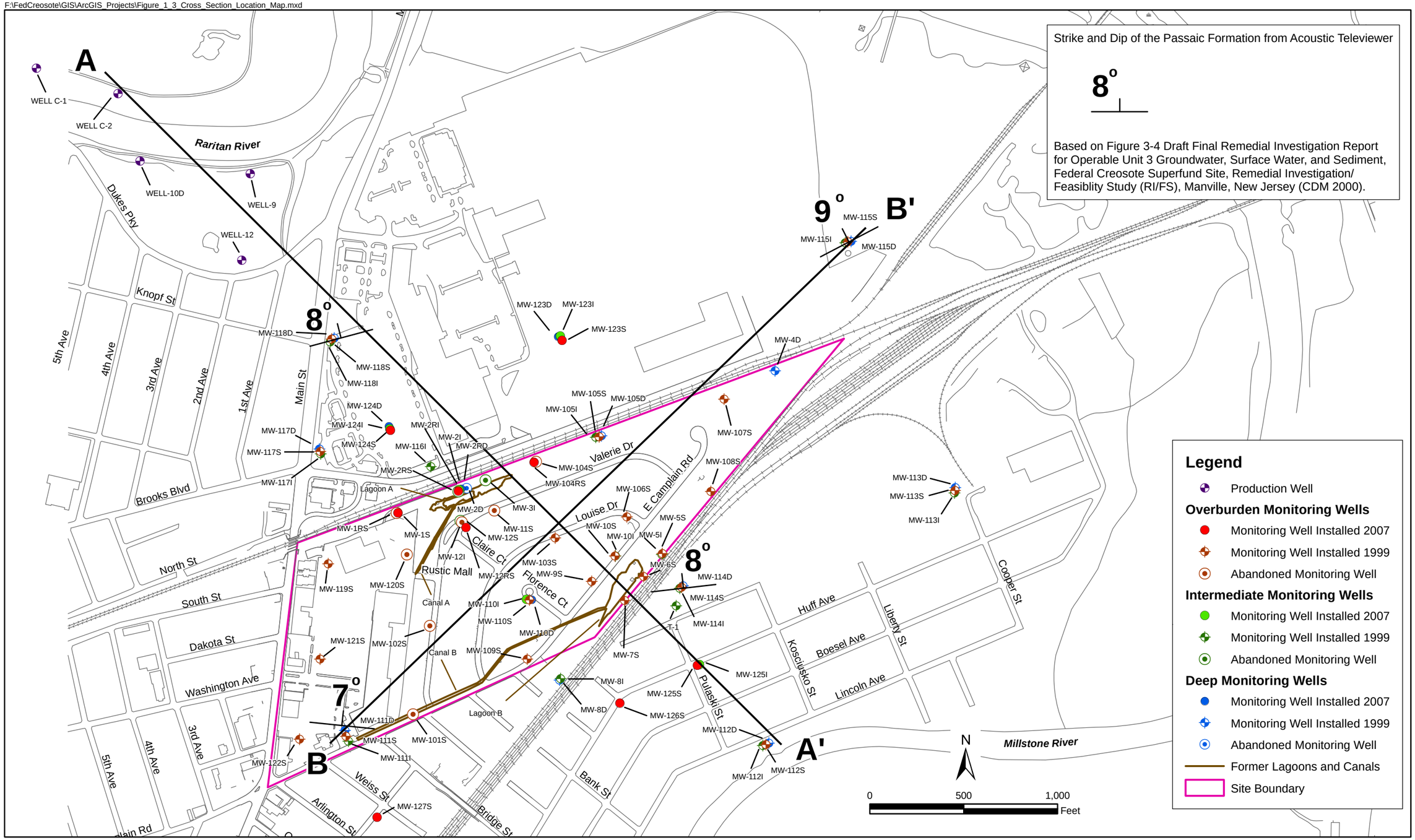

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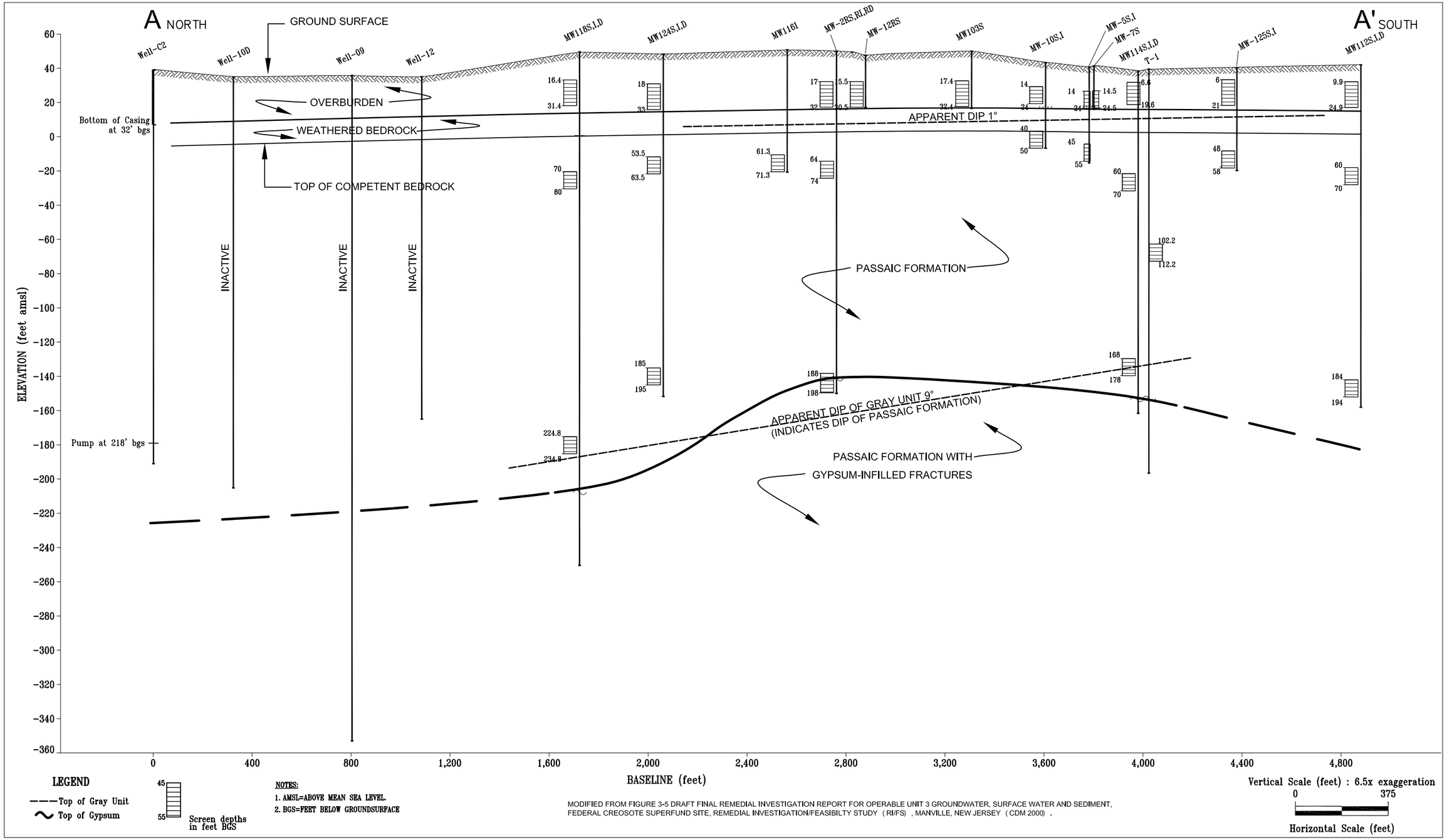
Federal Creosote Superfund Site
Manville, New Jersey

Figure 1-3
Cross-Section Location Map



Federal Creosote Superfund Site
Manville, New Jersey

Figure 1-4
Cross Section A-A'

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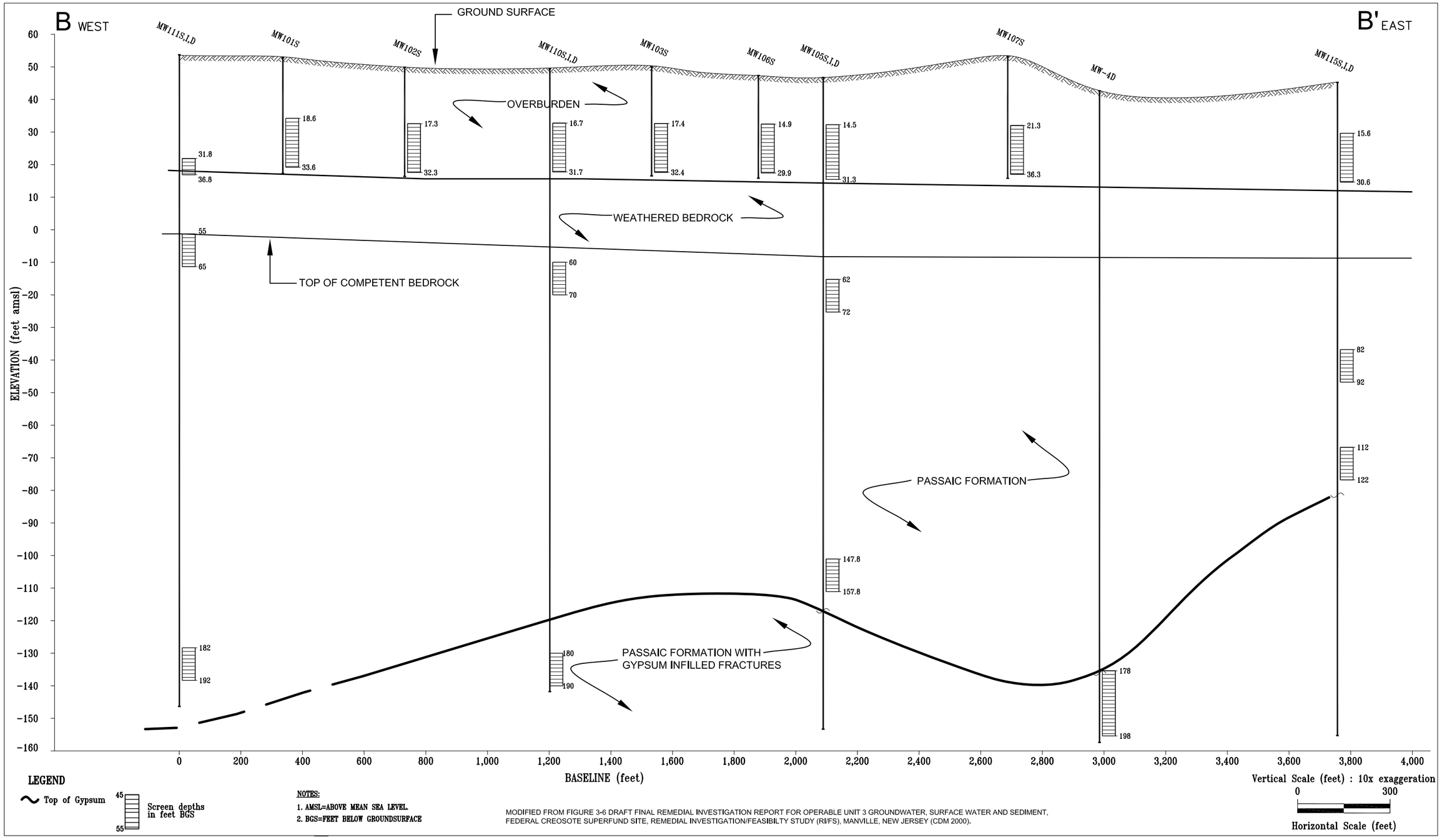

Federal Creosote Superfund Site
Manville, New Jersey

Figure 1-5
Cross Section B-B'

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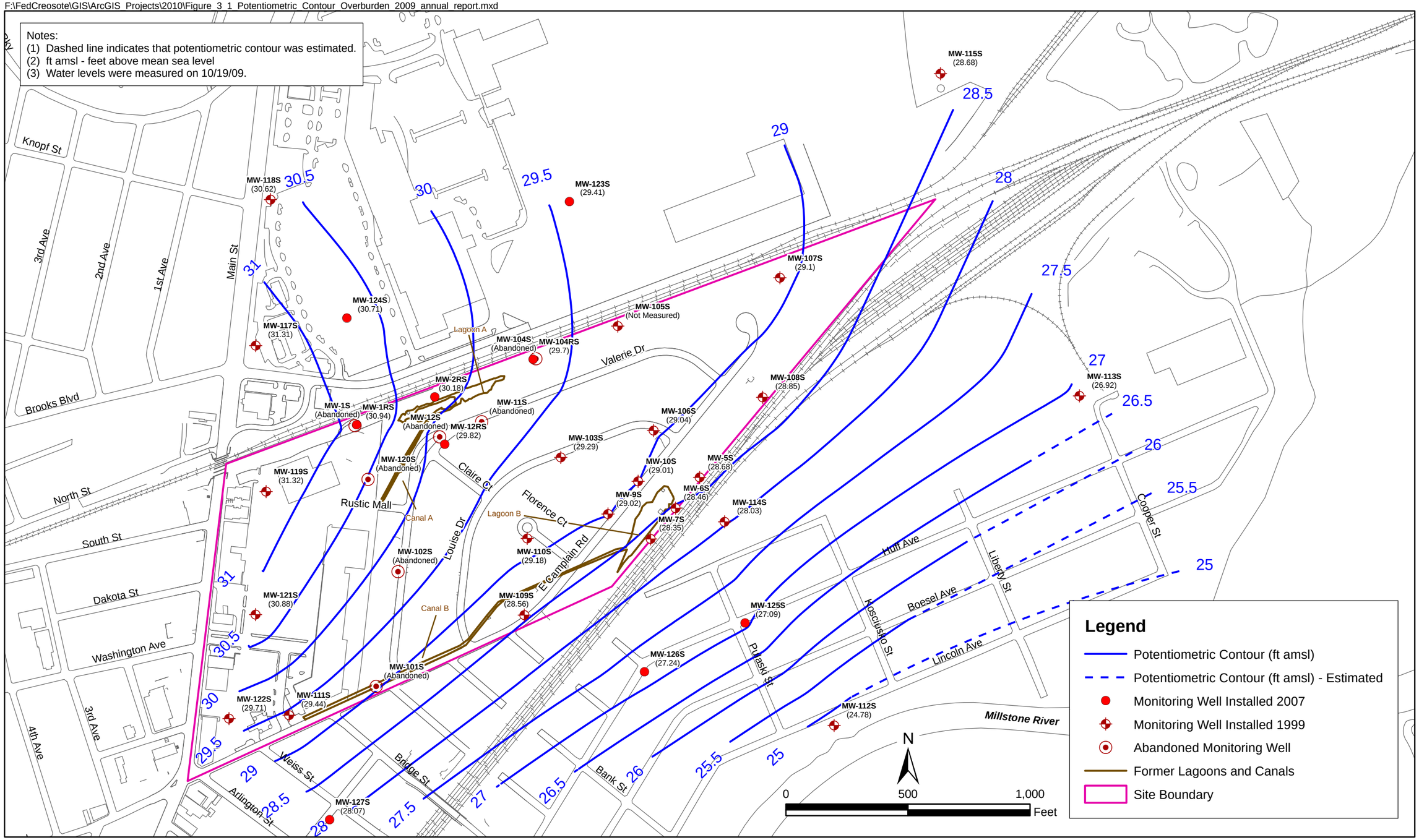

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Federal Creosote Superfund Site
Manville, New Jersey

Figure 3-1
Potentiometric Contour Map
Overburden - October 2009

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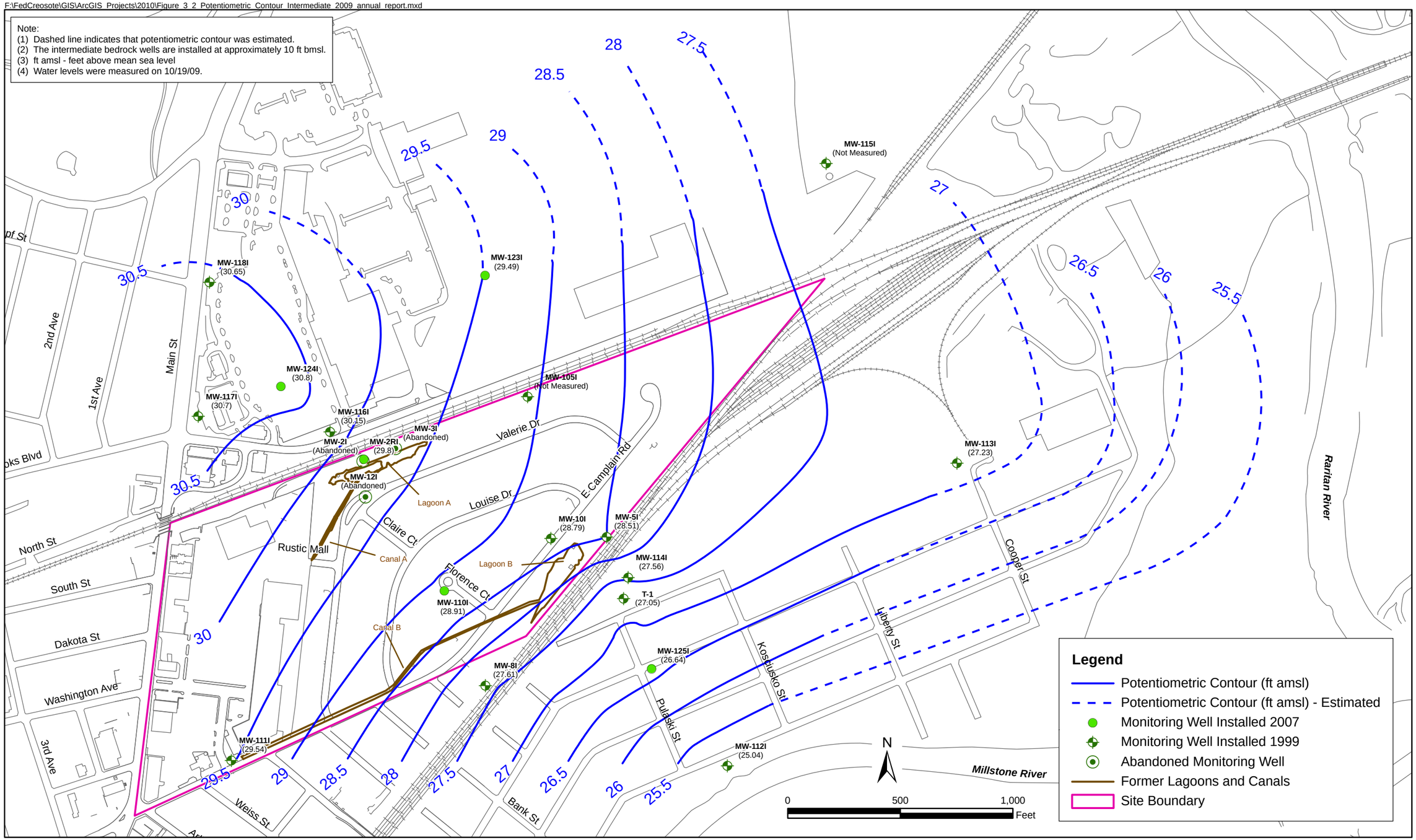

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Federal Creosote Superfund Site
Manville, New Jersey

Figure 3-2
Potentiometric Contour Map
Intermediate Bedrock - October 2009

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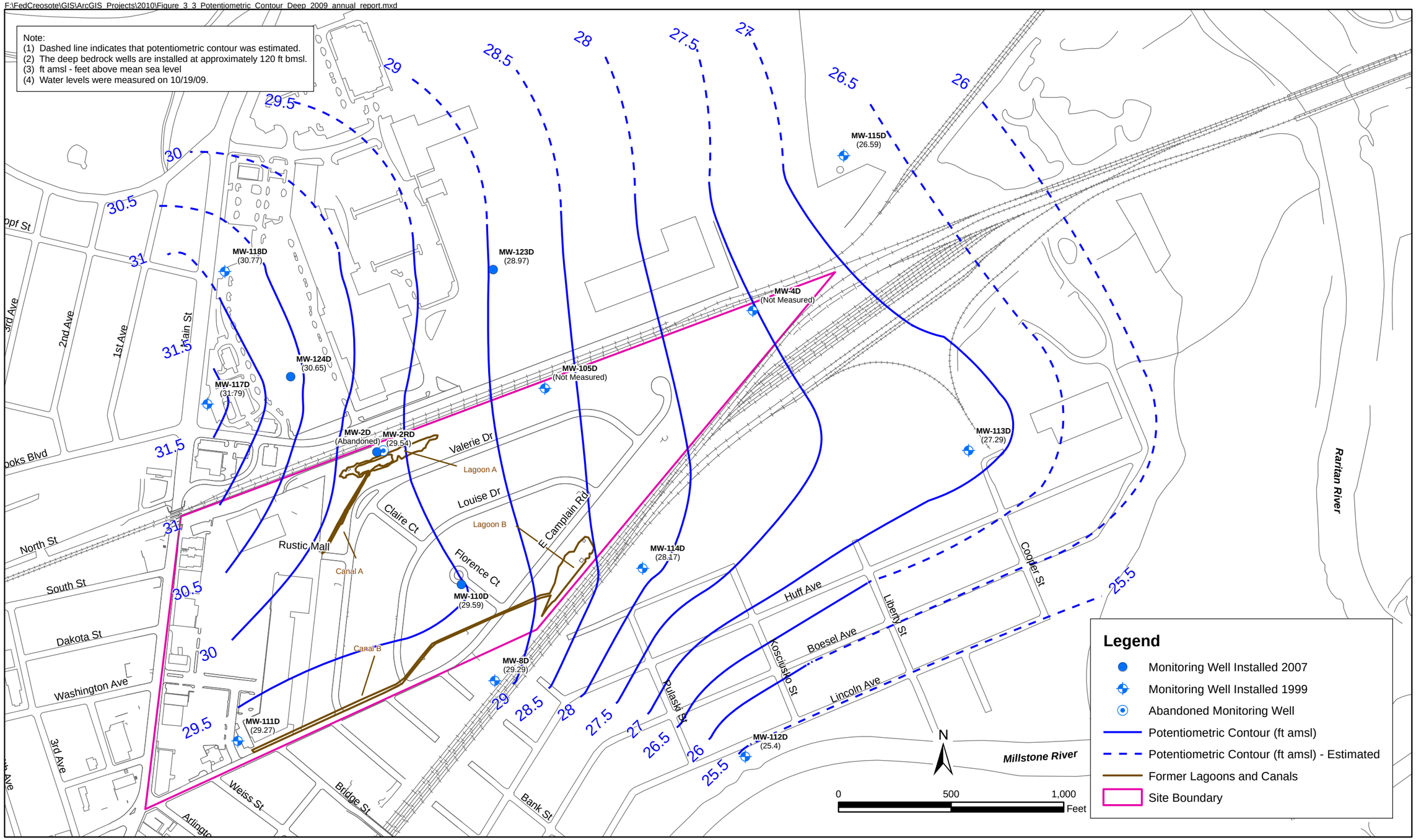

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Federal Creosote Superfund Site
Manville, New Jersey

Figure 3-3
Potentiometric Contour Map
Deep Bedrock - October 2009

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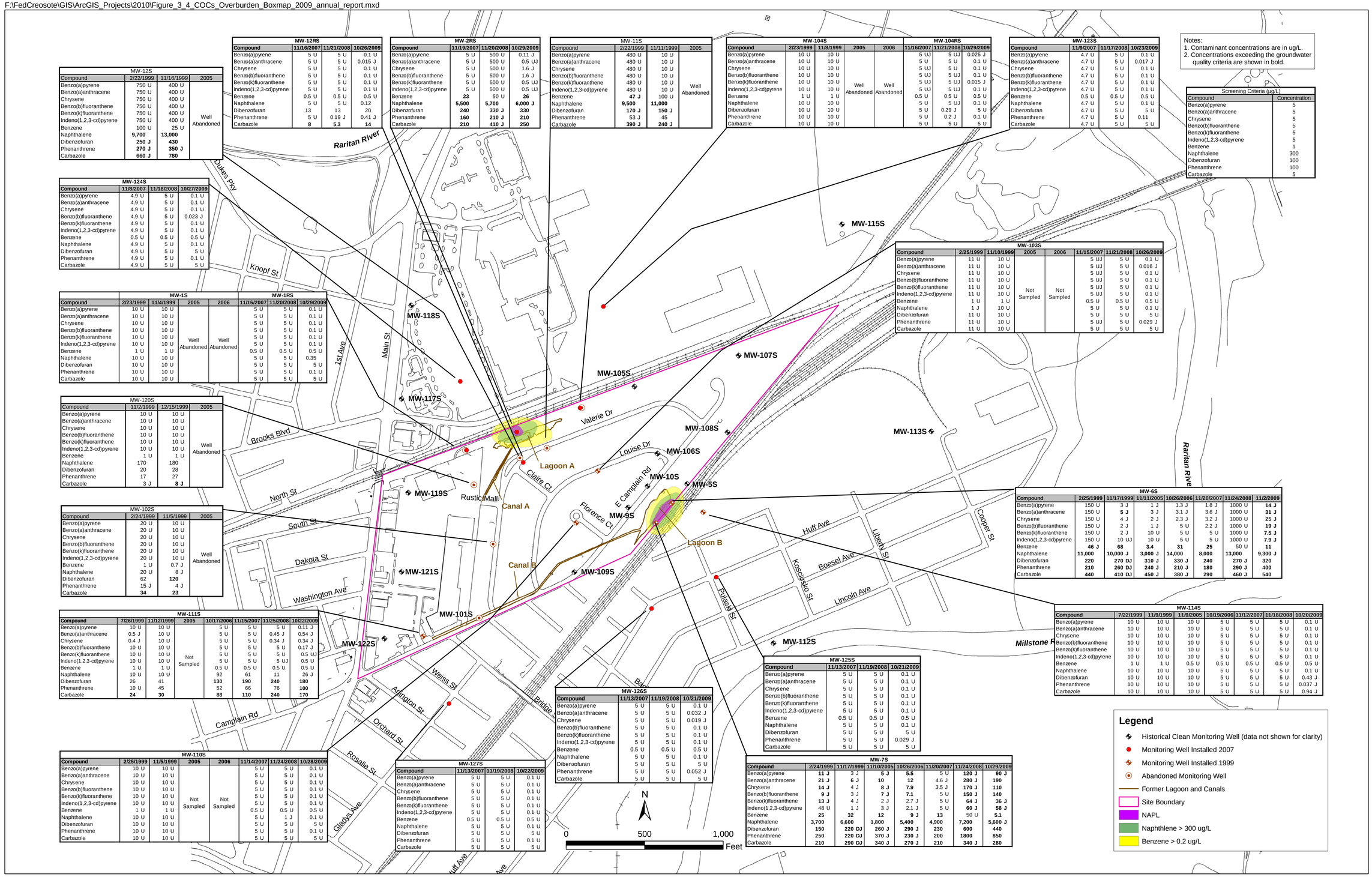

Notes:
1. Contaminant concentrations are in ug/L.
2. Concentrations exceeding the groundwater quality criteria are shown in bold.

Screening Criteria (ug/L)	
Compound	Concentration
Benzo(a)pyrene	5
Benzo(a)anthracene	5
Chrysene	5
Benzo(b)fluoranthene	5
Benzo(k)fluoranthene	5
Indeno(1,2,3-cd)pyrene	5
Benzene	1
Naphthalene	300
Dibenzofuran	100
Phenanthrene	100
Carbazole	5

MW-12S			
Compound	2/22/1999	11/16/1999	2005
Benzo(a)pyrene	750 U	400 U	Well Abandoned
Benzo(a)anthracene	750 U	400 U	
Chrysene	750 U	400 U	
Benzo(b)fluoranthene	750 U	400 U	
Benzo(k)fluoranthene	750 U	400 U	
Indeno(1,2,3-cd)pyrene	750 U	400 U	
Benzene	100 U	25 U	
Naphthalene	**9,700**	**13,000**	
Dibenzofuran	**250 J**	**430**	
Phenanthrene	**270 J**	**350 J**	
Carbazole	**660 J**	**780**	

MW-12RS			
Compound	11/16/2007	11/21/2008	10/26/2009
Benzo(a)pyrene	5 U	5 U	0.1 U
Benzo(a)anthracene	5 U	5 U	0.015 J
Chrysene	5 U	5 U	0.1 U
Benzo(b)fluoranthene	5 U	5 U	0.1 U
Benzo(k)fluoranthene	5 U	5 U	0.1 U
Indeno(1,2,3-cd)pyrene	5 U	5 U	0.1 U
Benzene	0.5 U	0.5 U	0.5 U
Naphthalene	5 U	5 U	0.12
Dibenzofuran	13	13	20
Phenanthrene	5 U	0.19 J	0.41 J
Carbazole	**8**	**5.3**	**14**

MW-2RS			
Compound	11/19/2007	11/20/2008	10/29/2009
Benzo(a)pyrene	5 U	500 U	0.11 J
Benzo(a)anthracene	5 U	500 U	0.5 UJ
Chrysene	5 U	500 U	1.6 J
Benzo(b)fluoranthene	5 U	500 U	1.6 J
Benzo(k)fluoranthene	5 U	500 U	0.5 UJ
Indeno(1,2,3-cd)pyrene	5 U	500 U	0.5 UJ
Benzene	**23**	50 U	**26**
Naphthalene	**5,500**	**5,700**	**6,000 J**
Dibenzofuran	**240**	**330 J**	**330**
Phenanthrene	**160**	**210 J**	**210**
Carbazole	**210**	**410 J**	**250**

MW-11S			
Compound	2/22/1999	11/11/1999	2005
Benzo(a)pyrene	480 U	10 U	Well Abandoned
Benzo(a)anthracene	480 U	10 U	
Chrysene	480 U	10 U	
Benzo(b)fluoranthene	480 U	10 U	
Benzo(k)fluoranthene	480 U	10 U	
Indeno(1,2,3-cd)pyrene	480 U	10 U	
Benzene	**47 J**	100 U	
Naphthalene	**9,500**	**11,000**	
Dibenzofuran	**170 J**	**150 J**	
Phenanthrene	53 J	45	
Carbazole	**390 J**	**240 J**	

MW-104S					MW-104RS		
Compound	2/23/1999	11/8/1999	2005	2006	11/16/2007	11/21/2008	10/29/2009
Benzo(a)pyrene	10 U	10 U	Well Abandoned	Well Abandoned	5 UJ	5 UJ	0.025 J
Benzo(a)anthracene	10 U	10 U			5 U	5 U	0.1 U
Chrysene	10 U	10 U			5 UJ	5 U	0.1 U
Benzo(b)fluoranthene	10 U	10 U			5 UJ	5 UJ	0.1 U
Benzo(k)fluoranthene	10 U	10 U			5 UJ	5 UJ	0.015 J
Indeno(1,2,3-cd)pyrene	10 U	10 U			5 UJ	5 UJ	0.1 U
Benzene	1 U	1 U			0.5 U	0.5 U	0.5 U
Naphthalene	10 U	10 U			5 U	5 UJ	0.1 U
Dibenzofuran	10 U	10 U			5 U	0.29 J	5 U
Phenanthrene	10 U	10 U			5 U	0.2 J	0.1 U
Carbazole	10 U	10 U			5 U	5 U	5 U

MW-123S			
Compound	11/9/2007	11/17/2008	10/23/2009
Benzo(a)pyrene	4.7 U	5 U	0.1 U
Benzo(a)anthracene	4.7 U	5 U	0.017 J
Chrysene	4.7 U	5 U	0.1 U
Benzo(b)fluoranthene	4.7 U	5 U	0.1 U
Benzo(k)fluoranthene	4.7 U	5 U	0.1 U
Indeno(1,2,3-cd)pyrene	4.7 U	5 U	0.1 U
Benzene	0.5 U	0.5 U	0.5 U
Naphthalene	4.7 U	5 U	0.1 U
Dibenzofuran	4.7 U	5 U	5 U
Phenanthrene	4.7 U	5 U	0.11
Carbazole	4.7 U	5 U	5 U

MW-124S			
Compound	11/8/2007	11/18/2008	10/27/2009
Benzo(a)pyrene	4.9 U	5 U	0.1 U
Benzo(a)anthracene	4.9 U	5 U	0.1 U
Chrysene	4.9 U	5 U	0.1 U
Benzo(b)fluoranthene	4.9 U	5 U	0.023 J
Benzo(k)fluoranthene	4.9 U	5 U	0.1 U
Indeno(1,2,3-cd)pyrene	4.9 U	5 U	0.1 U
Benzene	0.5 U	0.5 U	0.5 U
Naphthalene	4.9 U	5 U	0.1 U
Dibenzofuran	4.9 U	5 U	5 U
Phenanthrene	4.9 U	5 U	0.1 U
Carbazole	4.9 U	5 U	5 U

MW-1S				MW-1RS		
Compound	2/23/1999	11/4/1999	2005	2006	11/16/2007	11/20/2008	10/29/2009
Benzo(a)pyrene	10 U	10 U	Well Abandoned	Well Abandoned	5 U	5 U	0.1 U
Benzo(a)anthracene	10 U	10 U			5 U	5 U	0.1 U
Chrysene	10 U	10 U			5 U	5 U	0.1 U
Benzo(b)fluoranthene	10 U	10 U			5 U	5 U	0.1 U
Benzo(k)fluoranthene	10 U	10 U			5 U	5 U	0.1 U
Indeno(1,2,3-cd)pyrene	10 U	10 U			5 U	5 U	0.1 U
Benzene	1 U	1 U			0.5 U	0.5 U	0.5 U
Naphthalene	10 U	10 U			5 U	5 U	0.35
Dibenzofuran	10 U	10 U			5 U	5 U	5 U
Phenanthrene	10 U	10 U			5 U	5 U	0.1 U
Carbazole	10 U	10 U			5 U	5 U	5 U

MW-103S							
Compound	2/25/1999	11/10/1999	2005	2006	11/15/2007	11/21/2008	10/26/2009
Benzo(a)pyrene	11 U	10 U	Not Sampled	Not Sampled	5 UJ	5 U	0.1 U
Benzo(a)anthracene	11 U	10 U			5 UJ	5 U	0.016 J
Chrysene	11 U	10 U			5 UJ	5 U	0.1 U
Benzo(b)fluoranthene	11 U	10 U			5 UJ	5 U	0.1 U
Benzo(k)fluoranthene	11 U	10 U			5 UJ	5 U	0.1 U
Indeno(1,2,3-cd)pyrene	11 U	10 U			5 UJ	5 U	0.1 U
Benzene	1 U	1 U			0.5 U	0.5 U	0.5 U
Naphthalene	1 J	10 U			5 U	5 U	0.1 U
Dibenzofuran	11 U	10 U			5 U	5 U	5 U
Phenanthrene	11 U	10 U			5 UJ	5 U	0.029 J
Carbazole	11 U	10 U			5 U	5 U	5 U

MW-120S			
Compound	11/2/1999	12/15/1999	2005
Benzo(a)pyrene	10 U	10 U	Well Abandoned
Benzo(a)anthracene	10 U	10 U	
Chrysene	10 U	10 U	
Benzo(b)fluoranthene	10 U	10 U	
Benzo(k)fluoranthene	10 U	10 U	
Indeno(1,2,3-cd)pyrene	10 U	10 U	
Benzene	1 U	1 U	
Naphthalene	170	180	
Dibenzofuran	20	28	
Phenanthrene	17	27	
Carbazole	3 J	**8 J**	

MW-6S							
Compound	2/25/1999	11/17/1999	11/11/2005	10/26/2006	11/20/2007	11/24/2008	11/2/2009
Benzo(a)pyrene	150 U	3 J	1 J	1.3 J	1.8 J	1000 U	**14 J**
Benzo(a)anthracene	150 U	**5 J**	3 J	3.1 J	3.6 J	1000 U	**31 J**
Chrysene	150 U	4 J	2 J	2.3 J	3.2 J	1000 U	**25 J**
Benzo(b)fluoranthene	150 U	2 J	1 J	5 U	2.2 J	1000 U	**19 J**
Benzo(k)fluoranthene	150 U	2 J	10 U	5 U	5 U	1000 U	**7.5 J**
Indeno(1,2,3-cd)pyrene	150 U	10 UJ	10 U	5 U	5 U	1000 U	**7.9 J**
Benzene	**46 J**	**68**	**3.4**	**31**	**25**	50 U	**11**
Naphthalene	**11,000**	**10,000 J**	**3,000 J**	**14,000**	**8,000**	**13,000**	**9,300 J**
Dibenzofuran	**220**	**270 DJ**	**310 J**	**330 J**	**240**	**270 J**	**320**
Phenanthrene	**210**	**260 DJ**	**240 J**	**210 J**	**180**	**290 J**	**400**
Carbazole	**440**	**410 DJ**	**450 J**	**380 J**	**290**	**460 J**	**540**

MW-102S			
Compound	2/24/1999	11/5/1999	2005
Benzo(a)pyrene	20 U	10 U	Well Abandoned
Benzo(a)anthracene	20 U	10 U	
Chrysene	20 U	10 U	
Benzo(b)fluoranthene	20 U	10 U	
Benzo(k)fluoranthene	20 U	10 U	
Indeno(1,2,3-cd)pyrene	20 U	10 U	
Benzene	1 U	0.7 J	
Naphthalene	20 U	8 J	
Dibenzofuran	62	**120**	
Phenanthrene	15 J	4 J	
Carbazole	**34**	**23**	

MW-111S							
Compound	7/26/1999	11/12/1999	2005	10/17/2006	11/15/2007	11/25/2008	10/22/2009
Benzo(a)pyrene	10 U	10 U	Not Sampled	5 U	5 U	5 U	0.11 J
Benzo(a)anthracene	0.5 J	10 U		5 U	5 U	0.45 J	0.54 J
Chrysene	0.4 J	10 U		5 U	5 U	0.34 J	0.34 J
Benzo(b)fluoranthene	10 U	10 U		5 U	5 U	5 U	0.17 J
Benzo(k)fluoranthene	10 U	10 U		5 U	5 U	5 U	0.5 UJ
Indeno(1,2,3-cd)pyrene	10 U	10 U		5 U	5 U	5 UJ	0.5 U
Benzene	1 U	1 U		0.5 U	0.5 U	0.5 U	0.5 U
Naphthalene	10 U	10 U		92	61	11	26 J
Dibenzofuran	26	41		**130**	**190**	**240**	**180**
Phenanthrene	10 U	45		52	66	76	**100**
Carbazole	**24**	**30**		**88**	**110**	**240**	**170**

MW-114S							
Compound	7/22/1999	11/9/1999	11/8/2005	10/19/2006	11/12/2007	11/18/2008	10/20/2009
Benzo(a)pyrene	10 U	10 U	10 U	5 U	5 U	5 U	0.1 U
Benzo(a)anthracene	10 U	10 U	10 U	5 U	5 U	5 U	0.1 U
Chrysene	10 U	10 U	10 U	5 U	5 U	5 U	0.1 U
Benzo(b)fluoranthene	10 U	10 U	10 U	5 U	5 U	5 U	0.1 U
Benzo(k)fluoranthene	10 U	10 U	10 U	5 U	5 U	5 U	0.1 U
Indeno(1,2,3-cd)pyrene	10 U	10 U	10 U	5 U	5 U	5 U	0.1 U
Benzene	1 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Naphthalene	10 U	10 U	10 U	5 U	5 U	5 U	0.1 U
Dibenzofuran	10 U	10 U	10 U	5 U	5 U	5 U	0.43 J
Phenanthrene	10 U	10 U	10 U	5 U	5 U	5 U	0.037 J
Carbazole	10 U	10 U	10 U	5 U	5 U	5 U	0.94 J

MW-125S			
Compound	11/13/2007	11/19/2008	10/21/2009
Benzo(a)pyrene	5 U	5 U	0.1 U
Benzo(a)anthracene	5 U	5 U	0.1 U
Chrysene	5 U	5 U	0.1 U
Benzo(b)fluoranthene	5 U	5 U	0.1 U
Benzo(k)fluoranthene	5 U	5 U	0.1 U
Indeno(1,2,3-cd)pyrene	5 U	5 U	0.1 U
Benzene	0.5 U	0.5 U	0.5 U
Naphthalene	5 U	5 U	0.1 U
Dibenzofuran	5 U	5 U	5 U
Phenanthrene	5 U	5 U	0.029 J
Carbazole	5 U	5 U	5 U

MW-126S			
Compound	11/13/2007	11/19/2008	10/21/2009
Benzo(a)pyrene	5 U	5 U	0.1 U
Benzo(a)anthracene	5 U	5 U	0.032 J
Chrysene	5 U	5 U	0.019 J
Benzo(b)fluoranthene	5 U	5 U	0.1 U
Benzo(k)fluoranthene	5 U	5 U	0.1 U
Indeno(1,2,3-cd)pyrene	5 U	5 U	0.1 U
Benzene	0.5 U	0.5 U	0.5 U
Naphthalene	5 U	5 U	0.1 U
Dibenzofuran	5 U	5 U	5 U
Phenanthrene	5 U	5 U	0.052 J
Carbazole	5 U	5 U	5 U

MW-110S							
Compound	2/25/1999	11/5/1999	2005	2006	11/14/2007	11/24/2008	10/28/2009
Benzo(a)pyrene	10 U	10 U	Not Sampled	Not Sampled	5 U	5 U	0.1 U
Benzo(a)anthracene	10 U	10 U			5 U	5 U	0.1 U
Chrysene	10 U	10 U			5 U	5 U	0.1 U
Benzo(b)fluoranthene	10 U	10 U			5 U	5 U	0.1 U
Benzo(k)fluoranthene	10 U	10 U			5 U	5 U	0.1 U
Indeno(1,2,3-cd)pyrene	10 U	10 U			5 U	5 U	0.1 U
Benzene	1 U	1 U			0.5 U	0.5 U	0.5 U
Naphthalene	10 U	10 U			5 U	1 J	0.1 U
Dibenzofuran	10 U	10 U			5 U	5 U	5 U
Phenanthrene	10 U	10 U			5 U	5 U	0.1 U
Carbazole	10 U	10 U			5 U	5 U	5 U

MW-127S			
Compound	11/13/2007	11/19/2008	10/22/2009
Benzo(a)pyrene	5 U	5 U	0.1 U
Benzo(a)anthracene	5 U	5 U	0.1 U
Chrysene	5 U	5 U	0.1 U
Benzo(b)fluoranthene	5 U	5 U	0.1 U
Benzo(k)fluoranthene	5 U	5 U	0.1 U
Indeno(1,2,3-cd)pyrene	5 U	5 U	0.1 U
Benzene	0.5 U	0.5 U	0.5 U
Naphthalene	5 U	5 U	0.1 U
Dibenzofuran	5 U	5 U	5 U
Phenanthrene	5 U	5 U	0.1 U
Carbazole	5 U	5 U	5 U

MW-7S								
Compound	2/24/1999	11/17/1999	11/10/2005	10/26/2006	11/20/2007	11/24/2008	10/29/2009
Benzo(a)pyrene	**11 J**	3 J	**5 J**	**5.5**	5 U	**120 J**	**90 J**
Benzo(a)anthracene	**21 J**	**6 J**	**10**	**12**	4.6 J	**280 J**	**190**
Chrysene	**14 J**	4 J	**8 J**	**7.9**	3.5 J	**170 J**	**110**
Benzo(b)fluoranthene	**9 J**	3 J	**7 J**	**7.1**	5 U	**150 J**	**140**
Benzo(k)fluoranthene	**13 J**	4 J	2 J	2.7 J	5 U	**64 J**	**36 J**
Indeno(1,2,3-cd)pyrene	48 U	1 J	3 J	2.1 J	5 U	**60 J**	**58 J**
Benzene	**25**	**32**	**12**	**9 J**	**13**	50 U	**5.1**
Naphthalene	**3,700**	**6,600**	**1,800**	**5,400**	**4,900**	**7,200**	**5,600 J**
Dibenzofuran	**150**	**220 DJ**	**260 J**	**290 J**	**230**	**600**	**440**
Phenanthrene	**250**	**220 DJ**	**370 J**	**230 J**	**200**	**1800**	**850**
Carbazole	**210**	**290 DJ**	**340 J**	**270 J**	**210**	**340 J**	**280**

Legend

- Historical Clean Monitoring Well (data not shown for clarity)
- Monitoring Well Installed 2007
- Monitoring Well Installed 1999
- Abandoned Monitoring Well
- Former Lagoon and Canals
- Site Boundary
- NAPL
- Naphthlene > 300 ug/L
- Benzene > 0.2 ug/L

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Figure 3-4
Contaminants of Concern Concentrations
Overburden

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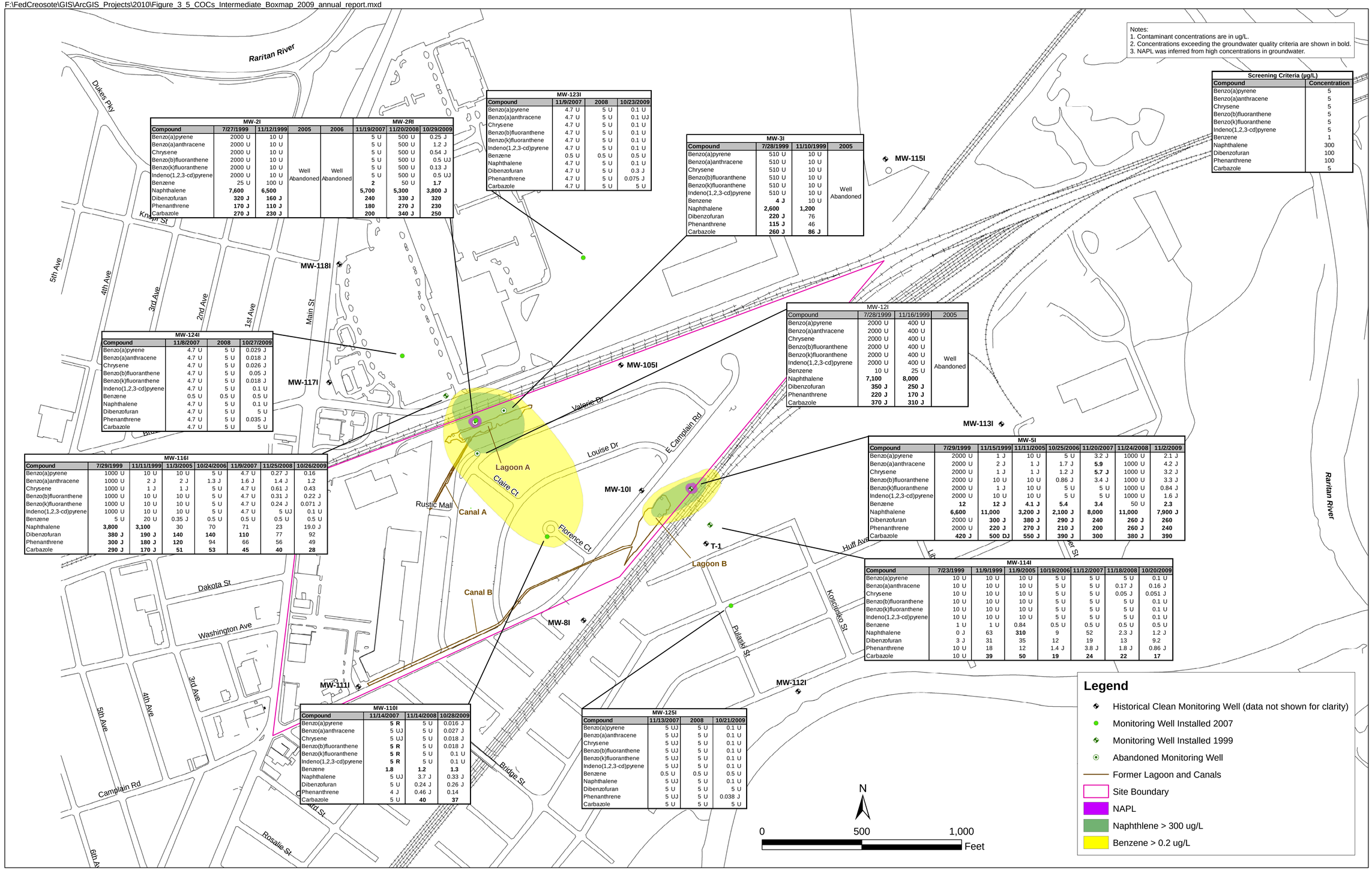

Notes:
1. Contaminant concentrations are in ug/L.
2. Concentrations exceeding the groundwater quality criteria are shown in bold.
3. NAPL was inferred from high concentrations in groundwater.

Screening Criteria (µg/L)	
Compound	Concentration
Benzo(a)pyrene	5
Benzo(a)anthracene	5
Chrysene	5
Benzo(b)fluoranthene	5
Benzo(k)fluoranthene	5
Indeno(1,2,3-cd)pyrene	5
Benzene	1
Naphthalene	300
Dibenzofuran	100
Phenanthrene	100
Carbazole	5

MW-2I					MW-2RI		
Compound	7/27/1999	11/12/1999	2005	2006	11/19/2007	11/20/2008	10/29/2009
Benzo(a)pyrene	2000 U	10 U	Well Abandoned	Well Abandoned	5 U	500 U	0.25 J
Benzo(a)anthracene	2000 U	10 U			5 U	500 U	1.2 J
Chrysene	2000 U	10 U			5 U	500 U	0.54 J
Benzo(b)fluoranthene	2000 U	10 U			5 U	500 U	0.5 UJ
Benzo(k)fluoranthene	2000 U	10 U			5 U	500 U	0.13 J
Indeno(1,2,3-cd)pyrene	2000 U	10 U			5 U	500 U	0.5 UJ
Benzene	25 U	100 U			**2**	50 U	**1.7**
Naphthalene	**7,600**	**6,500**			**5,700**	**5,300**	**3,800 J**
Dibenzofuran	**320 J**	**160 J**			**240**	**330 J**	**320**
Phenanthrene	**170 J**	**110 J**			**180**	**270 J**	**230**
Carbazole	**270 J**	**230 J**			**200**	**340 J**	**250**

MW-123I			
Compound	11/9/2007	2008	10/23/2009
Benzo(a)pyrene	4.7 U	5 U	0.1 U
Benzo(a)anthracene	4.7 U	5 U	0.1 UJ
Chrysene	4.7 U	5 U	0.1 U
Benzo(b)fluoranthene	4.7 U	5 U	0.1 U
Benzo(k)fluoranthene	4.7 U	5 U	0.1 U
Indeno(1,2,3-cd)pyrene	4.7 U	5 U	0.1 U
Benzene	0.5 U	0.5 U	0.5 U
Naphthalene	4.7 U	5 U	0.1 U
Dibenzofuran	4.7 U	5 U	0.3 J
Phenanthrene	4.7 U	5 U	0.075 J
Carbazole	4.7 U	5 U	5 U

MW-3I			
Compound	7/28/1999	11/10/1999	2005
Benzo(a)pyrene	510 U	10 U	Well Abandoned
Benzo(a)anthracene	510 U	10 U	
Chrysene	510 U	10 U	
Benzo(b)fluoranthene	510 U	10 U	
Benzo(k)fluoranthene	510 U	10 U	
Indeno(1,2,3-cd)pyrene	510 U	10 U	
Benzene	**4 J**	10 U	
Naphthalene	**2,600**	**1,200**	
Dibenzofuran	**220 J**	76	
Phenanthrene	**115 J**	46	
Carbazole	**260 J**	**86 J**	

MW-12I			
Compound	7/28/1999	11/16/1999	2005
Benzo(a)pyrene	2000 U	400 U	Well Abandoned
Benzo(a)anthracene	2000 U	400 U	
Chrysene	2000 U	400 U	
Benzo(b)fluoranthene	2000 U	400 U	
Benzo(k)fluoranthene	2000 U	400 U	
Indeno(1,2,3-cd)pyrene	2000 U	400 U	
Benzene	10 U	25 U	
Naphthalene	**7,100**	**8,000**	
Dibenzofuran	**350 J**	**250 J**	
Phenanthrene	**220 J**	**170 J**	
Carbazole	**370 J**	**310 J**	

MW-124I			
Compound	11/8/2007	2008	10/27/2009
Benzo(a)pyrene	4.7 U	5 U	0.029 J
Benzo(a)anthracene	4.7 U	5 U	0.018 J
Chrysene	4.7 U	5 U	0.026 J
Benzo(b)fluoranthene	4.7 U	5 U	0.05 J
Benzo(k)fluoranthene	4.7 U	5 U	0.018 J
Indeno(1,2,3-cd)pyrene	4.7 U	5 U	0.1 U
Benzene	0.5 U	0.5 U	0.5 U
Naphthalene	4.7 U	5 U	0.1 U
Dibenzofuran	4.7 U	5 U	5 U
Phenanthrene	4.7 U	5 U	0.035 J
Carbazole	4.7 U	5 U	5 U

MW-116I							
Compound	7/29/1999	11/11/1999	11/3/2005	10/24/2006	11/9/2007	11/25/2008	10/26/2009
Benzo(a)pyrene	1000 U	10 U	10 U	5 U	4.7 U	0.27 J	0.16
Benzo(a)anthracene	1000 U	2 J	2 J	1.3 J	1.6 J	1.4 J	1.2
Chrysene	1000 U	1 J	1 J	5 U	4.7 U	0.61 J	0.43
Benzo(b)fluoranthene	1000 U	10 U	10 U	5 U	4.7 U	0.31 J	0.22 J
Benzo(k)fluoranthene	1000 U	10 U	10 U	5 U	4.7 U	0.24 J	0.071 J
Indeno(1,2,3-cd)pyrene	1000 U	10 U	10 U	5 U	4.7 U	5 UJ	0.1 U
Benzene	5 U	20 U	0.35 J	0.5 U	0.5 U	0.5 U	0.5 U
Naphthalene	**3,800**	**3,100**	30	70	71	23	19.0 J
Dibenzofuran	**380 J**	**190 J**	**140**	**140**	**110**	77	92
Phenanthrene	**300 J**	**180 J**	**120**	94	66	56	49
Carbazole	**290 J**	**170 J**	**51**	**53**	**45**	**40**	**28**

MW-5I							
Compound	7/29/1999	11/15/1999	11/11/2005	10/25/2006	11/20/2007	11/24/2008	11/2/2009
Benzo(a)pyrene	2000 U	1 J	10 U	5 U	3.2 J	1000 U	2.1 J
Benzo(a)anthracene	2000 U	2 J	1 J	1.7 J	**5.9**	1000 U	4.2 J
Chrysene	2000 U	1 J	1 J	1.2 J	**5.7 J**	1000 U	3.2 J
Benzo(b)fluoranthene	2000 U	10 U	10 U	0.86 J	3.4 J	1000 U	3.3 J
Benzo(k)fluoranthene	2000 U	1 J	10 U	5 U	5 U	1000 U	0.84 J
Indeno(1,2,3-cd)pyrene	2000 U	10 U	10 U	5 U	5 U	1000 U	1.6 J
Benzene	**12**	**12 J**	**4.1 J**	**5.4**	**3.4**	50 U	**2.3**
Naphthalene	**6,600**	**11,000**	**3,200 J**	**2,100 J**	**8,000**	**11,000**	**7,900 J**
Dibenzofuran	2000 U	**300 J**	**380 J**	**290 J**	**240**	**260 J**	**260**
Phenanthrene	2000 U	**220 J**	**270 J**	**210 J**	**200**	**260 J**	**240**
Carbazole	**420 J**	**500 DJ**	**550 J**	**390 J**	**300**	**380 J**	**390**

MW-114I							
Compound	7/23/1999	11/9/1999	11/9/2005	10/19/2006	11/12/2007	11/18/2008	10/20/2009
Benzo(a)pyrene	10 U	10 U	10 U	5 U	5 U	5 U	0.1 U
Benzo(a)anthracene	10 U	10 U	10 U	5 U	5 U	0.17 J	0.16 J
Chrysene	10 U	10 U	10 U	5 U	5 U	0.05 J	0.051 J
Benzo(b)fluoranthene	10 U	10 U	10 U	5 U	5 U	5 U	0.1 U
Benzo(k)fluoranthene	10 U	10 U	10 U	5 U	5 U	5 U	0.1 U
Indeno(1,2,3-cd)pyrene	10 U	10 U	10 U	5 U	5 U	5 U	0.1 U
Benzene	1 U	1 U	0.84	0.5 U	0.5 U	0.5 U	0.5 U
Naphthalene	0 J	63	**310**	9	52	2.3 J	1.2 J
Dibenzofuran	3 J	31	35	12	19	13	9.2
Phenanthrene	10 U	18	12	1.4 J	3.8 J	1.8 J	0.86 J
Carbazole	10 U	**39**	**50**	**19**	**24**	**22**	**17**

MW-110I			
Compound	11/14/2007	11/14/2008	10/28/2009
Benzo(a)pyrene	**5 R**	5 U	0.016 J
Benzo(a)anthracene	5 UJ	5 U	0.027 J
Chrysene	5 UJ	5 U	0.018 J
Benzo(b)fluoranthene	**5 R**	5 U	0.018 J
Benzo(k)fluoranthene	**5 R**	5 U	0.1 U
Indeno(1,2,3-cd)pyrene	**5 R**	5 U	0.1 U
Benzene	**1.8**	**1.2**	**1.3**
Naphthalene	5 UJ	3.7 J	0.33 J
Dibenzofuran	5 U	0.24 J	0.26 J
Phenanthrene	4 J	0.46 J	0.14
Carbazole	5 U	**40**	**37**

MW-125I			
Compound	11/13/2007	2008	10/21/2009
Benzo(a)pyrene	5 UJ	5 U	0.1 U
Benzo(a)anthracene	5 UJ	5 U	0.1 U
Chrysene	5 UJ	5 U	0.1 U
Benzo(b)fluoranthene	5 UJ	5 U	0.1 U
Benzo(k)fluoranthene	5 UJ	5 U	0.1 U
Indeno(1,2,3-cd)pyrene	5 UJ	5 U	0.1 U
Benzene	0.5 U	0.5 U	0.5 U
Naphthalene	5 UJ	5 U	0.1 U
Dibenzofuran	5 U	5 U	5 U
Phenanthrene	5 UJ	5 U	0.038 J
Carbazole	5 U	5 U	5 U

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Figure 3-5
Contaminants of Concern Concentrations
Intermediate Bedrock

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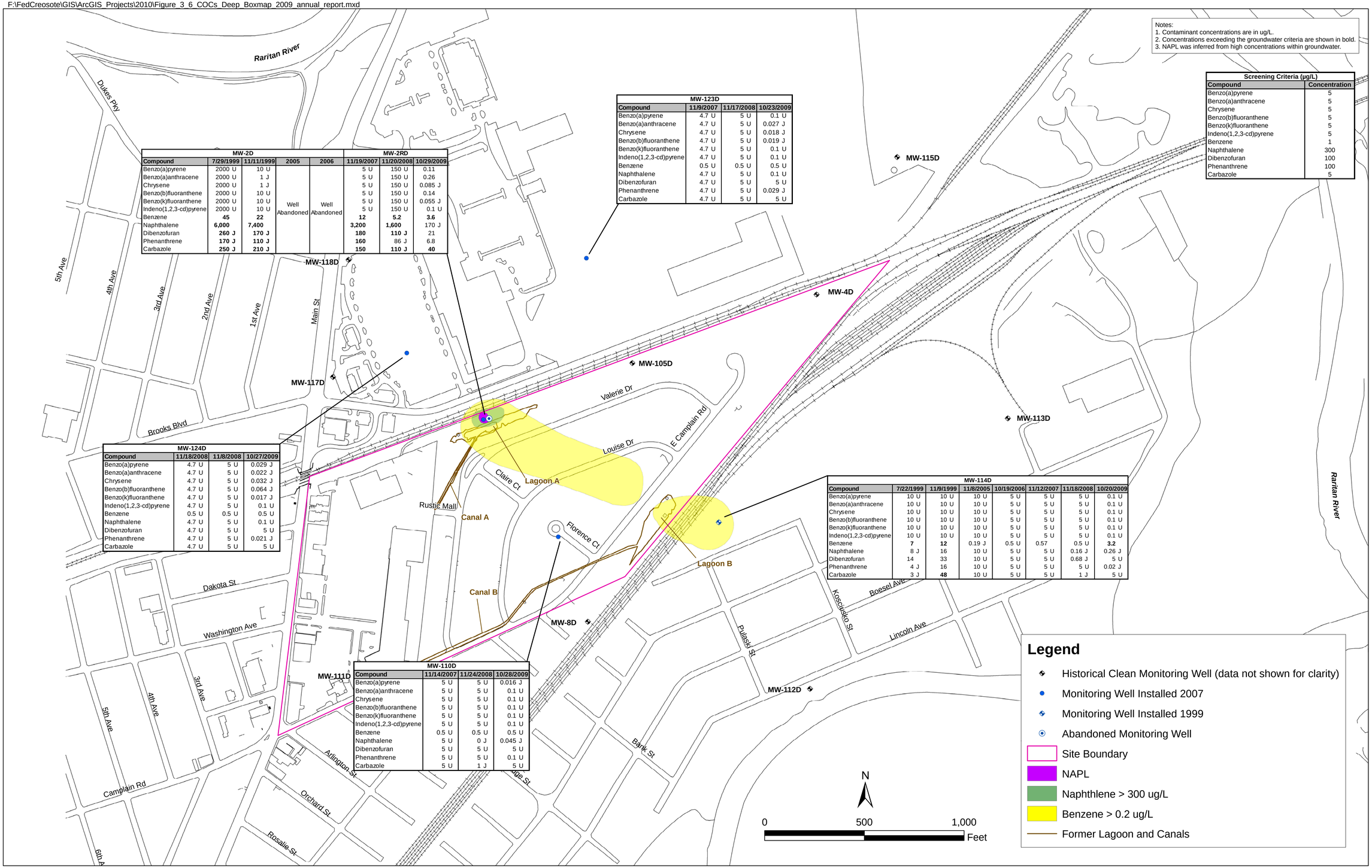

Screening Criteria (µg/L)

Compound	Concentration
Benzo(a)pyrene	5
Benzo(a)anthracene	5
Chrysene	5
Benzo(b)fluoranthene	5
Benzo(k)fluoranthene	5
Indeno(1,2,3-cd)pyrene	5
Benzene	1
Naphthalene	300
Dibenzofuran	100
Phenanthrene	100
Carbazole	5

MW-123D

Compound	11/9/2007	11/17/2008	10/23/2009
Benzo(a)pyrene	4.7 U	5 U	0.1 U
Benzo(a)anthracene	4.7 U	5 U	0.027 J
Chrysene	4.7 U	5 U	0.018 J
Benzo(b)fluoranthene	4.7 U	5 U	0.019 J
Benzo(k)fluoranthene	4.7 U	5 U	0.1 U
Indeno(1,2,3-cd)pyrene	4.7 U	5 U	0.1 U
Benzene	0.5 U	0.5 U	0.5 U
Naphthalene	4.7 U	5 U	0.1 U
Dibenzofuran	4.7 U	5 U	5 U
Phenanthrene	4.7 U	5 U	0.029 J
Carbazole	4.7 U	5 U	5 U

	MW-2D				MW-2RD		
Compound	7/29/1999	11/11/1999	2005	2006	11/19/2007	11/20/2008	10/29/2009
Benzo(a)pyrene	2000 U	10 U	Well Abandoned	Well Abandoned	5 U	150 U	0.11
Benzo(a)anthracene	2000 U	1 J			5 U	150 U	0.26
Chrysene	2000 U	1 J			5 U	150 U	0.085 J
Benzo(b)fluoranthene	2000 U	10 U			5 U	150 U	0.14
Benzo(k)fluoranthene	2000 U	10 U			5 U	150 U	0.055 J
Indeno(1,2,3-cd)pyrene	2000 U	10 U			5 U	150 U	0.1 U
Benzene	**45**	**22**			**12**	**5.2**	**3.6**
Naphthalene	**6,000**	**7,400**			**3,200**	**1,600**	170 J
Dibenzofuran	**260 J**	**170 J**			**180**	**110 J**	21
Phenanthrene	**170 J**	**110 J**			**160**	86 J	6.8
Carbazole	**250 J**	**210 J**			**150**	**110 J**	**40**

MW-124D

Compound	11/18/2008	11/8/2008	10/27/2009
Benzo(a)pyrene	4.7 U	5 U	0.029 J
Benzo(a)anthracene	4.7 U	5 U	0.022 J
Chrysene	4.7 U	5 U	0.032 J
Benzo(b)fluoranthene	4.7 U	5 U	0.064 J
Benzo(k)fluoranthene	4.7 U	5 U	0.017 J
Indeno(1,2,3-cd)pyrene	4.7 U	5 U	0.1 U
Benzene	0.5 U	0.5 U	0.5 U
Naphthalene	4.7 U	5 U	0.1 U
Dibenzofuran	4.7 U	5 U	5 U
Phenanthrene	4.7 U	5 U	0.021 J
Carbazole	4.7 U	5 U	5 U

MW-110D

Compound	11/14/2007	11/24/2008	10/28/2009
Benzo(a)pyrene	5 U	5 U	0.016 J
Benzo(a)anthracene	5 U	5 U	0.1 U
Chrysene	5 U	5 U	0.1 U
Benzo(b)fluoranthene	5 U	5 U	0.1 U
Benzo(k)fluoranthene	5 U	5 U	0.1 U
Indeno(1,2,3-cd)pyrene	5 U	5 U	0.1 U
Benzene	0.5 U	0.5 U	0.5 U
Naphthalene	5 U	0 J	0.045 J
Dibenzofuran	5 U	5 U	5 U
Phenanthrene	5 U	5 U	0.1 U
Carbazole	5 U	1 J	5 U

MW-114D

Compound	7/22/1999	11/9/1999	11/8/2005	10/19/2006	11/12/2007	11/18/2008	10/20/2009
Benzo(a)pyrene	10 U	10 U	10 U	5 U	5 U	5 U	0.1 U
Benzo(a)anthracene	10 U	10 U	10 U	5 U	5 U	5 U	0.1 U
Chrysene	10 U	10 U	10 U	5 U	5 U	5 U	0.1 U
Benzo(b)fluoranthene	10 U	10 U	10 U	5 U	5 U	5 U	0.1 U
Benzo(k)fluoranthene	10 U	10 U	10 U	5 U	5 U	5 U	0.1 U
Indeno(1,2,3-cd)pyrene	10 U	10 U	10 U	5 U	5 U	5 U	0.1 U
Benzene	**7**	**12**	0.19 J	0.5 U	0.57	0.5 U	**3.2**
Naphthalene	8 J	16	10 U	5 U	5 U	0.16 J	0.26 J
Dibenzofuran	14	33	10 U	5 U	5 U	0.68 J	5 U
Phenanthrene	4 J	16	10 U	5 U	5 U	5 U	0.02 J
Carbazole	3 J	**48**	10 U	5 U	5 U	1 J	5 U

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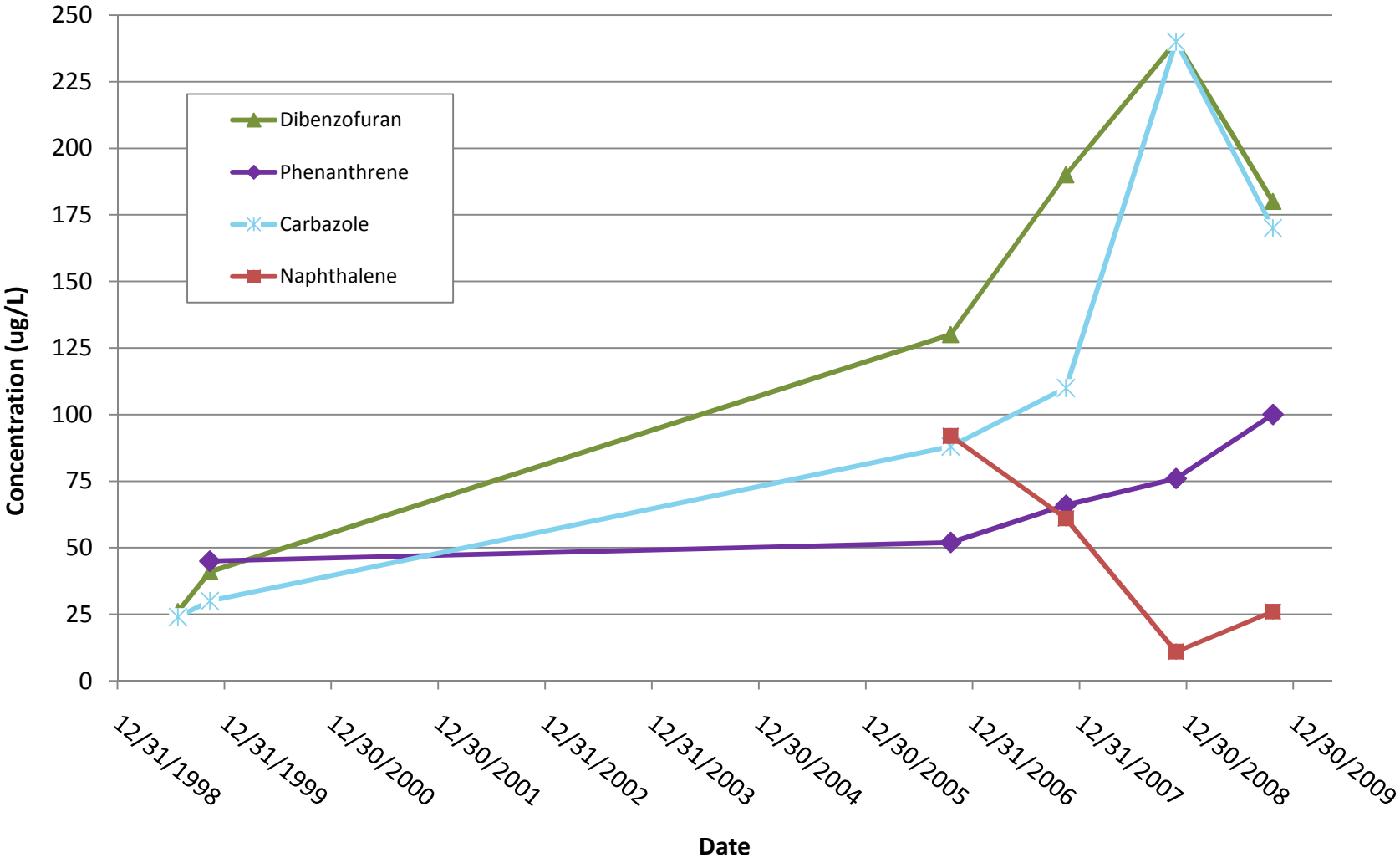
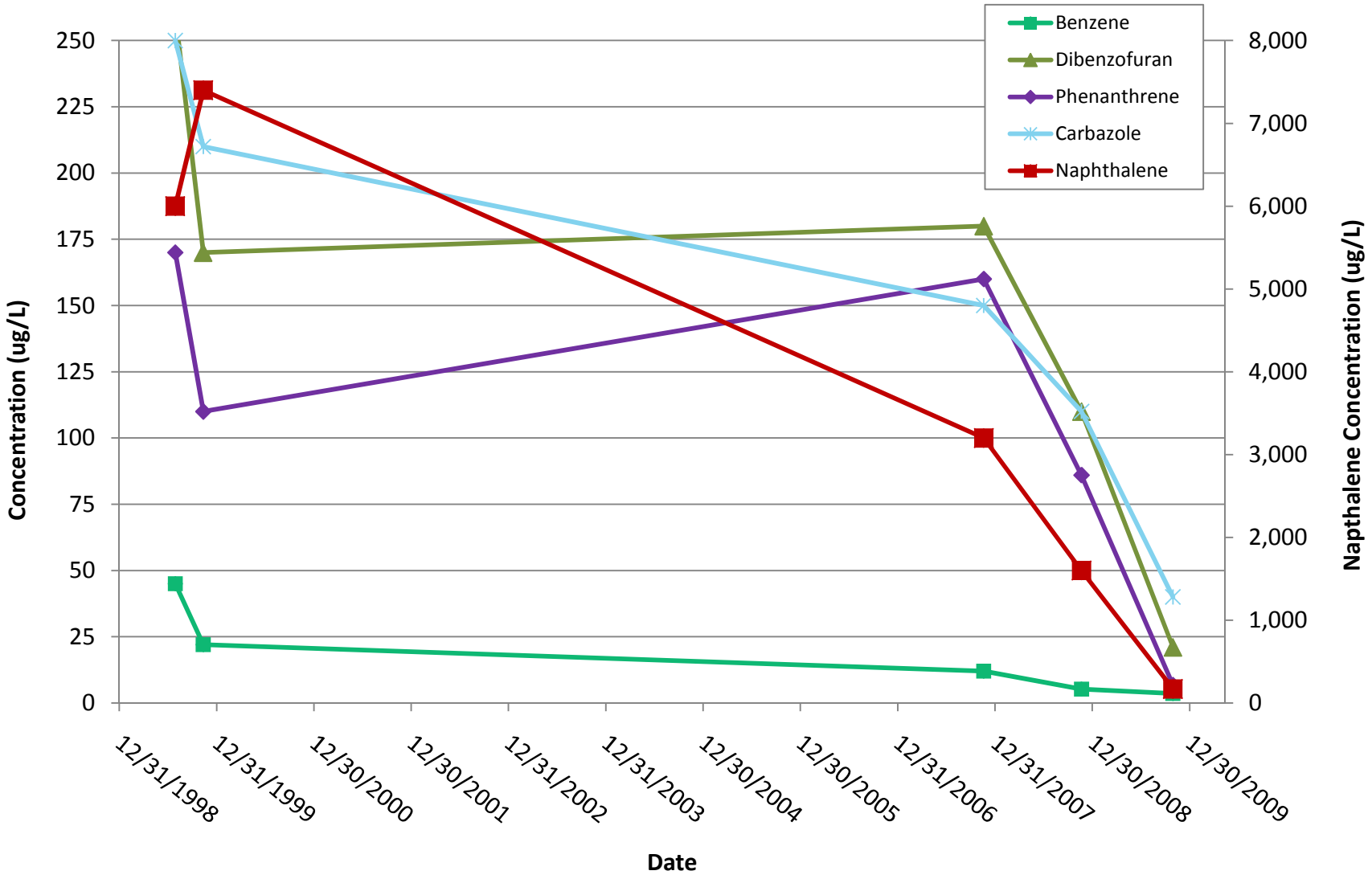
Figure 3-6
Contaminants of Concern Concentrations
Deep Bedrock



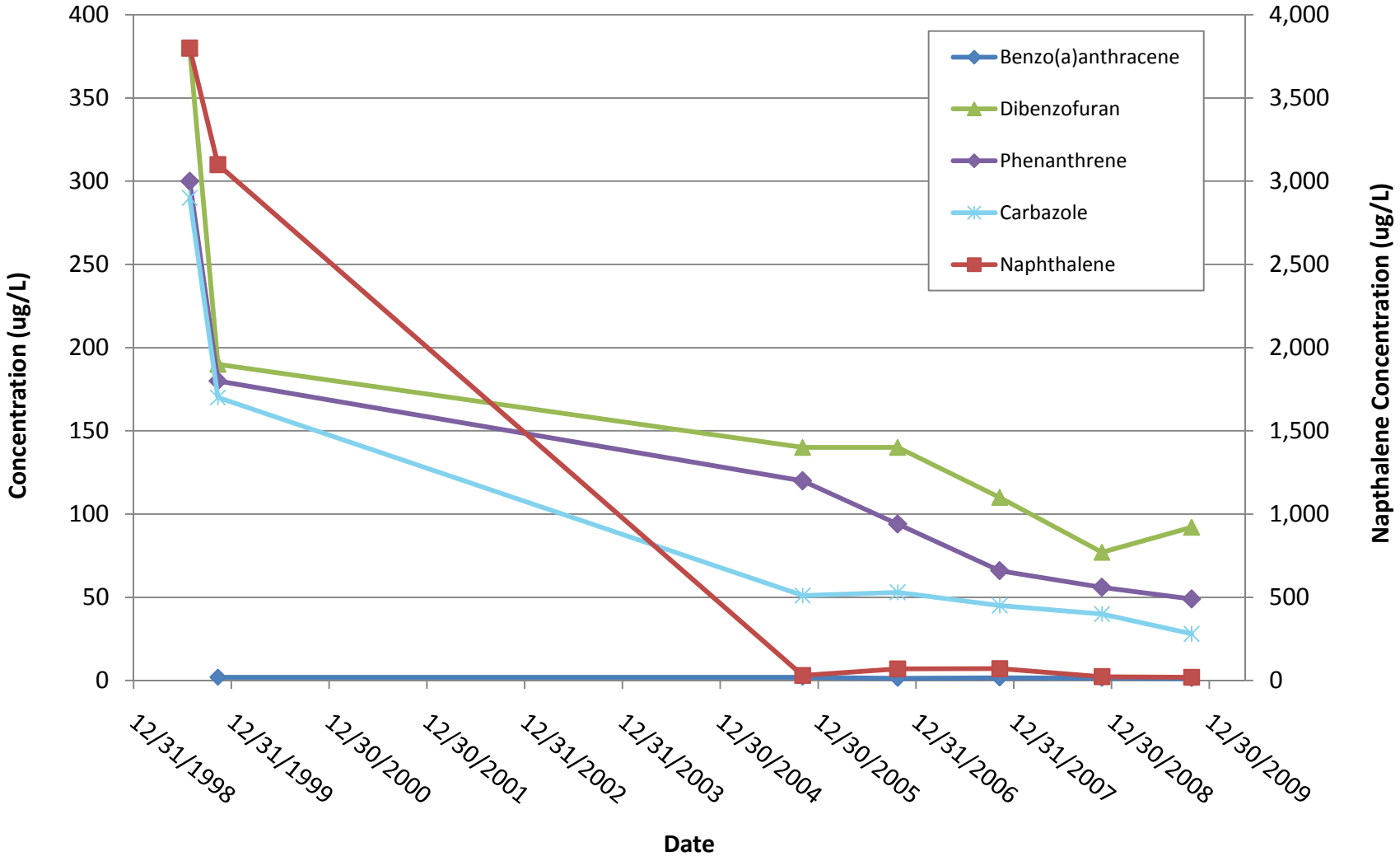
Note: Compounds included in trend analysis correspond to compounds shown on Figure 3-4.
The following compounds showed either non-detect or trace concentrations, and therefore are not included in the analysis: benzo(a)pyrene, benzo(a)antrhracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, ideno(1,2,3-cd)pyrene, and benzene.

Figure 3-7a
Trend Analysis - MW-111S



Note: Compounds included in trend analysis correspond to compounds shown on Figure 3-6.
The following compounds showed either non-detect or trace concentrations, and therefore are not included in the analysis: benzo(a)pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, and ideno(1,2,3-cd)pyrene.

Figure 3-7b
Trend Analysis - MW-2D/2RD



Note: Compounds included in trend analysis correspond to compounds shown on Figure 3-5.
The following compounds showed either non-detect or trace concentrations, and therefore are not included in the analysis: benzo(a)pyrene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, ideno(1,2,3-cd)pyrene, and benzene.

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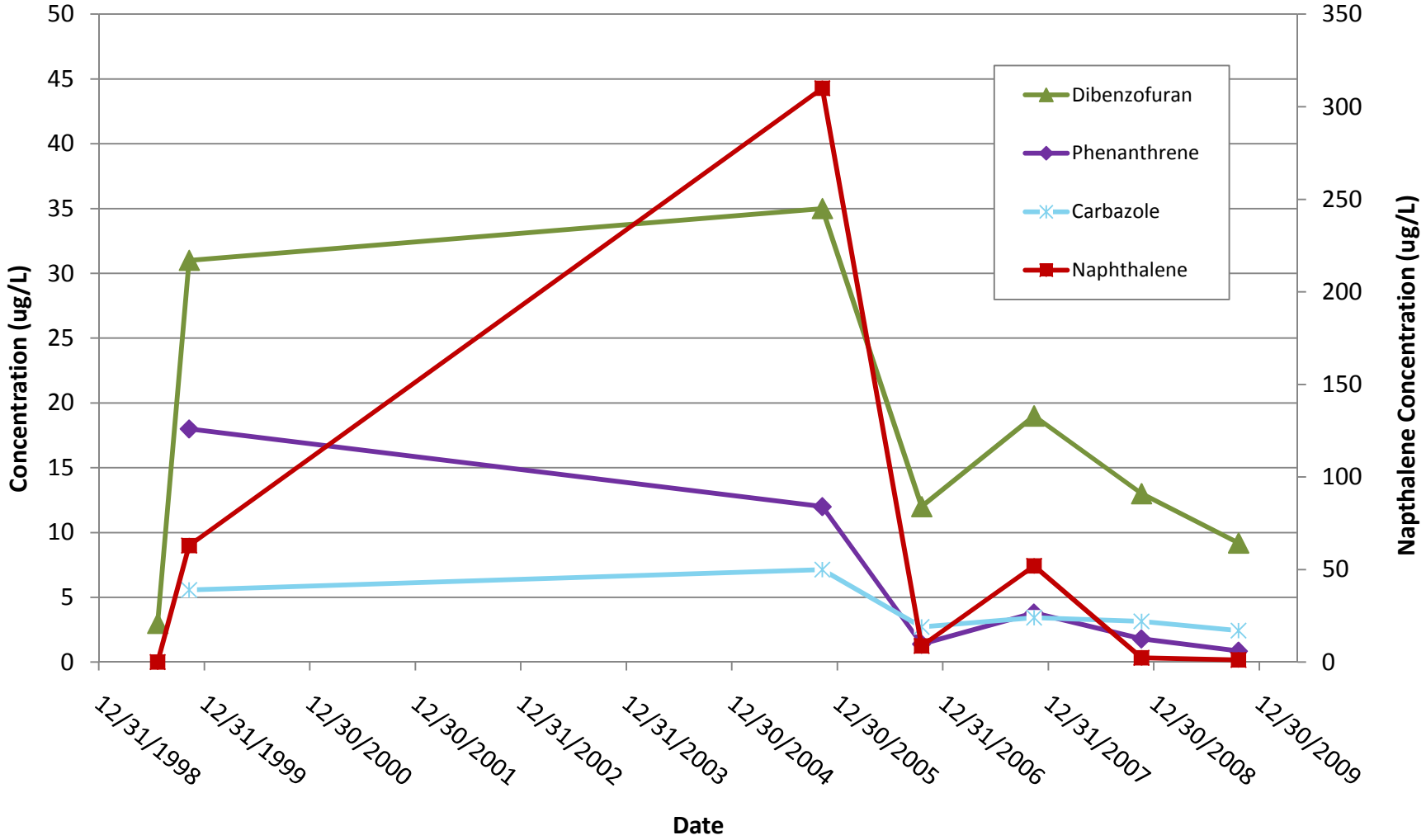
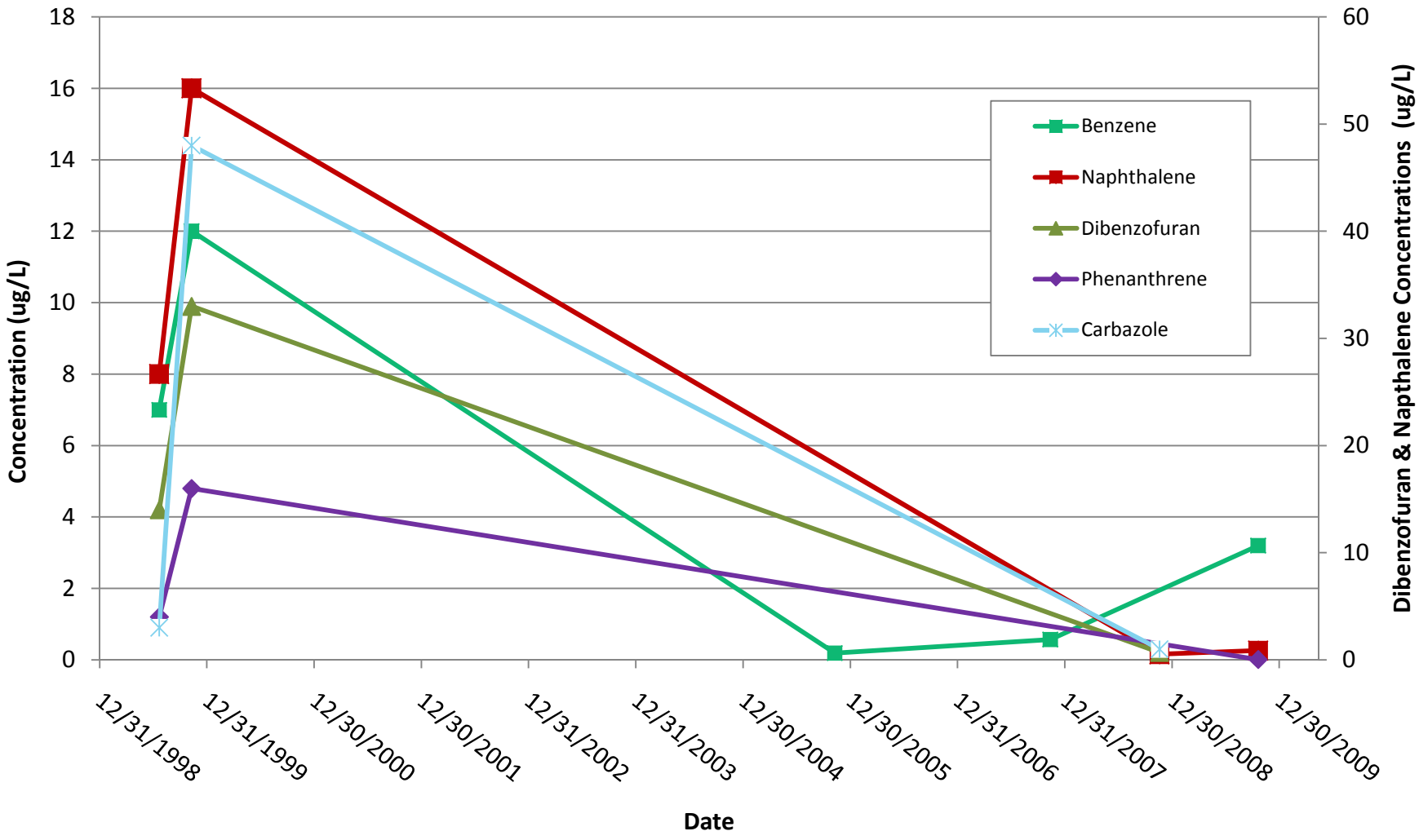
Figure 3-7c
Trend Analysis - MW-116I



Note: Compounds included in trend analysis correspond to compounds shown on Figure 3-5.
The following compounds showed either non-detect or trace concentrations, and therefore are not included in the analysis: benzo(a)pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, ideno(1,2,3-cd)pyrene, and benzene.



Note: Compounds included in trend analysis correspond to compounds shown on Figure 3-6.
The following compounds showed either non-detect or trace concentrations, and therefore are not included in the analysis: benzo(a)pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, and ideno(1,2,3-cd)pyrene.

Figure 3-7e
Trend Analysis - MW-114D

Appendix A

Field Change Request

FEDERAL CREOSOTE SUPERFUND SITE GROUNDWATER SAMPLING
FIELD CHANGE REQUEST (FCR) FORM

REQUEST NO: 3 **DATE:** 6/19/2009

FCR TITLE: Elimination of MS/MSD samples for future analysis.

DESCRIPTION: MS/MSD sample will not be collected and analyzed in future sampling events.

REASON FOR DEVIATION: The purpose of analyzing MS/MSD is to develop an understanding of the media under investigation and to ensure proper sample preparation and analytical procedures are used to obtain accurate contaminant concentrations. MS/MSD samples have been analyzed during 4 previous years of annual groundwater sampling events at Federal Creosote Superfund Site. No interference has been observed, which proves that site groundwater does not interfere with the analytical methods used. Therefore analyzing MS/MSD is not necessary in future sampling events. EPA and USACE are in agreement with this change.

IMPACT ON PROJECT OBJECTIVES: None.

RECOMMENDED MODIFICATION: N/A

Signatures:

Grace Chen (Project Engineer) — 6/19/09 Date

Mike Popper (PM) — 6/22/09 Date

Distribution: Richard Puvogel, EPA Remedial Project Manager
Todd Daniels, USACE Project Manager
Michael Popper, CDM Site Manager
Jeniffer Oxford, Regional QA Coordinator
Field Team
Project File

FEDERAL CREOSOTE SUPERFUND SITE GROUNDWATER SAMPLING FIELD CHANGE REQUEST (FCR) FORM

REQUEST NO: 4 **DATE:** 6/19/2009

FCR TITLE: Changes in monitoring network.

DESCRIPTION: A total of 28 monitoring wells were sampled in November 2007, including MW-1RS, MW-2R (S, I, & D), MW-5I, MW-6S, MW-7S, MW-12RS, MW-103S, MW-104RS, MW-110 (S, I, & D), MW-111S, MW-114 (S, I, &D), MW-116I, MW-123 (S, I, &D), MW-124 (S, I, &D), MW-125 (S & I), MW-126S, and MW-127S. For future sampling events, one additional monitoring well, MW-111I, will also be sampled.

REASON FOR DEVIATION: In 2007 SAP Addendum, 48 monitoring wells were selected for the long-term monitoring program, including 18 monitoring wells installed in 2007. Based on the sample results collected from 2005 to 2007, the monitoring network was modified by EPA and USACE. A total of 28 monitoring wells were selected and sampled in 2008.

Results presented in Year 4 groundwater monitoring report have shown an increase trend for contamination in MW-111S. Concerning the potential of contamination at this area migrating into the bedrock aquifer, MW-111I is added into the monitoring network for future sampling events.

IMPACT ON PROJECT OBJECTIVES: None.

RECOMMENDED MODIFICATION: N/ A

Signatures:

Grace Chen (Project Engineer) — 6/19/09 Date

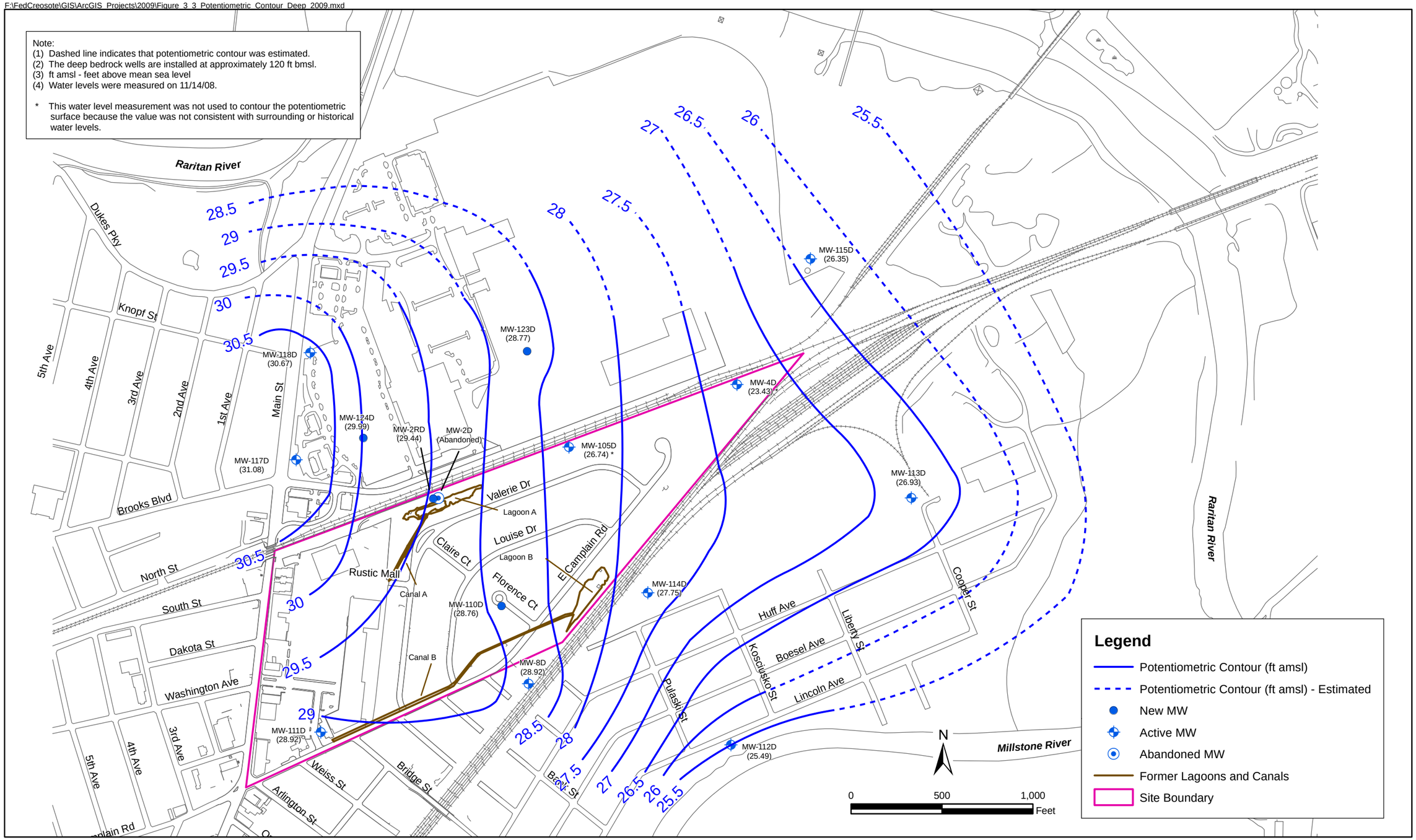
Mike Popper (SM) — 6/22/09 Date

Distribution: Richard Puvogel, EPA Remedial Project Manager
Todd Daniels, USACE Project Manager
Michael Popper, CDM Site Manager
Jeniffer Oxford, Regional QA Coordinator
Field Team
Project File

Appendix B

2008 Potentiometric Contour Maps

F:\FedCreosote\GIS\ArcGIS_Projects\2009\Figure_3_3_Potentiometric_Contour_Deep_2009.mxd

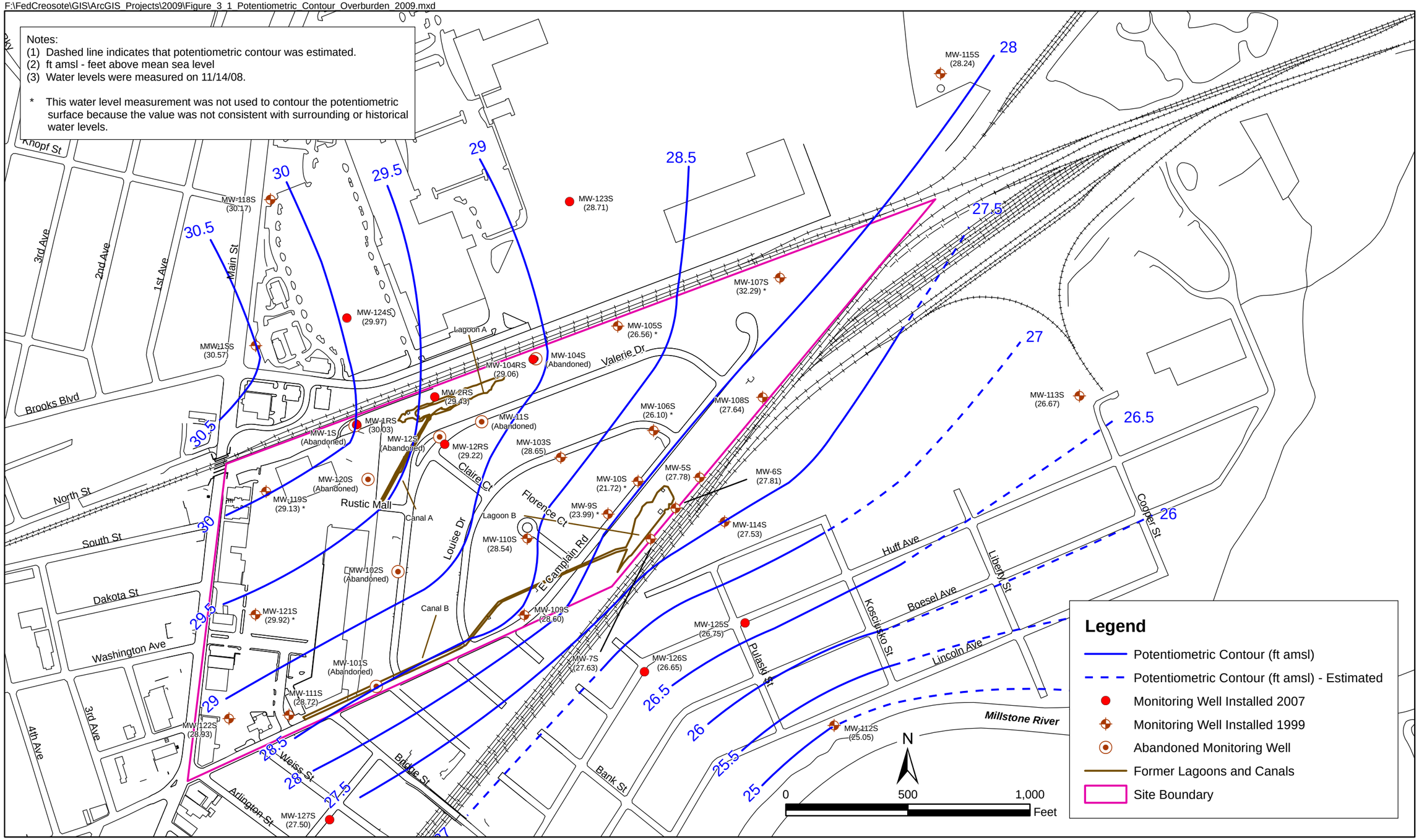


CDM

Federal Creosote Superfund Site
Manville, New Jersey

Figure 3-3
Potentiometric Contour Map
Deep Bedrock - November 2008

F:\FedCreosote\GIS\ArcGIS_Projects\2009\Figure_3_1_Potentiometric_Contour_Overburden_2009.mxd

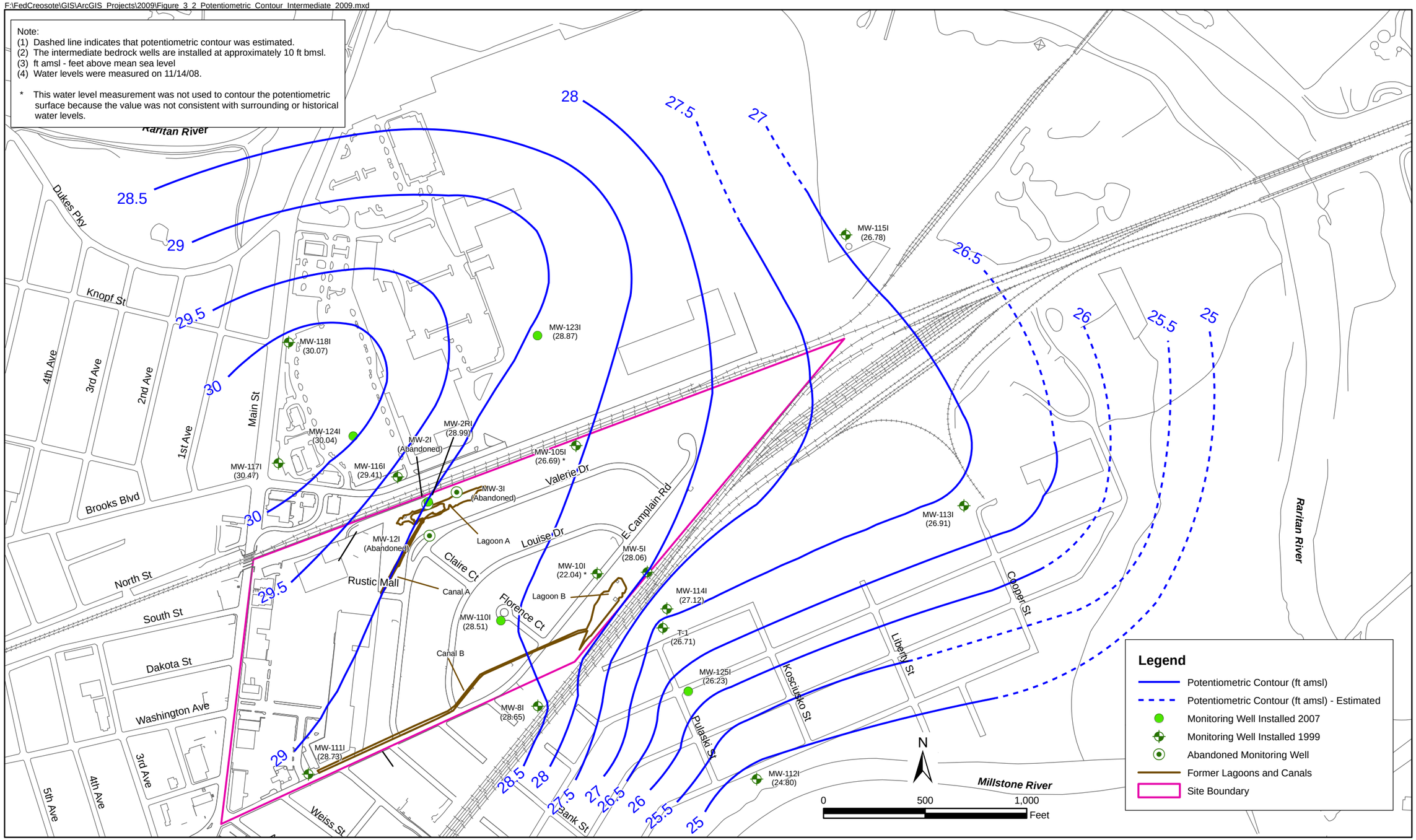


CDM

Federal Creosote Superfund Site
Manville, New Jersey

Figure 3-1
Potentiometric Contour Map
Overburden - November 2008

F:\FedCreosote\GIS\ArcGIS_Projects\2009\Figure_3_2_Potentiometric_Contour_Intermediate_2009.mxd



CDM

Federal Creosote Superfund Site
Manville, New Jersey

Figure 3-2
Potentiometric Contour Map
Intermediate Bedrock - November 2008

Appendix C

Low-Flow Groundwater Sampling Sheets

p. 1 of 1

DIAZ CHEMICAL CORPORATION SITE
LOW FLOW GROUNDWATER SAMPLING PURGE RECORD

Dow 33.5

DATE: 10-29-09

WELL #: MW-1RS

SAMPLERS: TH / EK

DEPTH OF PUMP INTAKE: 26' ft TIC or ft BGS (circle one)

WEATHER CONDITIONS: CLEAR

SCREENED/OPEN BOREHOLE INTERVAL: 19 - 34' ft TIC or ft BGS (circle one)

SAMPLE ID: MW-1RS-45

SAMPLE TIME: 1355

SAMPLE FLOW RATE: 200 ml/minute

CLP ID: B7MS3

Instrument Type/Model: Complete and/or Circle at right

YSI Model # 6920 / Horiba U-22 (circle one)
Other (specify)

Instrument: LaMotte 2020e

CURRENT TIME	VOLUME PURGED	DEPTH TO WATER	FLOW RATE	DRAWDOWN (± 0.3 FT)	pH (± 0.1 SU)	SPECIFIC CONDUCTIVITY (± 3%)	DISSOLVED OXYGEN (± 10%)	TEMP. (± 10%)	REDOX POTENTIAL (± 10 mV)	TURBIDITY (± 10%)
24-Hour	gallons / liters (circle one)	ft TIC / ft BGS (circle one)	Units: ml/min	ft TIC / ft BGS (circle one)	SU	S/cm, mS/cm or µS/cm (circle one)	mg/L (not %)	Units: °C	mV	NTUs
1315	—	21.10	200	—						
1320	1	21.22	200	+0.12	6.30	0.541	7.83	17.52	115.5	86.2
1325	2	21.24	200	+0.02	6.29	0.544	7.36	17.44	124.9	67.1
1330	3	21.24	200	—	6.29	0.547	7.40	17.51	125.2	49.7
1335	4	21.24	200	—	6.28	0.549	7.47	17.59	125.6	32.6
1340	5	21.24	200	—	6.26	0.552	7.06	17.58	135.6	24.6
1345	6	21.24	200	—	6.26	0.553	7.03	17.56	131.6	19.2
1350	7	21.24	200	—	6.24	0.557	7.00	17.58	134.1	18.0
1355	collect sample (MS/MSD)									

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values: DO = 0.3 - 10 mg/L Redox Potential = -100 - +600 mV Turbidity = 0 - >500 NTUs
Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm

TIC = Top of Inner Casing BGS = Below Ground Surface

DTB → 31.95'

p. 1 of 1

DIAZ CHEMICAL CORPORATION SITE
LOW FLOW GROUNDWATER SAMPLING PURGE RECORD

DATE: 10/29/09

WELL #: MW-2RS

SAMPLERS: SO/EK

DEPTH OF PUMP INTAKE: 24' ft TIC or ft BGS (circle one)

WEATHER CONDITIONS: Sunny ~ 58°F

SCREENED/OPEN BOREHOLE INTERVAL: 17'-32' ft TIC or ft BGS (circle one)

SAMPLE ID: MW-2RS-YS + SAMPLE TIME: 1300

SAMPLE FLOW RATE: 250 ml/minute

CLP ID: BTM56 (2RS) MW-6025-YS
BTMQ0 (6025)

Instrument Type/Model: Complete and/or Circle at right

YSI Model # 6820 / Horiba U-22 (circle one)
Other (specify)

Instrument: LaMotte 2020e

CURRENT TIME	VOLUME PURGED	DEPTH TO WATER	FLOW RATE	DRAWDOWN (± 0.3 FT)	pH (± 0.1 SU)	SPECIFIC CONDUCTIVITY (± 3%)	DISSOLVED OXYGEN (± 10%)	TEMP. (± 10%)	REDOX POTENTIAL (± 10 mV)	TURBIDITY (± 10%)
24-Hour	gallons / liters (circle one)	ft TIC / ft BGS (circle one)	Units: ml/min	ft TIC / ft BGS (circle one)	SU	S/cm, mS/cm or µS/cm (circle one)	mg/L (not %)	Units: °C	mV	NTUs
Initial DTW → 19.95										
11:50 → Start Purging			300							
~~1200~~ 1205		20.03	300	+.08	6.59	0.761	0.96	17.21	150.6	3.99
1215		20.03	300	0	6.58	0.764	0.74	17.57	-186.4	4.87
1225		20.03	300	0	6.59	0.759	0.71	17.66	-205.6	4.28
1235		20.02	300	-.01	6.59	0.756	0.69	17.63	-218.9	3.77
1245		20.02	300	0	6.60	0.753	0.67	17.62	-215.2	3.99
1250		20.02	300	0	6.60	0.751	0.66	17.76	-215.4	3.32
1255		20.02	300	0	6.60	0.750	0.66	17.76	-216.1	2.49
1300	sampled									

* DUP collected @ location!

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values: DO = 0.3 - 10 mg/L Redox Potential = -100 - +600 mV Turbidity = 0 - >500 NTUs
Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm

TIC = Top of Inner Casing BGS = Below Ground Surface

p. 1 of 1

DIAZ CHEMICAL CORPORATION SITE
LOW FLOW GROUNDWATER SAMPLING PURGE RECORD

DATE: 10/29/09

WELL #: MW - 2R1

SAMPLERS: SM / EK

DEPTH OF PUMP INTAKE: 69 ft TIC or ft BGS (circle one)

WEATHER CONDITIONS: cloudy; ~50°F

SCREENED/OPEN BOREHOLE INTERVAL: 64-74 ft TIC or ft BGS (circle one)

SAMPLE ID: MW-2R1-Y5 SAMPLE TIME: 1045 SAMPLE FLOW RATE: 250 ml/minute

CLP ID: 37145

Instrument Type/Model: Complete and/or Circle at right

YSI Model # 6320 / Horiba U-22 (circle one)
Other (specify)

Instrument: LaMotte 2020e

CURRENT TIME	VOLUME PURGED	DEPTH TO WATER	FLOW RATE	DRAWDOWN (± 0.3 FT)	pH (± 0.1 SU)	SPECIFIC CONDUCTIVITY (± 3%)	DISSOLVED OXYGEN (± 10%)	TEMP. (± 10%)	REDOX POTENTIAL (± 10 mV)	TURBIDITY (± 10%)
24-Hour	gallons / liters (circle one)	ft TIC / ft BGS (circle one)	Units: ml/min	ft TIC / ft BGS (circle one)	SU	S/cm, mS/cm / or µS/cm (circle one)	mg/L (not %)	Units: °C	mV	NTUs
Initial DTW		20.24								
0935	Pump ON	20.27	300	+.03						
0945		20.27	300	+.03	7.56	0.898	4.23	14.95	-171.9	25.9
0955		20.32	300	+.05	7.59	0.906	2.01	15.15	-191.8	15.5
1005		20.32	300	+.05	7.59	0.906	1.60	15.19	-201.1	15.4
1015		20.26	300	-.06	7.59	0.907	1.10	15.30	-213.7	10.7
1025		20.26	300	-.06	7.60	0.908	1.07	15.27	-215.4	8.83
1030		20.26	300	0	7.59	0.909	1.01	15.42	-230.1	10.21
1035		20.26	300	0	7.60	0.910	0.90	15.43	-233.0	7.20
1040		20.26	300	0	7.59	0.911	0.80	15.46	231.6	7.85

10:45 → called sample

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values: DO = 0.3 - 10 mg/L Redox Potential = -100 - +600 mV Turbidity = 0 - >500 NTUs
Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm

TIC = Top of Inner Casing BGS = Below Ground Surface

DIAZ CHEMICAL CORPORATION SITE
LOW FLOW GROUNDWATER SAMPLING PURGE RECORD

DATE: 10/29/09

WELL #: MW-2RD

SAMPLERS: SO/EK

DEPTH OF PUMP INTAKE: 195' ft TIC or ft BGS (circle one)

WEATHER CONDITIONS: Cloudy ~ 50°F

SCREENED/OPEN BOREHOLE INTERVAL: 190'-200' ft TIC or ft BGS (circle one)

SAMPLE ID: MW-2RD-YS

SAMPLE TIME: 10:50

SAMPLE FLOW RATE: 250 ml/minute

CLP ID:

Instrument Type/Model: Complete and/or Circle at right

YSI Model # 6920 / Horiba U-22 (circle one)
Other (specify)

Instrument:

CURRENT TIME	VOLUME PURGED	DEPTH TO WATER	FLOW RATE	DRAWDOWN (± 0.3 FT)	pH (± 0.1 SU)	SPECIFIC CONDUCTIVITY (± 3%)	DISSOLVED OXYGEN (± 10%)	TEMP. (± 10%)	REDOX POTENTIAL (± 10 mV)	TURBIDITY (± 10%)
24-Hour	gallons / liters (circle one)	ft TIC / ft BGS (circle one)	Units: ml/min	ft TIC / ft BGS (circle one)	SU	S/cm, mS/cm or µS/cm (circle one)	mg/L (not %)	Units: °C	mV	NTUs
09:35 → Initial		20.60'								
09:45		20.60'	300	–	7.26	0.618	4.4	13.49	-178.6	3.20
09:55		20.60'	300	–	7.30	0.617	0.32	13.52	-191.7	2.17
10:05		20.60'	300	–	7.36	0.615	0.25	13.67	-201.0	3.44
10:15		20.60'	300	–	7.39	0.614	0.17	13.72	-209.5	2.80
10:25		20.60'	300	–	7.40	0.614	0.14	13.76	-214.5	2.41
10:30		20.60'	300	–	7.41	0.613	0.15	13.80	-217.8	2.10
10:35		20.60'	300	–	7.41	0.613	0.12	13.90	-220.1	2.10
10:40		20.60'	300	–	7.42	0.613	0.12	13.77	-221.4	2.09
10:45	22.5 (6 gal)	20.60'	300	–	7.42	0.613	0.11	13.89	-223.1	2.10

10:50 → Sample Collected

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values: DO = 0.3 - 10 mg/L; Redox Potential = -100 - +600 mV; Turbidity = 0 - >500 NTUs
Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm

TIC = Top of Inner Casing BGS = Below Ground Surface

DIAZ CHEMICAL CORPORATION SITE
LOW FLOW GROUNDWATER SAMPLING PURGE RECORD

DATE: 11/02/09

WELL #: MW-5I

SAMPLERS: SM/EK

DEPTH OF PUMP INTAKE: 50 ft TIC or ft BGS (circle one)

WEATHER CONDITIONS: cloudy; 50 °F

SCREENED/OPEN BOREHOLE INTERVAL: 45-55 ft TIC or ft BGS (circle one)

SAMPLE ID: MW-5I-Y5

SAMPLE TIME: 1110

SAMPLE FLOW RATE: 250 ml/minute

CLP ID: B7M57

Instrument Type/Model: Complete and/or Circle at right

YSI Model # 6920 / Horiba U-22 (circle one)
Other (specify)

Instrument: LaMotte 2020e

CURRENT TIME	VOLUME PURGED	DEPTH TO WATER	FLOW RATE	DRAWDOWN (± 0.3 FT)	pH (± 0.1 SU)	SPECIFIC CONDUCTIVITY (± 3%)	DISSOLVED OXYGEN (± 10%)	TEMP. (± 10%)	REDOX POTENTIAL (± 10 mV)	TURBIDITY (± 10%)
24-Hour	gallons / liters (circle one)	ft TIC / ft BGS (circle one)	Units: ml/min	ft TIC / ft BGS (circle one)	SU	S/cm, mS/cm or µS/cm (circle one)	mg/L (not %)	Units: °C	mV	NTUs
1020	Initial DTW	11.70								
1025	Pump ON	11.90	300	+.20						
1030		11.90	300	–	7.23	0.747	9.37	15.03	-132.9	41.8
1040		12.01	300	+.11	7.22	0.753	9.41	15.44	-123.3	20.7
1050		12.06	300	+.05	7.23	0.753	9.12	15.58	-140.7	19.3
1055		12.07	300	+.01	7.23	0.752	8.97	15.89	-142.7	17.9
1100		12.08	300	–	7.23	0.753	8.78	15.65	-148.1	16.5
1105		12.08	300	–	7.23	0.751	8.53	15.66	-149.8	15.3

* creosote like product on tubing + in water

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values: DO = 0.3 - 10 mg/L Redox Potential = -100 - +600 mV Turbidity = 0 - >500 NTUs
Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm

TIC = Top of Inner Casing BGS = Below Ground Surface

CREOSOTE ON BOTTOM OF TUBING AND IN WATER

DIAZ CHEMICAL CORPORATION SITE
LOW FLOW GROUNDWATER SAMPLING PURGE RECORD

DATE: 11/2/09

WELL #: MW-6S

SAMPLERS: EK/SM

DEPTH OF PUMP INTAKE: 20 ft TIC or ft BGS (circle one)

WEATHER CONDITIONS: cloudy 50°f

SCREENED/OPEN BOREHOLE INTERVAL: 14-24 ft TIC or ft BGS (circle one)

SAMPLE ID: MW-6S-45

SAMPLE TIME: 1130

SAMPLE FLOW RATE: 250 ml/minute

CLP ID: B7MS8

Instrument Type/Model: Complete and/or Circle at right

YSI Model # 650 / Horiba U-22 (circle one)
Other (specify)

Instrument: LaMotte 2020e

CURRENT TIME	VOLUME PURGED	DEPTH TO WATER	FLOW RATE	DRAWDOWN (± 0.3 FT)	pH (± 0.1 SU)	SPECIFIC CONDUCTIVITY (± 3%)	DISSOLVED OXYGEN (± 10%)	TEMP. (± 10%)	REDOX POTENTIAL (± 10 mV)	TURBIDITY (± 10%)
24-Hour	gallons / liters (circle one)	ft TIC / ft BGS (circle one)	Units: ml/min	ft TIC / ft BGS (circle one)	SU	S/cm, mS/cm / or µS/cm (circle one)	mg/L (not %)	Units: °C	mV	NTUs
1040		11.68	350							
1055		11.70	350		6.45	0.254	0.65	16.97	-97.0	19.6
1100		11.70	350		6.44	0.253	0.60	17.00	-92.9	16.5
1105		11.70	350		6.42	0.253	0.55	17.09	-91.2	15.7
1110		11.70	350		6.40	0.253	0.53	17.18	-89.3	11.4
1115		11.70	350		6.38	0.255	0.50	17.07	-90.6	10.5
1120		11.70	350		6.37	0.255	0.48	16.95	-91.9	10.2
1125		11.70	35		6.38	0.255	0.48	16.93	-92.2	10.3
1130	sample time									

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values: DO = 0.3 - 10 mg/L Redox Potential = -100 - +600 mV Turbidity = 0 - >500 NTUs
Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm

TIC = Top of Inner Casing BGS = Below Ground Surface

DTB → 31
p. 1 of 1

DIAZ CHEMICAL CORPORATION SITE
LOW FLOW GROUNDWATER SAMPLING PURGE RECORD

DATE: 10/29/09

WELL #: MW-104 RS

SAMPLERS: SO/EK

DEPTH OF PUMP INTAKE: 23.5' ft TIC or ft BGS (circle one)

WEATHER CONDITIONS: Sunny ~ 58°F

SCREENED/OPEN BOREHOLE INTERVAL: 15.5' - 30.5' ft TIC or ft BGS (circle one)

SAMPLE ID: MW-104 RS-YS

SAMPLE TIME:

SAMPLE FLOW RATE: 250 ml/minute

CLP ID: B7MQ2

Instrument Type/Model: Complete and/or Circle at right

YSI Model # 6920 / Horiba U-22 (circle one)
Other (specify)

Instrument:

CURRENT TIME	VOLUME PURGED	DEPTH TO WATER	FLOW RATE	DRAWDOWN (± 0.3 FT)	pH (± 0.1 SU)	SPECIFIC CONDUCTIVITY (± 3%)	DISSOLVED OXYGEN (± 10%)	TEMP. (± 10%)	REDOX POTENTIAL (± 10 mV)	TURBIDITY (± 10%)
24-Hour	gallons / liters (circle one)	ft TIC / ft BGS (circle one)	Units: ml/min	ft TIC / ft BGS (circle one)	SU	S/cm, mS/cm / or µS/cm (circle one)	mg/L (not %)	Units: °C	mV	NTUs
		18.05'								
12:40 → Initial Purging			300							
12:50		18.02	300	.03	6.41	1.649	0.84	17.37	-34.5	63.8
13:00		18.02	300	—	6.27	1.671	0.80	18.25	-21.5	65.3
13:10		18.03	300	.01	6.35	1.637	0.98	16.96	-20.9	66.3
13:20		18.03	300	—	6.21	1.648	0.70	18.03	-9.1	63.8
13:30		18.03	300		6.18	1.640	0.65	18.51	0.0	64.1
13:35		18.03	300		6.18	1.635	0.60	17.40	5.9	63.5
13:40		18.03	300		6.19	1.635	0.59	17.45	6.0	63.8
13:45		18.03	300		6.18	1.634	0.56	17.47	6.1	63.7

13:50 → Sample Collected

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values: DO = 0.3 - 10 mg/L Redox Potential = -100 - +600 mV Turbidity = 0 - >500 NTUs
Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm

TIC = Top of Inner Casing BGS = Below Ground Surface

Federal Creosote
~~DIAZ CHEMICAL CORPORATION SITE~~
LOW FLOW GROUNDWATER SAMPLING PURGE RECORD

p. 1 of 2

DATE: 10/26/09

SAMPLERS: SM/EK

WEATHER CONDITIONS: sunny, ~50°F

SAMPLE ID: MW-12RS-Y5 SAMPLE TIME: 1210
CLP ID: BTMS2

WELL #: MW-12RSA

DEPTH OF PUMP INTAKE: 24.5 ft TIC or ft BGS (circle one)

SCREENED/OPEN BOREHOLE INTERVAL: 15.5 - 30.5 ~~ft TIC~~ or ft BGS (circle one)

SAMPLE FLOW RATE: 250 ml/minute

Instrument Type/Model: Complete and/or Circle at right

YSI Model # 6920 / Horiba U-22 (circle one)
Other (specify)

Instrument: LaMotte 2020e

CURRENT TIME	VOLUME PURGED	DEPTH TO WATER	FLOW RATE	DRAWDOWN (± 0.3 FT)	pH (± 0.1 SU)	SPECIFIC CONDUCTIVITY (± 3%)	DISSOLVED OXYGEN (± 10%)	TEMP. (± 10%)	REDOX POTENTIAL (± 10 mV)	TURBIDITY (± 10%)
24-Hour	gallons / liters (circle one)	ft TIC / ft BGS (circle one)	Units: ml/min	ft TIC / ft BGS (circle one)	SU	S/cm, mS/cm / or µS/cm (circle one)	mg/L (not %)	Units: °C	mV	NTUs
Initial	DTW =	17.41	300							
1015	Pump	ON - 17.43	300	+ .02						
1025		17.43	300	0	6.44	0.503	2.12	17.05	50.1	54.1
1035		17.44	300	+ .01	6.45	0.508	1.42	18.64	47.6	42.4
1045		17.45	300	+ .01	6.43	0.514	1.04	18.85	44.6	29.0
1055		17.45	300	0	6.44	0.520	0.84	18.88	41.2	23.2
1100		17.45	300	0	6.44	0.521	0.70	18.96	36.2	21.7
1110		17.45	300	0	6.42	0.532	0.56	19.20	19.4	19.5
1120		17.45	300	0	6.40	0.549	0.49	19.37	-1.1	17.0
1130		17.45	300	0	6.37	0.555	0.44	19.37	-7.0	15.6

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values: DO = 0.3 - 10 mg/L Redox Potential = -100 - +600 mV Turbidity = 0 - >500 NTUs
Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm

TIC = Top of Inner Casing BGS = Below Ground Surface

Federal Creosote
~~DIAZ CHEMICAL CORPORATION SITE~~
LOW FLOW GROUNDWATER SAMPLING PURGE RECORD

p. 2 of 2

DATE: 10/26/09

WELL #: MW-12RS

SAMPLERS: SM/EK

DEPTH OF PUMP INTAKE: 24.5 ft TIC or ft BGS (circle one)

WEATHER CONDITIONS: sunny, ~50°F

SCREENED/OPEN BOREHOLE INTERVAL: 15.5 - 30.5 ft TIC or ft BGS (circle one)

SAMPLE ID: MW-12RS-YS

SAMPLE TIME: 1210

SAMPLE FLOW RATE: 250 ml/minute

CLP ID: B7N52

Instrument Type/Model: Complete and/or Circle at right

YSI Model # 6920 / Horiba U-22 (circle one)
Other (specify)

Instrument: LaMotte 2020e

CURRENT TIME	VOLUME PURGED	DEPTH TO WATER	FLOW RATE	DRAWDOWN (± 0.3 FT)	pH (± 0.1 SU)	SPECIFIC CONDUCTIVITY (± 3%)	DISSOLVED OXYGEN (± 10%)	TEMP. (± 10%)	REDOX POTENTIAL (± 10 mV)	TURBIDITY (± 10%)
24-Hour	gallons / liters (circle one)	ft TIC / ft BGS (circle one)	Units: ml/min	ft TIC / ft BGS (circle one)	SU	S/cm, mS/cm / or µS/cm (circle one)	mg/L (not %)	Units: °C	mV	NTUs
1140		17.45	300	0	6.34	0.564	0.31	19.44	-15.7	16.3
1150		17.45	300	0	6.33	0.576	0.29	19.57	-23.4	21.7
1155		17.45	300	0	6.33	0.580	0.26	19.54	-26.2	15.5
1158		17.45	300	0	6.32	0.596	0.25	19.66	-32.1	13.3
1201		17.45	300	0	6.35	0.602	0.25	19.93	-34.2	12.4
~~1205~~ 1204		17.45	300	0	6.32	0.603	0.24	19.67	-34.6	13.0
1207		17.45	300	0	6.31	0.604	0.25	19.76	-34.8	12.2
Sample Collected - 1210										

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values: DO = 0.3 - 10 mg/L Redox Potential = -100 - +600 mV Turbidity = 0 - >500 NTUs
Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm

TIC = Top of Inner Casing BGS = Below Ground Surface

DIAZ CHEMICAL CORPORATION SITE
LOW FLOW GROUNDWATER SAMPLING PURGE RECORD

DATE: 10/26/09

WELL #: MW-103S

SAMPLERS: SO/EK

DEPTH OF PUMP INTAKE: 24' ft TIC or ft BGS (circle one)

WEATHER CONDITIONS: Sunny / Blue Skies ~ 58°F

SCREENED/OPEN BOREHOLE INTERVAL: 17.4' - 32.4' ft TIC or ft BGS (circle one)

SAMPLE ID: MW-103S-YS

SAMPLE TIME: 12:25

SAMPLE FLOW RATE: 250 ml/minute

CLP ID: B7MQ1

Instrument Type/Model: Complete and/or Circle at right

YSI Model # 6820 / Horiba U-22 (circle one)
Other (specify)_____

Instrument:

CURRENT TIME	VOLUME PURGED	DEPTH TO WATER	FLOW RATE	DRAWDOWN (± 0.3 FT)	pH (± 0.1 SU)	SPECIFIC CONDUCTIVITY (± 3%)	DISSOLVED OXYGEN (± 10%)	TEMP. (± 10%)	REDOX POTENTIAL (± 10 mV)	TURBIDITY (± 10%)
24-Hour	gallons / liters (circle one)	ft TIC / ft BGS (circle one)	Units: ml/min	ft TIC / ft BGS (circle one)	SU	S/cm, mS/cm / or µS/cm (circle one)	mg/L (not %)	Units: °C	mV	NTUs
10:45	Initial →	20.45'								
10:50 →	Begin Pugging		300							
11:00	3	20.45'	300	—	5.56	0.379	9.72	19.18	138.5	3.90
11:10	6	20.45'	300	—	5.54	0.376	9.59	19.53	168.7	1.66
11:20	9	20.45'	300	—	5.53	0.380	9.46	19.78	184.4	0.88
11:30	12	20.45'	300	—	5.54	0.379	9.75	19.26	191.2	3.83
11:40	15	20.45'	300	—	5.52	0.380	9.56	19.84	197.7	1.35
11:50	18	20.45'	300	—	5.51	0.379	9.51	19.96	203.8	0.61
12:00	21	20.45'	300	—	5.51	0.378	9.48	19.91	208.2	0.29
12:05	22.5	20.45'	300	—	5.51	0.380	9.41	19.94	210.2	0.15

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values: DO = 0.3 - 10 mg/L Redox Potential = -100 - +600 mV Turbidity = 0 - >500 NTUs
Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm

TIC = Top of Inner Casing BGS = Below Ground Surface

DIAZ CHEMICAL CORPORATION SITE
LOW FLOW GROUNDWATER SAMPLING PURGE RECORD

DATE: 10/26/09

WELL #: MW-103S

SAMPLERS: SQ/EK

DEPTH OF PUMP INTAKE: 24' ft TIC or ft BGS (circle one)

WEATHER CONDITIONS: Sunny, Blue Skies ~58°F

SCREENED/OPEN BOREHOLE INTERVAL: 17.4' - 32.4' ft TIC or ft BGS (circle one)

SAMPLE ID: MW-103S-YS

SAMPLE TIME: 12:25

SAMPLE FLOW RATE: 250 ml/minute

CLP ID: B7MQ1

Instrument Type/Model: Complete and/or Circle at right

YSI Model # 6820 / Horiba U-22 (circle one)
Other (specify)_____

Instrument:

CURRENT TIME	VOLUME PURGED	DEPTH TO WATER	FLOW RATE	DRAWDOWN (± 0.3 FT)	pH (± 0.1 SU)	SPECIFIC CONDUCTIVITY (± 3%)	DISSOLVED OXYGEN (± 10%)	TEMP. (± 10%)	REDOX POTENTIAL (± 10 mV)	TURBIDITY (± 10%)
24-Hour	gallons / liters (circle one)	ft TIC / ft BGS (circle one)	Units: ml/min	ft TIC / ft BGS (circle one)	SU	S/cm, mS/cm or µS/cm (circle one)	mg/L (not %)	Units: °C	mV	NTUs
12:10	24	20.45	300	—	5.51	0.379	9.37	20.10	211.2	0.17
12:15	25.5	20.45	300	—	5.51	0.380	9.38	20.23	211.2	0.16
12:20	27	20.45	300	—	5.50	0.380	9.40	19.98	214.9	0.07
12:25 → Collect Sample										

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values: DO = 0.3 - 10 mg/L Redox Potential = -100 - +600 mV Turbidity = 0 - >500 NTUs
Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm

TIC = Top of Inner Casing BGS = Below Ground Surface

DTB - 31.75' TIC

DIAZ CHEMICAL CORPORATION SITE
LOW FLOW GROUNDWATER SAMPLING PURGE RECORD

DATE: 10/28/09

WELL #: MW-110S

SAMPLERS: SO/EK

DEPTH OF PUMP INTAKE: 23' ft TIC or ft BGS (circle one)

WEATHER CONDITIONS:

SCREENED/OPEN BOREHOLE INTERVAL: 16'-34' ft TIC or ft BGS (circle one)

SAMPLE ID: MW-110S-YS

SAMPLE TIME: 11:05

SAMPLE FLOW RATE: 250 ml/minute

CLP ID: B7MQ5

Instrument Type/Model: Complete and/or Circle at right

YSI Model #_____ / Horiba U-22 (circle one)
Other (specify)_____

Instrument:

CURRENT TIME	VOLUME PURGED	DEPTH TO WATER	FLOW RATE	DRAWDOWN (± 0.3 FT)	pH (± 0.1 SU)	SPECIFIC CONDUCTIVITY (± 3%)	DISSOLVED OXYGEN (± 10%)	TEMP. (± 10%)	REDOX POTENTIAL (± 10 mV)	TURBIDITY (± 10%)
24-Hour	gallons / liters (circle one)	ft TIC / ft BGS (circle one)	Units: ml/min	ft TIC / ft BGS (circle one)	SU	S/cm, mS/cm / or µS/cm (circle one)	mg/L (not %)	Units: °C	mV	NTUs
initial	DTW	19.98		19.98						
09:55 → Start Purging			300	20.00						
10:05		20.0	300	0.02	5.82	0.255	14.37	17.22	125.6	28.6
10:15		20.0	300	—	5.92	0.255	14.51	17.46	102.1	21.6
10:25		20.0	300	—	5.81	0.263	14.30	17.69	127.5	12.5
10:35		20.0	300	—	5.81	0.284	13.50	17.70	129.4	11.8
10:45		20.0	300	—	5.79	0.264	13.46	17.71	133.8	10.22
10:50		20.0	300	—	5.79	0.265	13.27	17.84	142.3	8.44
10:55		20.0	300	—	5.79	0.265	13.28	17.81	143.1	8.50
11:00		20.0	300	—	5.78	0.266	13.21	17.82	146.1	8.46

11:05 → Sample Collected

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values: DO = 0.3 - 10 mg/L Redox Potential = -100 - +600 mV Turbidity = 0 - >500 NTUs
Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm

TIC = Top of Inner Casing BGS = Below Ground Surface

DTB ~ 69.7 'tic

DIAZ CHEMICAL CORPORATION SITE
LOW FLOW GROUNDWATER SAMPLING PURGE RECORD

DATE: 10/28/09

WELL #: MW-110I

SAMPLERS: SM/EK

DEPTH OF PUMP INTAKE: 65 ft TIC or ft BGS (circle one)

WEATHER CONDITIONS: raining, 50°F

SCREENED/OPEN BOREHOLE INTERVAL: 60 – 70 ft TIC or ft BGS (circle one)

SAMPLE ID: MW-110I-Y5

SAMPLE TIME: 1040

SAMPLE FLOW RATE: 250 ml/minute

CLP ID: B7MR4

Instrument Type/Model: Complete and/or Circle at right

YSI Model # 6320 / Horiba U-22 (circle one)
Other (specify)

Instrument: LaMotte 2020e

CURRENT TIME	VOLUME PURGED	DEPTH TO WATER	FLOW RATE	DRAWDOWN (± 0.3 FT)	pH (± 0.1 SU)	SPECIFIC CONDUCTIVITY (± 3%)	DISSOLVED OXYGEN (± 10%)	TEMP. (± 10%)	REDOX POTENTIAL (± 10 mV)	TURBIDITY (± 10%)
24-Hour	gallons / liters (circle one)	ft TIC / ft BGS (circle one)	Units: ml/min	ft TIC / ft BGS (circle one)	SU	S/cm, mS/cm / or µS/cm (circle one)	mg/L (not %)	Units: °C	mV	NTUs
Initial DTW =		20.32								
0935	Pump on		300							
0955		20.33	~~+.01~~ 300	+.01	7.24	0.625	0.66	14.84	-80.8	7.45
1005		20.34	~~+.01~~ 300	+.01	7.22	0.623	0.57	14.89	-108.2	8.09
1015		20.35	300	+.01	7.22	0.621	0.51	14.99	-105.7	6.36
1025		20.35	300	0	7.22	0.621	0.47	15.11	-103.9	6.14
1030		20.35	300	0	7.23	0.622	0.46	15.09	-107.1	5.57
1035		20.35	300	0	7.23	0.623	0.46	15.09	-107.4	4.25
1040	Sampled									

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values: DO = 0.3 - 10 mg/L Redox Potential = -100 - +600 mV Turbidity = 0 - >500 NTUs
Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm

TIC = Top of Inner Casing BGS = Below Ground Surface

DIAZ CHEMICAL CORPORATION SITE
LOW FLOW GROUNDWATER SAMPLING PURGE RECORD

DATE: 10/28/09

SAMPLERS: TH/EK

WEATHER CONDITIONS: RAIN

SAMPLE ID: MW-110D-YS

CLP ID: B7MQ3

SAMPLE TIME: 1010

WELL #: MW-110D

DEPTH OF PUMP INTAKE: 135 ft TIC or ft BGS (circle one)

SCREENED/OPEN BOREHOLE INTERVAL: 130-190 ft TIC or ft BGS (circle one)

SAMPLE FLOW RATE: 200 ml/minute

Instrument Type/Model: Complete and/or Circle at right

YSI Model # 6920 / Horiba U-22 (circle one)
Other (specify)

Instrument: LaMotte 2020c

CURRENT TIME	VOLUME PURGED	DEPTH TO WATER	FLOW RATE	DRAWDOWN (± 0.3 FT)	pH (± 0.1 SU)	SPECIFIC CONDUCTIVITY (± 3%)	DISSOLVED OXYGEN (± 10%)	TEMP. (± 10%)	REDOX POTENTIAL (± 10 mV)	TURBIDITY (± 10%)
24-Hour	gallons / liters (circle one)	ft TIC / ft BGS (circle one)	Units: ml/min	ft TIC / ft BGS (circle one)	SU	S/cm, mS/cm or µS/cm (circle one)	mg/L (not %)	Units: °C	mV	NTUs
0935		19.39	200							
0940		19.56	" "	+0.17	7.07	2.081	0.73	13.73	-15.5	4.98
0945		19.59	" "	+0.03	7.13	2.118	0.59	13.64	-63.4	1.48
0950		19.59	" "	-	7.22	2.120	0.47	13.63	-70.1	0.99
0955		19.59	" "	-	7.26	2.119	0.42	13.67	-71.6	0.74
1000		19.59	" "	-	7.31	2.119	0.41	13.68	-74.1	0.65
1010	Sample Collected									

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values: DO = 0.3 - 10 mg/L Redox Potential = -100 - +600 mV Turbidity = 0 - >500 NTUs
Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm

TIC = Top of Inner Casing BGS = Below Ground Surface

Federal Creosote
~~BAZ CHEMICAL CORPORATION SITE~~
LOW FLOW GROUNDWATER SAMPLING PURGE RECORD

DATE: 10/22/09

WELL #: MW-111S

SAMPLERS: S.M. / E.K.

DEPTH OF PUMP INTAKE: ~ 34.8 ft TIC or ft BGS (circle one)

WEATHER CONDITIONS: Sunny Clear Skies ~62°F

SCREENED/OPEN BOREHOLE INTERVAL: 31.8 - 36.8 ft TIC or ft BGS (circle one)

SAMPLE ID: MW-111S-YS

SAMPLE TIME:

SAMPLE FLOW RATE: 250 ml/minute

CLP ID: B7MQ7

Instrument Type/Model: Complete and/or Circle at right

YSI Model # 6320 / Horiba U-22 (circle one)
Other (specify)

Instrument: LaMotte 2020e

CURRENT TIME	VOLUME PURGED	DEPTH TO WATER	FLOW RATE	DRAWDOWN (± 0.3 FT)	pH (± 0.1 SU)	SPECIFIC CONDUCTIVITY (± 3%)	DISSOLVED OXYGEN (± 10%)	TEMP. (± 10%)	REDOX POTENTIAL (± 10 mV)	TURBIDITY (± 10%)
24-Hour	gallons / liters (circle one)	ft TIC / ft BGS (circle one)	Units: ml/min	ft TIC / ft BGS (circle one)	SU	S/cm, mS/cm, or µS/cm (circle one)	mg/L (not %)	Units: °C	mV	NTUs
10:05 → Start Purge										
Initial DTW →		24.0	300	0						
10:25		24.0	300	0	6.41	0.883	0.86	18.38	-2.9	84.7
10:35		24.0	300	0	6.40	0.878	0.64	18.30	4.4	65.8
10:45		24.02	300	- 0.02	6.39	0.788	0.52	19.17	-1.4	81.4
10:55		24.05	300	-0.03	6.39	0.889	1.39	18.28	-6.0	96.6
1105		24.03	300	+ 0.02	6.40	0.890	0.36	19.11	-12.6	54.6
1115		24.01	300	+ 0.02	6.41	0.885	0.32	19.99	-9.9	43.6
1125		24.09	500	- 0.07	6.40	0.872	1.67	18.49	16.4	51.3
1135		24.09	500	0	6.37	0.875	0.95	18.00	-0.5	26.0

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values: DO = 0.3 - 10 mg/L Redox Potential = -100 - +600 mV Turbidity = 0 - >500 NTUs
Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm

TIC = Top of Inner Casing BGS = Below Ground Surface

Federal Creosote
~~DIAZ CHEMICAL CORPORATION~~
LOW FLOW GROUNDWATER SAMPLING PURGE RECORD

DATE: 10/22/09

WELL #: MW-111S

SAMPLERS: SM/EK

DEPTH OF PUMP INTAKE: ~34.8 ft TIC or ft BGS (circle one)

WEATHER CONDITIONS: Sunny, clear skies 60°F

SCREENED/OPEN BOREHOLE INTERVAL: 31.8 - 36.8 ft TIC or ft BGS (circle one)

SAMPLE ID: MW-111S-YS

SAMPLE TIME:

SAMPLE FLOW RATE: 250 ml/minute

CLP ID: B7MQ7

Instrument Type/Model: Complete and/or Circle at right

YSI Model # 6320 / Horiba U-22 (circle one)
Other (specify)

Instrument: LaMotte 2020e

CURRENT TIME	VOLUME PURGED	DEPTH TO WATER	FLOW RATE	DRAWDOWN (± 0.3 FT)	pH (± 0.1 SU)	SPECIFIC CONDUCTIVITY (± 3%)	DISSOLVED OXYGEN (± 10%)	TEMP. (± 10%)	REDOX POTENTIAL (± 10 mV)	TURBIDITY (± 10%)
24-Hour	gallons / liters (circle one)	ft TIC / ft BGS (circle one)	Units: ml/min	ft TIC / ft BGS (circle one)	SU	S/cm, mS/cm or µS/cm (circle one)	mg/L (not %)	Units: °C	mV	NTUs
1145		24.09	500	–	6.36	0.872	0.73	17.73	-1.2	18.2
1150		24.09	500	–	6.37	0.870	0.69	17.93	0.5	16.9
1155		24.09	500	0	6.38	0.870	0.50	18.47	0.7	13.2
1200		24.08	500	-0.01	6.38	0.868	0.57	18.40	-0.7	14.2
1205		24.06	500	-0.02	6.39	0.865	0.54	18.44	-0.1	13.9
1210		24.06	500	0	6.38	0.867	0.50	18.54	0.3	14.1
1215	Sample collected									

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values: DO = 0.3 - 10 mg/L; Redox Potential = -100 - +600 mV; Turbidity = 0 - >500 NTUs
Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm

TIC = Top of Inner Casing BGS = Below Ground Surface

DIAZ CHEMICAL CORPORATION SITE
LOW FLOW GROUNDWATER SAMPLING PURGE RECORD

DATE: 10/22/09

WELL #: MW-111I-YS

SAMPLERS: SO / EK

DEPTH OF PUMP INTAKE: 60' ft TIC or ft BGS (circle one)

WEATHER CONDITIONS: Sunny ~ 60°F

SCREENED/OPEN BOREHOLE INTERVAL: 55'-65' ft TIC or ft BGS (circle one)

SAMPLE ID: MW-111I-YS SAMPLE TIME:

SAMPLE FLOW RATE: 300 ml/minute

CLP ID: B7MQ6

Instrument Type/Model: Complete and/or Circle at right

YSI Model #_____ / Horiba U-22 (circle one)
Other (specify)_____

Instrument:

CURRENT TIME	VOLUME PURGED	DEPTH TO WATER	FLOW RATE	DRAWDOWN (± 0.3 FT)	pH (± 0.1 SU)	SPECIFIC CONDUCTIVITY (± 3%)	DISSOLVED OXYGEN (± 10%)	TEMP. (± 10%)	REDOX POTENTIAL (± 10 mV)	TURBIDITY (± 10%)
24-Hour	gallons / liters (circle one)	ft TIC / ft BGS (circle one)	Units: ml/min ~~300~~	ft TIC / ft BGS (circle one)	SU	S/cm mS/cm or µS/cm (circle one)	mg/L (not %)	Units: °C	mV	NTUs
10:15 → Start Purge		Initial DTW 24.2'								
10:25		24.3	300	0.1	7.70	0.430	5.18	17.33	-4.4	6.94
10:35		24.3	300	—	7.74	0.431	5.11	17.44	5.9	6.63
10:45		24.3	300	—	7.77	0.429	5.04	17.49	11.4	5.93
10:55		24.3	300	—	7.76	0.428	5.02	17.45	9.2	5.06
11:05		24.3	300	—	7.74	0.428	5.03	17.63	12.0	3.94
11:10		24.3	300	—	7.74	0.430	5.03	17.70	11.5	3.67
11:15		24.3	300	—	7.73	0.428	5.03	17.93	10.2	3.39
11:20		24.3	300	—	7.73	0.427	5.04	17.95	10.5	3.37
11:25 → Sample Collected										

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values: DO = 0.3 - 10 mg/L Redox Potential = -100 - +600 mV Turbidity = 0 - >500 NTUs
Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm

TIC = Top of Inner Casing BGS = Below Ground Surface

Pump on @ 1115

Federal Creosote
~~DIAZ CHEMICAL CORPORATION SITE~~
LOW FLOW GROUNDWATER SAMPLING PURGE RECORD

DATE: 10/20/09

SAMPLERS: S. Martinelli

WEATHER CONDITIONS: Sunny, ~65°F

SAMPLE ID: MW-114S-Y5 SAMPLE TIME: 1300

CLP ID: ~~B7MR0~~ B7MR0

WELL #: MW-114S

DEPTH OF PUMP INTAKE: 14.5 (ft TIC or ft BGS (circle one))

SCREENED/OPEN BOREHOLE INTERVAL: 6.6-19.6 ~~ft TIC~~ or ft BGS (circle one) wrong

SAMPLE FLOW RATE: 250 ml/minute

Instrument Type/Model: Complete and/or Circle at right

YSI Model # 6920 / Horiba U-22 (circle one) Other (specify)

Instrument: LaMotte 2020

CURRENT TIME	VOLUME PURGED (approximate)	DEPTH TO WATER	FLOW RATE	DRAWDOWN (± 0.3 FT)	pH (± 0.1 SU)	SPECIFIC CONDUCTIVITY (± 3%)	DISSOLVED OXYGEN (± 10%)	TEMP. (± 10%)	REDOX POTENTIAL (± 10 mV)	TURBIDITY (± 10%)
24-Hour	gallons / liters (circle one)	ft TIC / ft BGS (circle one)	Units: ml/min	ft TIC / ft BGS (circle one)	SU	S/cm, mS/cm or µS/cm (circle one)	mg/L (not %)	Units: °C	mV	NTUs
Initial DTW ~~7.8~~ wrong		12.77	260							
1120 – Note stopped pump, YSI pH values bouncing. Re-cal'd YSI. Pump on again @ 1135.										
1140 – pH probe on YSI malfunctioning. Will take reads later w/ other YSI.										
*1140	7.8	12.80	400		5.74	0.193	3.65	16.82	130.4	0.45
1245	7.9	12.80	300		5.71	0.192	3.54	16.95	137.3	0.35
1248	8.0	12.80	300		5.72	0.192	3.52	17.05	141.1	0.91
1251	8.1	12.80	300		5.73	0.192	3.51	17.17	144.1	0.0
1253	8.2	12.80	300		5.72	0.193	3.50	17.25	146.6	0.0
1256	8.3	12.80	300							
13:00 → Sample Collected										

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values: DO = 0.3 - 10 mg/L Redox Potential = -100 - +600 mV Turbidity = 0 - >500 NTUs
Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm

TIC = Top of Inner Casing BGS = Below Ground Surface

* YSI 6920 PINE ID 3330 malfunctioned. Replaced w/ PINE ID: 1458 @ 1245.

DIAZ CHEMICAL CORPORATION SITE
LOW FLOW GROUNDWATER SAMPLING PURGE RECORD

DATE: 10/20/09

WELL #: MW-1141

SAMPLERS: SO

DEPTH OF PUMP INTAKE: 65' ft TIC or ft BGS (circle one)

WEATHER CONDITIONS: Clear Skies / Cool ~58°F

SCREENED/OPEN BOREHOLE INTERVAL: 60-70 ft TIC or ft BGS (circle one)

SAMPLE ID: MW-1141-YS

SAMPLE TIME:

SAMPLE FLOW RATE: 200 ml/minute

CLP ID: B7MQ9

Instrument Type/Model: Complete and/or Circle at right

YSI Model # 6320 / Horiba U-22 (circle one)
Other (specify)_____

Instrument:

CURRENT TIME	VOLUME PURGED	DEPTH TO WATER	FLOW RATE	DRAWDOWN (± 0.3 FT)	pH (± 0.1 SU)	SPECIFIC CONDUCTIVITY (± 3%)	DISSOLVED OXYGEN (± 10%)	TEMP. (± 10%)	REDOX POTENTIAL (± 10 mV)	TURBIDITY (± 10%)
24-Hour	gallons / liters (circle one)	ft TIC / ft BGS (circle one)	Units: ml/min	ft TIC / ft BGS (circle one)	SU	S/cm, mS/cm / or µS/cm (circle one)	mg/L (not %)	Units: °C	mV	NTUs
Initial DTW	13.15									
11:20 → Start Purging			200							
11:30	2	13.18	200	0.03	8.69	0.502	5.39	14.06	-140.2	26.6
11:40	4	13.18	200	—	7.54	0.659	1.05	14.32	-202.4	9.58
11:50	6	13.30	200	0.12	7.60	0.645	1.03	14.54	-203.1	7.55
12:00	8	13.30	200	—	7.64	0.631	1.02	14.77	-204.2	5.56
12:10	10	13.30	200	—	7.59	0.641	0.93	14.87	-204.9	2.25
12:15	11	13.30	200	—	7.53	0.655	0.78	14.72	-208.6	1.51
12:20	12	13.30	200	—	7.50	0.664	0.73	14.67	-210.2	0.84
12:25	13	13.30	200	—	7.48	0.534	0.67	14.27	-211.3	0.77

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values: DO = 0.3 - 10 mg/L Redox Potential = -100 - +600 mV Turbidity = 0 - >500 NTUs
Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm

TIC = Top of Inner Casing BGS = Below Ground Surface

DIAZ CHEMICAL CORPORATION SITE
LOW FLOW GROUNDWATER SAMPLING PURGE RECORD

DATE: 10/20/09

WELL #: MW-1141

SAMPLERS: SO

DEPTH OF PUMP INTAKE: 65' ft TIC or ft BGS (circle one)

WEATHER CONDITIONS: Clear Skies / Cool ~58°F

SCREENED/OPEN BOREHOLE INTERVAL: 60-70 ft TIC or ft BGS (circle one)

SAMPLE ID: MW-1141-45

SAMPLE TIME: 1300

SAMPLE FLOW RATE: 200 ml/minute

CLP ID: B7MQ9

Instrument Type/Model: Complete and/or Circle at right

YSI Model # 6320 / Horiba U-22 (circle one)
Other (specify)_____

Instrument:

CURRENT TIME	VOLUME PURGED	DEPTH TO WATER	FLOW RATE	DRAWDOWN (± 0.3 FT)	pH (± 0.1 SU)	SPECIFIC CONDUCTIVITY (± 3%)	DISSOLVED OXYGEN (± 10%)	TEMP. (± 10%)	REDOX POTENTIAL (± 10 mV)	TURBIDITY (± 10%)
24-Hour	gallons / liters (circle one)	ft TIC / ft BGS (circle one)	Units: ml/min	ft TIC / ft BGS (circle one)	SU	S/cm, mS/cm / or µS/cm (circle one)	mg/L (not %)	Units: °C	mV	NTUs
12:30	14	13.30	200	—	7.47	0.672	0.62	14.39	-213.8	0.71
12:35	15	13.30	200	—	7.45	0.675	0.60	14.38	-216.9	0.71
12:40	16	13.30	200	—	7.44	0.680	0.52	14.25	-219.6	0.35
12:45	17	13.30	200	—	7.43	0.681	0.48	14.27	-221.8	0.35
12:50	18	13.30	200	—	7.43	0.682	0.43	14.29	-223.1	0.67
12:55	19	13.30	200	—	7.43	0.682	0.44	14.31	-223.9	0.55
13:00	~~20~~ Collect Sample									

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values: DO = 0.3 - 10 mg/L; Redox Potential = -100 - +600 mV; Turbidity = 0 - >500 NTUs
Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm

TIC = Top of Inner Casing BGS = Below Ground Surface

PRESSER CREOSOTE

~~DIAZ CHEMICAL CORPORATION~~ SITE

LOW FLOW GROUNDWATER SAMPLING PURGE RECORD

DATE: 10/20/09

WELL #: 4D

SAMPLERS: TH / EK

DEPTH OF PUMP INTAKE: ft TIC or ft BGS (circle one)

WEATHER CONDITIONS: PARTLY CLOUDY, 55°F

SCREENED/OPEN BOREHOLE INTERVAL: 68-78' ft TIC or ft BGS (circle one)

SAMPLE ID: MW-114D-YS

SAMPLE TIME:

SAMPLE FLOW RATE: 250 ml/minute

CLP ID: B7MQ8

Instrument Type/Model: Complete and/or Circle at right

YSI Model # 6920 / Horiba U-22 (circle one)

Other (specify)

Instrument: Lamotte 2020

CURRENT TIME	VOLUME PURGED (APPROX.)	DEPTH TO WATER	FLOW RATE ml/min	DRAWDOWN (± 0.3 FT)	pH (± 0.1 SU)	SPECIFIC CONDUCTIVITY (± 3%)	DISSOLVED OXYGEN (± 10%)	TEMP. (± 10%)	REDOX POTENTIAL (± 10 mV)	TURBIDITY (± 10%)
24-Hour	gallons / liters (circle one)	ft TIC / ft BGS (circle one)	Units: ml/min	ft TIC / ft BGS (circle one)	SU	S/cm, mS/cm or µS/cm (circle one)	mg/L (not %)	Units: °C	mV	NTUs
1120	—	12.48	250							
1125	.5	12.49	"	0.01	7.36	2.135	1.43	13.42	-14.8	0.53
1130	.75	12.49	"	—	7.33	2.194	1.09	13.49	-26.8	1.65
1135	1.0	12.49	"	—	7.32	2.201	1.09	13.52	-31.2	0.98
1140	1.25	12.49	"	—	7.30	2.213	1.07	13.55	-35.4	0.95
1145	1.5	12.50	"	0.01	7.29	2.219	1.06	13.58	-40.6	0.92
1150	1.75	12.50	"	—	7.28	2.224	1.04	13.60	-49.0	0.83
1155	2.0	12.50	"	—	7.28	2.227	0.95	13.64	-51.3	0.73
1200	2.25	12.50	"	—	7.28	2.228	0.76	13.66	-54.2	0.58
1205	2.50	12.50	"	—	7.27	2.230	0.73	13.70	-58.5	0.42

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values: DO = 0.3 - 10 mg/L Redox Potential = -100 - +600 mV Turbidity = 0 - >500 NTUs
Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm

TIC = Top of Inner Casing BGS = Below Ground Surface

HUDSON CHEMICAL SITE
~~DIAZ CHEMICAL CORPORATION~~ SITE
LOW FLOW GROUNDWATER SAMPLING PURGE RECORD

DATE: 10/20/09

WELL #: 114-D

SAMPLERS: TN/EK

DEPTH OF PUMP INTAKE: 174' ft TIC or ft BGS (circle one)

WEATHER CONDITIONS: partly cloudy, 55°F

SCREENED/OPEN BOREHOLE INTERVAL: 168-178 ft TIC or ft BGS (circle one)

SAMPLE ID: MW-114D-Y5

SAMPLE TIME:

SAMPLE FLOW RATE: 250 ml/minute

CLP ID: B7MQ8

Instrument Type/Model: Complete and/or Circle at right

YSI Model # 6920 / Horiba U-22 (circle one)
Other (specify)

Instrument: LaMotte 2020

CURRENT TIME	VOLUME PURGED	DEPTH TO WATER	FLOW RATE	DRAWDOWN (± 0.3 FT)	pH (± 0.1 SU)	SPECIFIC CONDUCTIVITY (± 3%)	DISSOLVED OXYGEN (± 10%)	TEMP. (± 10%)	REDOX POTENTIAL (± 10 mV)	TURBIDITY (± 10%)
24-Hour	gallons / liters (circle one)	ft TIC / ft BGS (circle one)	Units: ml/min	ft TIC / ft BGS (circle one)	SU	S/cm, mS/cm or µS/cm (circle one)	mg/L (not %)	Units: °C	mV	NTUs
1210	2.75	12.50	250	–	7.27	2.233	0.66	13.72	-60.7	0.37
1215	3.00	12.50	"	–	7.27	2.235	0.71	13.76	-63.2	0.35
1220	3.25	12.50	"	–	7.27	2.234	0.72	13.76	-63.3	0.33
1225	LOWER SAMPLE									
1315 NOTE: 590	HACH Ferrous Iron			Result was	0.41 mg/l					

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values: DO = 0.3 - 10 mg/L Redox Potential = -100 - +600 mV Turbidity = 0 - >500 NTUs
Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm

TIC = Top of Inner Casing BGS = Below Ground Surface

DIAZ CHEMICAL CORPORATION SITE
LOW FLOW GROUNDWATER SAMPLING PURGE RECORD

DATE: 10/26/09

SAMPLERS: TH/EK

WEATHER CONDITIONS: Partly cloudy, 65°F

SAMPLE ID: MW-116 / MW-604-YS

CLP ID: B7MR1 / B7MP9

SAMPLE TIME: 11:10

WELL #: MW-116

DEPTH OF PUMP INTAKE: 65' ft TIC or ft BGS (circle one)

SCREENED/OPEN BOREHOLE INTERVAL: ft TIC or ft BGS (circle one)

SAMPLE FLOW RATE: 250 ml/minute

Instrument Type/Model:
Complete and/or Circle at right

YSI Model # 6920 / Horiba U-22 (circle one)
Other (specify)

Instrument: Lamotte 2020

CURRENT TIME	VOLUME PURGED	DEPTH TO WATER	FLOW RATE	DRAWDOWN (± 0.3 FT)	pH (± 0.1 SU)	SPECIFIC CONDUCTIVITY (± 3%)	DISSOLVED OXYGEN (± 10%)	TEMP. (± 10%)	REDOX POTENTIAL (± 10 mV)	TURBIDITY (± 10%)
24-Hour	gallons / liters (circle one)	ft TIC / ft BGS (circle one)	Units: ml/min	ft TIC / ft BGS (circle one)	SU	S/cm, mS/cm or µS/cm (circle one)	mg/L (not %)	Units: °C	mV	NTUs
1025		20.39	—							
1030	1	20.54	200	+0.15	7.84	0.939	1.27	15.62	-89.9	3.09
1035	2	20.54	"	—	7.73	0.951	1.22	15.97	-67.8	3.69
1040	3	20.54	"	—	7.75	0.947	1.10	15.93	-30.5	3.04
1045	4	20.54	"	—	7.75	0.935	1.21	15.85	-3.5	3.64
1050	5	20.54	"	—	7.77	0.926	1.22	16.18	10.8	2.95
1055	6	20.54	"	—	7.84	0.908	1.10	16.15	-40.1	2.52
1100	7	20.54	"	—	7.86	0.900	1.17	16.26	-39.9	2.28
1105	8	20.54	"	—	7.86	0.898	1.20	16.27	-43.6	2.19
1110	COLLECT SAMPLE AND DUPLICATE									

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values: DO = 0.3 - 10 mg/L Redox Potential = -100 - +600 mV Turbidity = 0 - >500 NTUs
Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm

TIC = Top of Inner Casing BGS = Below Ground Surface

DIAZ CHEMICAL CORPORATION SITE
LOW FLOW GROUNDWATER SAMPLING PURGE RECORD

DATE: 10/23/09

SAMPLERS: TH/EK

WEATHER CONDITIONS: OVERCAST, 55°F

SAMPLE ID: MW-1235-Y5

CLP ID: B7MR4

SAMPLE TIME: 10:50

WELL #: MW-1235

DEPTH OF PUMP INTAKE: 25' ft TIC or ft BGS (circle one)

SCREENED/OPEN BOREHOLE INTERVAL: 17-32' ft TIC or ft BGS (circle one)

SAMPLE FLOW RATE: 200 ml/minute

Instrument Type/Model: Complete and/or Circle at right

YSI Model # 6920 / Horiba U-22 (circle one)
Other (specify)_____

Instrument:

CURRENT TIME (VARIES CONTINUOUSLY)	VOLUME PURGED	DEPTH TO WATER	FLOW RATE	DRAWDOWN (± 0.3 FT)	pH (± 0.1 SU)	SPECIFIC CONDUCTIVITY (± 3%)	DISSOLVED OXYGEN (± 10%)	TEMP. (± 10%)	REDOX POTENTIAL (± 10 mV)	TURBIDITY (± 10%)
24-Hour	gallons / liters (circle one)	ft TIC / ft BGS (circle one)	Units: ml/min	ft TIC / ft BGS (circle one)	SU	S/cm, mS/cm / or µS/cm (circle one)	mg/L (not %)	Units: °C	mV	NTUs
0955	—	19.59	—							
1000	1	19.60	200	-0.01	6.09	2.067	1.50	18.14	32.6	120.0
1005	2	19.60	200	—	6.11	2.063	2.67	18.37	38.7	105.9
1010	3	19.60	"	—	6.11	2.059	3.28	18.51	45.1	90.8
1015	4	19.60	"	—	6.11	2.054	1.90	18.60	52.8	84.6
1020	5	19.60	"	—	6.11	2.051	1.43	18.66	57.1	73.3
1025	6	19.60	"	—	6.11	2.047	1.51	18.74	60.8	66.2
1030	7	19.60	"	—	6.11	2.044	1.58	18.89	63.7	61.6
1035	8	19.60	"	—	6.11	2.041	1.28	18.99	66.5	53.1
1040	9	19.60	"	—	6.11	2.036	1.37	19.09	70.2	49.8

1050 COLLECT SAMPLE

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values: DO = 0.3 - 10 mg/L Redox Potential = -100 - +600 mV Turbidity = 0 - >500 NTUs
Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm

TIC = Top of Inner Casing BGS = Below Ground Surface

DIAZ CHEMICAL CORPORATION SITE
LOW FLOW GROUNDWATER SAMPLING PURGE RECORD

DATE: 10/23/09

WELL #: MW-123I

SAMPLERS: SM/EK

DEPTH OF PUMP INTAKE: 55 ft TIC or ft BGS (circle one)

WEATHER CONDITIONS: cloudy, 50 F

SCREENED/OPEN BOREHOLE INTERVAL: 50-60 ft TIC or ft BGS (circle one)

SAMPLE ID: MW-123I-45

SAMPLE TIME: 1120

SAMPLE FLOW RATE: 250 ml/minute

CLP ID: B7MR3

Instrument Type/Model:
Complete and/or Circle at right

YSI Model # 6920 / Horiba U-22 (circle one)
Other (specify)

Instrument: LaMotte

CURRENT TIME	VOLUME PURGED	DEPTH TO WATER	FLOW RATE	DRAWDOWN (± 0.3 FT)	pH (± 0.1 SU)	SPECIFIC CONDUCTIVITY (± 3%)	DISSOLVED OXYGEN (± 10%)	TEMP. (± 10%)	REDOX POTENTIAL (± 10 mV)	TURBIDITY (± 10%)
24-Hour	gallons / liters (circle one)	ft TIC / ft BGS (circle one)	Units: ml/min	ft TIC / ft BGS (circle one)	SU	S/cm, mS/cm or µS/cm (circle one)	mg/L (not %)	Units: °C	mV	NTUs
1115		21.15	300		8.90	1.240	2.66	17.85	69.3	0.85
1120	Sampled									

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values: DO = 0.3 - 10 mg/L Redox Potential = -100 - +600 mV Turbidity = 0 - >500 NTUs
Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm

TIC = Top of Inner Casing BGS = Below Ground Surface

DIAZ CHEMICAL CORPORATION SITE
LOW FLOW GROUNDWATER SAMPLING PURGE RECORD

DATE: 10/23/09

WELL #: MW-123D

SAMPLERS: SO / EK

DEPTH OF PUMP INTAKE: 193' ft TIC or ft BGS (circle one)

WEATHER CONDITIONS: Over-cast, windy ~ 59°F

SCREENED/OPEN BOREHOLE INTERVAL: 188'-198' ft TIC or ft BGS (circle one)

SAMPLE ID: MW-123D-YS

SAMPLE TIME: 11:35

SAMPLE FLOW RATE: 250 ml/minute

CLP ID: B7MR2

Instrument Type/Model: Complete and/or Circle at right

YSI Model # 6820 / Horiba U-22 (circle one)
Other (specify)

Instrument:

CURRENT TIME	VOLUME PURGED	DEPTH TO WATER	FLOW RATE	DRAWDOWN (± 0.3 FT)	pH (± 0.1 SU)	SPECIFIC CONDUCTIVITY (± 3%)	DISSOLVED OXYGEN (± 10%)	TEMP. (± 10%)	REDOX POTENTIAL (± 10 mV)	TURBIDITY (± 10%)
24-Hour	gallons / liters (circle one)	ft TIC / ft BGS (circle one)	Units: ml/min	ft TIC / ft BGS (circle one)	SU	S/cm / mS/cm / µS/cm (circle one)	mg/L (not %)	Units: °C	mV	NTUs
		Initial DTW 19.7'								
10:00 → Start Purging			300							
10:10	3	19.8'	300	0.1	7.63	0.940	0.91	17.01	199.5	47.2
10:20	6	19.8'	300	—	7.46	1.341	0.59	17.03	100.8	38.7
10:30	9	19.8'	300	—	7.45	1.378	0.55	17.09	45.7	26.9
10:40	12	19.8'	300	—	7.45	1.346	0.60	17.17	32.8	19.1
10:50	15	19.8'	300	—	7.47	1.289	0.63	17.08	22.2	22.2
11:00	18	19.8'	300	—	7.48	1.196	0.67	16.87	21.7	18.8
11:10	21	19.8'	300	—	7.48	1.144	0.68	16.83	19.2	16.0
11:15	22.5	19.8'	300	—	7.49	1.137	0.69	16.83	18.9	12.1

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values: DO = 0.3 - 10 mg/L Redox Potential = -100 - +600 mV Turbidity = 0 - >500 NTUs
Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm

TIC = Top of Inner Casing BGS = Below Ground Surface

DIAZ CHEMICAL CORPORATION SITE
LOW FLOW GROUNDWATER SAMPLING PURGE RECORD

DATE: 10/23/09

WELL #: MW-123D

SAMPLERS: S.O. / Etc

DEPTH OF PUMP INTAKE: 193' ft TIC or ft BGS (circle one)

WEATHER CONDITIONS: Over-cast, windy ~59°F

SCREENED/OPEN BOREHOLE INTERVAL: 188'-198 ft TIC or ft BGS (circle one)

SAMPLE ID: MW-123D-YS

SAMPLE TIME: 11:35

SAMPLE FLOW RATE: 250 ml/minute

CLP ID: B7MR2

Instrument Type/Model:
Complete and/or Circle at right

YSI Model #_____ / Horiba U-22 (circle one)
Other (specify)_____

Instrument:

CURRENT TIME	VOLUME PURGED	DEPTH TO WATER	FLOW RATE	DRAWDOWN (± 0.3 FT)	pH (± 0.1 SU)	SPECIFIC CONDUCTIVITY (± 3%)	DISSOLVED OXYGEN (± 10%)	TEMP. (± 10%)	REDOX POTENTIAL (± 10 mV)	TURBIDITY (± 10%)
24-Hour	gallons / liters (circle one)	ft TIC / ft BGS (circle one)	Units: ml/min	ft TIC / ft BGS (circle one)	SU	S/cm, mS/cm / or µS/cm (circle one)	mg/L (not %)	Units: °C	mV	NTUs
11:20	24	19.8'	300	—	7.48	1.141	0.69	16.79	18.0	10.83
11:25	25.5	19.8'	300	—	7.48	0.139	0.70	16.77	17.9	10.56
11:30	27	19.8'	300	—	7.47	0.138	0.70	16.69	17.9	10.45
11:35 → Called Sample										

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values: DO = 0.3 - 10 mg/L Redox Potential = -100 - +600 mV Turbidity = 0 - >500 NTUs
Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm

TIC = Top of Inner Casing BGS = Below Ground Surface

Pump on @ 0955

DIAZ CHEMICAL CORPORATION SITE
LOW FLOW GROUNDWATER SAMPLING PURGE RECORD

DATE: 10/23/09

WELL #: MW-123I

SAMPLERS: SM/EK

DEPTH OF PUMP INTAKE: 55 ft TIC or ft BGS (circle one)

WEATHER CONDITIONS: cloudy, ~50 F

SCREENED/OPEN BOREHOLE INTERVAL: 50-60 ft TIC or ft BGS (circle one)

SAMPLE ID: MW-123I-45

SAMPLE TIME: 1120

SAMPLE FLOW RATE: 250 ml/minute

CLP ID: B7MR3

Instrument Type/Model: Complete and/or Circle at right

YSI Model # 6920 / Horiba U-22 (circle one)
Other (specify)

Instrument: LaMotte

CURRENT TIME	VOLUME PURGED	DEPTH TO WATER	FLOW RATE	DRAWDOWN (± 0.3 FT)	pH (± 0.1 SU)	SPECIFIC CONDUCTIVITY (± 3%)	DISSOLVED OXYGEN (± 10%)	TEMP. (± 10%)	REDOX POTENTIAL (± 10 mV)	TURBIDITY (± 10%)
24-Hour	gallons / liters (circle one)	ft TIC / ft BGS (circle one)	Units: ml/min	ft TIC / ft BGS (circle one)	SU	S/cm, mS/cm or µS/cm (circle one)	mg/L (not %)	Units: °C	mV	NTUs
initial	DTW -	19.51								
1005		20.21	300	-0.70	9.43	1.268	3.55	17.22	60.1	1.69
1015		20.53	300	-0.32	9.45	1.218	3.57	17.39	74.8	2.14
1025		20.81	300	-0.28	9.41	1.216	3.49	17.66	47.9	1.38
1035		20.86	300	-0.05	9.42	1.235	3.45	17.82	57.0	1.45
1045		21.00	300	-0.14	9.31	1.236	3.22	17.90	40.5	1.14
1055		21.06	300	-0.06	9.23	1.239	3.14	17.86	46.5	0.41
1100		21.08	300	-0.02	9.12	1.250	2.89	17.78	53.4	0.00
1105		21.12	300	-0.04	9.00	1.236	2.78	17.79	59.4	0.53
1110		21.15	30	-0.03	8.91	1.238	2.69	17.83	67.1	0.62

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values: DO = 0.3 - 10 mg/L; Redox Potential = -100 - +600 mV; Turbidity = 0 - >500 NTUs
Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm

TIC = Top of Inner Casing BGS = Below Ground Surface

DIAZ CHEMICAL CORPORATION SITE
LOW FLOW GROUNDWATER SAMPLING PURGE RECORD

DATE: 10/27/09

WELL #: MW-124S

SAMPLERS: SO / EK

DEPTH OF PUMP INTAKE: 25' ft TIC or ft BGS (circle one)

WEATHER CONDITIONS: Raining ~ 50°F

SCREENED/OPEN BOREHOLE INTERVAL: 18' - 33.4' ft TIC or ft BGS (circle one)

SAMPLE ID: MW-124S-YS

SAMPLE TIME: 10:50

SAMPLE FLOW RATE: 250 ml/minute

CLP ID: B7MR7

Instrument Type/Model: Complete and/or Circle at right

YSI Model # 6920 / Horiba U-22 (circle one)
Other (specify)_____

Instrument:

CURRENT TIME	VOLUME PURGED	DEPTH TO WATER	FLOW RATE	DRAWDOWN (± 0.3 FT)	pH (± 0.1 SU)	SPECIFIC CONDUCTIVITY (± 3%)	DISSOLVED OXYGEN (± 10%)	TEMP. (± 10%)	REDOX POTENTIAL (± 10 mV)	TURBIDITY (± 10%)
24-Hour	gallons / liters (circle one)	ft TIC / ft BGS (circle one)	Units: ml/min	ft TIC / ft BGS (circle one)	SU	S/cm, mS/cm or µS/cm (circle one)	mg/L (not %)	Units: °C	mV	NTUs
Initial DTW → 18.65'										
09:30 → Start Purging			400	—	6.78	3.786	1.70	17.72	-13.4	38.3
09:40	4	18.65	400	—	6.37	3.773	2.23	18.05	44.1	27.6
09:50	8	18.65	400	—	6.33	3.765	2.75	18.21	62.6	19.2
10:00	12	18.65	400	—	6.31	3.757	3.09	18.19	72.1	16.4
10:10	16	18.65	400	—	6.31	3.755	3.44	18.36	78.7	12.4
10:20	20	18.65	400	—	6.29	3.749	3.57	17.97	82.3	11.2
10:30	24	18.65	400	—	6.30	3.751	3.74	17.57	85.4	7.91
10:40	28	18.65	400	—	6.30	3.752	3.76	17.51	87.5	7.10
10:45	30	18.65	400	—	6.31	3.753	3.75	17.96	87.9	7.15
10:50	32	18.65	400	—	6.30	3.752	3.76	17.94	88.1	7.11

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values: DO = 0.3 - 10 mg/L Redox Potential = -100 - +600 mV Turbidity = 0 - >500 NTUs
Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm

TIC = Top of Inner Casing BGS = Below Ground Surface

p. 1 of 1

DIAZ CHEMICAL CORPORATION SITE
LOW FLOW GROUNDWATER SAMPLING PURGE RECORD

DTB - 58.6'

DATE: 10/27/09

WELL #: MW-124I

SAMPLERS: SM / EK

DEPTH OF PUMP INTAKE: 53.6 ft TIC or ft BGS (circle one)

WEATHER CONDITIONS: raining, ~50°F

SCREENED/OPEN BOREHOLE INTERVAL: 48.6-58.6 ft TIC or ft BGS (circle one)

SAMPLE ID: MW-124I-YS

SAMPLE TIME: 1020

SAMPLE FLOW RATE: 250 ml/minute

CLP ID: B1MR6

Instrument Type/Model: Complete and/or Circle at right

YSI Model # 6920 / Horiba U-22 (circle one)
Other (specify)

Instrument: LaMotte

CURRENT TIME	VOLUME PURGED	DEPTH TO WATER	FLOW RATE	DRAWDOWN (± 0.3 FT)	pH (± 0.1 SU)	SPECIFIC CONDUCTIVITY (± 3%)	DISSOLVED OXYGEN (± 10%)	TEMP. (± 10%)	REDOX POTENTIAL (± 10 mV)	TURBIDITY (± 10%)
24-Hour	gallons / liters (circle one)	ft TIC / ft BGS (circle one)	Units: ml/min	ft TIC / ft BGS (circle one)	SU	S/cm, mS/cm / or µS/cm (circle one)	mg/L (not %)	Units: °C	mV	NTUs
Initial DTW -		18.60	~~400~~							
0910	Pump ON	18.66	400	+.06						
0930		18.65	300	-.01	6.65	0.882	5.17	16.89	84.5	3.66
0940		18.65	300	0	6.65	0.882	5.17	16.61	28.3	3.38
0950		18.65	300	0	6.61	0.886	5.37	16.61	88.1	2.61
1000		18.65	300	0	6.59	0.889	5.46	16.88	102.6	1.92
1010		18.65	300	0	6.53	0.890	5.88	17.07	110.6	1.30
1015		18.66	300	+.01	6.53	0.890	5.89	17.00	112.6	0.87
1020	Sample Collected	18.66	300	0	6.51	0.891	5.99	16.95	114.8	0.84

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values: DO = 0.3 - 10 mg/L Redox Potential = -100 - +600 mV Turbidity = 0 - >500 NTUs
Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm

TIC = Top of Inner Casing BGS = Below Ground Surface

FEDERAL CREOSOTE SUPERFUND SITE
LOW FLOW GROUNDWATER SAMPLING

Pump on flow rate 200 ml/min
YSI model 6920

DATE: 10/27/09

TIME: Sample collected at 10:10

WELL #: 124D
TOT DEPTH 199.5

DEPTH OF PUMP: 190 BGS
SCREEN INT 185-195 (BGS)

WEATHER CONDITIONS: RAIN

SAMPLERS: TH / EK

ID B7 MR5 / MW-124D-Y5

ELAPSED TIME (min)	VOLUME PURGED (~~gals~~) liter	DEPTH TO WATER (ft TIC)	FLOW RATE ml/min	DRAWDOWN ft (± 0.3 ft)	pH (± 0.1 SU)	SPECIFIC COND. mS/cm^{C} (± 3%)	TURBIDITY NTUs (± 10%) NG MODE 0.00	DISSOLVED OXYGEN mg/L (± 10%)	TEMP. °C (± 10%)	REDOX POTENTIAL mV (± 10 mv)
0930		18.39	—							
0935	1	18.75	200	+0.36	~~0.30~~					
0940	2	18.75	200	—	9.45	0.363	10.73	3.69	15.32	146.7
0945	3	18.75	200	—	9.46	0.363	10.70	3.24	15.40	148.9
0950	4	18.75	200	—	9.46	0.362	8.61	3.18	15.35	139.2
0955	5	18.75	200	—	9.45	0.362	7.70	3.05	15.33	142.6
1000	6	18.75	200	—	9.45	0.361	6.34	2.88	15.32	145.1
1005	7	18.75	200	—	9.40	0.358	6.21	2.90	15.40	147.5
1010	Guest Sample									

Drawdown is not to exceed 0.3 of a foot. Flow rate should not exceed 500 mL/min during purging or 250 mL/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

CDM

DIAZ CHEMICAL CORPORATION SITE
LOW FLOW GROUNDWATER SAMPLING PURGE RECORD

DATE: 10/21/09

WELL #: MW-1255

SAMPLERS: EK / SO

DEPTH OF PUMP INTAKE: 13' ft TIC or ft BGS (circle one)

WEATHER CONDITIONS: Sunny, Clear Skies ~55°F

SCREENED/OPEN BOREHOLE INTERVAL: 6'-21' ft TIC or ft BGS (circle one)

SAMPLE ID: MW-1255-YS

SAMPLE TIME:

SAMPLE FLOW RATE: ml/minute

CLP ID: B7MR9

Instrument Type/Model: Complete and/or Circle at right

YSI Model #_____ / Horiba U-22 (circle one)
Other (specify)_____

Instrument:

CURRENT TIME	VOLUME PURGED	DEPTH TO WATER	FLOW RATE	DRAWDOWN (± 0.3 FT)	pH (± 0.1 SU)	SPECIFIC CONDUCTIVITY (± 3%)	DISSOLVED OXYGEN (± 10%)	TEMP. (± 10%)	REDOX POTENTIAL (± 10 mV)	TURBIDITY (± 10%)
24-Hour	gallons / liters (circle one)	ft TIC / ft BGS (circle one)	Units: ml/min	ft TIC / ft BGS (circle one)	SU	S/cm, mS/cm or µS/cm (circle one)	mg/L (not %)	Units: °C	mV	NTUs
		12.0'								
10:25 → Start Purging			300							
10:35	3	12.05'	300	.05	6.04	0.354	40.0	19.25	135.2	20.8
10:45	6	12.05	300	—	6.03	0.355	40.0	19.96	147.5	19.4
10:55	9	12.05	300	—	6.02	0.356	42.0	19.85	131.5	14.3
11:05	12	12.05	300	—	6.02	0.358	42.0	20.04	146.5	10.93
11:10	13.5	12.05	300	—	6.02	0.358	42.0	20.08	150.9	9.54
11:15	15	12.05	300	—	6.01	0.357	41.0	20.17	150.9	8.22
11:20	16.5	12.05	300	—	6.01	0.357	42.0	20.35	151.7	7.92
11:25 → 18 Sample Collected										

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values: DO = 0.3 - 10 mg/L Redox Potential = -100 - +600 mV Turbidity = 0 - >500 NTUs
Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm

TIC = Top of Inner Casing BGS = Below Ground Surface

Pump on @ 1015

Federal Creosote
~~DIAZ CHEMICAL CORPORATION SITE~~
LOW FLOW GROUNDWATER SAMPLING PURGE RECORD

DATE: 10/21/09

WELL #: MW-1251

SAMPLERS: S. Martinelli + E.K.

DEPTH OF PUMP INTAKE: 53 ft TIC or ft BGS (circle one)

WEATHER CONDITIONS: sunny, ~65°F

SCREENED/OPEN BOREHOLE INTERVAL: 48-58 ft TIC or ft BGS (circle one)

SAMPLE ID: MW-1251-Y5

SAMPLE TIME: 1130

SAMPLE FLOW RATE: 200 ml/minute

CLP ID: ~~1251 B7MR7~~ B7MR8

Instrument Type/Model: Complete and/or Circle at right

YSI Model # 6320 / Horiba U-22 (circle one)
Other (specify)

Instrument: LaMotte 2020

CURRENT TIME	VOLUME PURGED	DEPTH TO WATER	FLOW RATE	DRAWDOWN (± 0.3 FT)	pH (± 0.1 SU)	SPECIFIC CONDUCTIVITY (± 3%)	DISSOLVED OXYGEN (± 10%)	TEMP. (± 10%)	REDOX POTENTIAL (± 10 mV)	TURBIDITY (± 10%)
24-Hour	gallons / liters (circle one)	ft TIC / ft BGS (circle one)	Units: ml/min	ft TIC / ft BGS (circle one)	SU	S/cm, mS/cm or µS/cm (circle one)	mg/L (not %)	Units: °C	mV	NTUs
Initial DTW -		12.99								
1035	3	13.16	300	0.17	7.47	0.468	0.62	16.04	14.4	0.43
1045	6	13.18	300	0.02	7.45	0.473	0.57	16.39	3.1	0.43
1055	9	13.19	300	0.01	7.42	0.479	0.52	16.16	2.8	204
1105	12	13.20	300	0.01	7.40	0.484	0.50	16.23	4.6	1.67
1110	13.5	13.20	300	0	7.39	0.487	0.50	16.24	6.7	1.00
1115	15	13.20	300	–	7.37	0.490	0.51	16.29	7.37	0.44
1120	16.5	13.20	300	–	7.37	0.492	0.52	16.34	8.8	1.02
1125	18	13.20	300	–	7.36	0.493	0.53	16.41	9.7	1.13
1128	18.9	13.20	300	–	7.36	0.494	0.53	16.45	9.6	1.83

* YSI 6320 PINE ID-1622 LaMotte PINE ID-09918

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values: DO = 0.3 - 10 mg/L Redox Potential = -100 - +600 mV Turbidity = 0 - >500 NTUs
Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm

TIC = Top of Inner Casing BGS = Below Ground Surface

DIAZ CHEMICAL CORPORATION SITE
LOW FLOW GROUNDWATER SAMPLING PURGE RECORD

DATE: 10/21/09

WELL #: MW-126S

SAMPLERS: TN/EK

DEPTH OF PUMP INTAKE: ft TIC or ft BGS (circle one)

WEATHER CONDITIONS: Partly Cloudy 65°F

SCREENED/OPEN BOREHOLE INTERVAL: ft TIC or ft BGS (circle one)

SAMPLE ID: MW-126S-45

SAMPLE TIME:

SAMPLE FLOW RATE: 200 ml/minute

CLP ID: ~~B7MRG~~ B7M50

Instrument Type/Model: Complete and/or Circle at right

YSI Model # 6920 / Horiba U-22 (circle one)
Other (specify)

Instrument: Lamotte 2020e

CURRENT TIME	VOLUME PURGED	DEPTH TO WATER	FLOW RATE	DRAWDOWN (± 0.3 FT)	pH (± 0.1 SU)	SPECIFIC CONDUCTIVITY (± 3%)	DISSOLVED OXYGEN (± 10%)	TEMP. (± 10%)	REDOX POTENTIAL (± 10 mV)	TURBIDITY (± 10%)
24-Hour	gallons / liters (circle one)	ft TIC / ft BGS (circle one)	Units: ml/min	ft TIC / ft BGS (circle one)	SU	S/cm, mS/cm / or µS/cm (circle one)	mg/L (not %)	Units: °C	mV	NTUs
1035		10.32	—	0.0						
1040	1	10.33	200	0.01	5.71	0.410	5.20	16.66	162.2	57.2
1045	2	10.34	"	0.01	5.64	0.409	5.11	17.18	178.5	44.3
1050	3	10.34	"	—	5.63	0.409	5.02	17.33	186.1	37.6
1055	4	10.34	"	—	5.63	0.408	5.05	17.77	193.0	29.2
1100	5	10.34	"	—	5.62	0.407	4.98	17.96	200.2	24.7
1105	6	10.34	"	—	5.61	0.406	5.01	18.01	201.6	22.8
1110	7	10.34	"	—	5.60	0.405	5.02	18.15	204.3	20.0
1115	collect	sample								

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values: DO = 0.3 - 10 mg/L Redox Potential = -100 - +600 mV Turbidity = 0 - >500 NTUs
Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm

TIC = Top of Inner Casing BGS = Below Ground Surface

DIAZ CHEMICAL CORPORATION SITE
LOW FLOW GROUNDWATER SAMPLING PURGE RECORD

DATE: 10/22/09

SAMPLERS: TH / EK

WEATHER CONDITIONS: partly cloudy, 65°F

SAMPLE ID: MW-127S-Y5

SAMPLE TIME:

CLP ID: B7MS1

WELL #: MW-127S

DEPTH OF PUMP INTAKE: 30' ft TIC or ft BGS (circle one)

SCREENED/OPEN BOREHOLE INTERVAL: 20.5-35.5' ft TIC or ft BGS (circle one)

SAMPLE FLOW RATE: 200 ml/minute

Instrument Type/Model:
Complete and/or Circle at right

YSI Model # 6920 / Horiba U-22 (circle one)
Other (specify)

Instrument: Hach Turbidimeter 2100

CURRENT TIME	VOLUME PURGED	DEPTH TO WATER	FLOW RATE	DRAWDOWN (± 0.3 FT)	pH (± 0.1 SU)	SPECIFIC CONDUCTIVITY (± 3%)	DISSOLVED OXYGEN (± 10%)	TEMP. (± 10%)	REDOX POTENTIAL (± 10 mV)	TURBIDITY (± 10%)
24-Hour	gallons / liters (circle one)	ft TIC / ft BGS (circle one)	Units: ml/min	ft TIC / ft BGS (circle one)	SU	S/cm, mS/cm / or µS/cm (circle one)	mg/L (not %)	Units: °C	mV	NTUs
1030		25.55	-							
1035	1	25.73	200	+0.18	6.34	0.706	5.85	17.11	89.5	49.9
1040	2	25.70	"	-0.3	6.33	0.707	5.45	17.17	87.9	45.2
1045	3	25.70	"	—	6.31	0.713	5.91	17.40	81.9	42.7
1050	4	25.72	"	+0.02	6.27	0.730	6.28	17.75	67.1	43.6
1055	5	25.73	"	+0.01	6.21	0.758	6.55	17.73	63.2	44.1
1100	6	25.73	"	—	6.16	0.776	6.86	17.69	59.5	45.2
1105	7	25.73	"	—	6.12	0.788	6.94	17.71	61.6	43.2
1110	8	25.73	"	—	6.10	0.803	7.13	17.76	64.5	42.8
1115	COLLECT	SAMPLE								

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values: DO = 0.3 - 10 mg/L Redox Potential = -100 - +600 mV Turbidity = 0 - >500 NTUs
Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm

TIC = Top of Inner Casing BGS = Below Ground Surface

Appendix D

Complete Validated Analytical Results

Federal Creosote Superfund Site - OU3
Y5 - Groundwater Sample
Full Analytical Resuts

Cas Rn	Chemical Name	Analytic Method	Sample Code Sample Name Sample Date Unit \\ Depth	MW-103S-Y5 10/26/2009		MW-104RS-Y5 10/29/2009		MW-110D-Y5 10/28/2009		MW-110I-Y5 10/28/2009		MW-110S-Y5 10/28/2009	
(Group Code)	**(Group Description)**												
1-GWMW-VOA	**Volatile Organic Compounds**												
75-71-8	Dichlorodifluoromethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
74-87-3	Chloromethane	TVOA	ug/L	0.5	U	0.5	UL	0.5	U	0.5	U	0.5	U
75-01-4	Vinyl Chloride	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
74-83-9	Bromomethane	TVOA	ug/L	0.5	UL	0.5	UL	0.5	U	0.5	U	0.5	U
75-00-3	Chloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
75-69-4	Trichlorofluoromethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
75-35-4	1,1-Dichloroethene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
75-15-0	Carbon Disulfide	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
67-64-1	Acetone	TVOA	ug/L	5	U	5	U	5	U	5	U	5	U
79-20-9	Methyl Acetate	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
75-09-2	Methylene Chloride	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
156-60-5	trans-1,2-Dichloroethene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1634-04-4	Methyl Tert-Butyl Ether	TVOA	ug/L	0.5	U	0.54		0.5	U	0.5	U	0.5	U
75-34-3	1,1-Dichloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
156-59-2	cis-1,2-Dichloroethene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	2.1		0.5	U
78-93-3	2-Butanone	TVOA	ug/L	5	U	5	U	5	U	5	U	5	U
74-97-5	CHLOROBROMOMETHANE	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
67-66-3	Chloroform	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
71-55-6	1,1,1-Trichloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
110-82-7	Cyclohexane	TVOA	ug/L	2	U	2	U	2	U	2	U	2	U
56-23-5	Carbon Tetrachloride	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
71-43-2	Benzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	1.3		0.5	U
107-06-2	1,2-Dichloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
79-01-6	Trichloroethene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	1.3		0.5	U
78-87-5	1,2-Dichloropropane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
75-27-4	Bromodichloromethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
10061-01-5	cis-1,3-Dichloropropene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
108-10-1	4-Methyl-2-pentanone	TVOA	ug/L	5	U	5	U	5	U	5	U	5	U
108-88-3	Toluene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
10061-02-6	Trans-1,3-Dichloropropene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
79-00-5	1,1,2-Trichloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
127-18-4	Tetrachloroethene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
108-87-2	Metylcyclohexane	TVOA	ug/L	2	U	2	U	2	U	2	U	2	U
124-48-1	Dibromochloromethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
106-93-4	1,2-Dibromoethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
591-78-6	2-Hexanone	TVOA	ug/L	5	U	5	U	5	U	5	U	5	U

Federal Creosote Superfund Site - OU3
Y5 - Groundwater Sample
Full Analytical Resuts

			Sample Code	MW-103S-Y5		MW-104RS-Y5		MW-110D-Y5		MW-110I-Y5		MW-110S-Y5	
			Sample Name										
			Sample Date	10/26/2009		10/29/2009		10/28/2009		10/28/2009		10/28/2009	
Cas Rn	Chemical Name	Analytic Method	Unit \\ Depth										
108-90-7	Chlorobenzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
100-41-4	Ethylbenzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
179601-23-1	m,p-Xylene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
95-47-6	O-XYLENE	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
100-42-5	Styrene	TVOA	ug/L	2	U	2	U	2	U	2	U	2	U
75-25-2	Bromoform	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
98-82-8	Isopropylbenzene	TVOA	ug/L	1	U	1	U	1	U	2.1		1	U
541-73-1	1,3-Dichlorobenzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
106-46-7	1,4-Dichlorobenzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
95-50-1	1,2-Dichlorobenzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
96-12-8	1,2-Dibromo-3-chloropropane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
120-82-1	1,2,4-Trichlorobenzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
87-61-6	1,2,3-TRICHLOROBENZENE	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
79-34-5	1,1,2,2-Tetrachloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Federal Creosote Superfund Site - OU3
Y5 - Groundwater Sample
Full Analytical Resuts

Cas Rn	Chemical Name	Analytic Method	Sample Code Sample Name Sample Date Unit \\ Depth	MW-103S-Y5 10/26/2009		MW-104RS-Y5 10/29/2009		MW-110D-Y5 10/28/2009		MW-110I-Y5 10/28/2009		MW-110S-Y5 10/28/2009	
2-GWMW-SVOA	**Semi-Volatile Organic Compounds**												
100-52-7	Benzaldehyde	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
108-95-2	Phenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
111-44-4	bis(2-Chloroethyl)ether	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
95-57-8	2-Chlorophenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
95-48-7	2-Methylphenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
98-86-2	Acetophenone	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
106-44-5	4-Methylphenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
621-64-7	N-Nitroso-di-n-propylamine	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
67-72-1	Hexachloroethane	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
98-95-3	Nitrobenzene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
78-59-1	Isophorone	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
88-75-5	2-Nitrophenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
105-67-9	2,4-Dimethylphenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
111-91-1	bis(2-Chloroethoxy)methane	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
120-83-2	2,4-Dichlorophenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
91-20-3	Naphthalene	SVOA-LOW	ug/L	5	U	5	U	5	U	0.33	J	5	U
106-47-8	4-Chloroaniline	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
87-68-3	Hexachlorobutadiene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
105-60-2	Caprolactam	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
59-50-7	4-Chloro-3-methylphenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
91-57-6	2-Methylnaphthalene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
95-94-3	1,2,4,5-TETRACHLOROBENZENE	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
77-47-4	Hexachlorocyclopentadiene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
88-06-2	2,4,6-Trichlorophenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
95-95-4	2,4,5-Trichlorophenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
92-52-4	1,1'Biphenyl	SVOA-LOW	ug/L	5	U	5	U	5	U	0.16	J	5	U
91-58-7	2-Chloronaphthalene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
88-74-4	2-Nitroaniline	SVOA-LOW	ug/L	10	U	10	U	10	U	10	U	10	U
131-11-3	Dimethylphthalate	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
208-96-8	Acenaphthylene	SVOA-LOW	ug/L	5	U	5	U	5	U	0.64	J	5	U
606-20-2	2,6-Dinitrotoluene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
99-09-2	3-Nitroaniline	SVOA-LOW	ug/L	10	U	10	U	10	U	10	U	10	U
83-32-9	Acenaphthene	SVOA-LOW	ug/L	5	U	5	U	1.7	J	25		5	U
51-28-5	2,4-Dinitrophenol	SVOA-LOW	ug/L	10	U	10	U	10	U	10	U	10	U
100-02-7	4-Nitrophenol	SVOA-LOW	ug/L	10	U	10	U	10	U	10	U	10	U
132-64-9	Dibenzofuran	SVOA-LOW	ug/L	5	U	5	U	5	U	0.26	J	5	U

Federal Creosote Superfund Site - OU3
Y5 - Groundwater Sample
Full Analytical Resuts

Cas Rn	Chemical Name	Analytic Method	Sample Code Sample Name Sample Date Unit \\ Depth	MW-103S-Y5 10/26/2009		MW-104RS-Y5 10/29/2009		MW-110D-Y5 10/28/2009		MW-110I-Y5 10/28/2009		MW-110S-Y5 10/28/2009	
121-14-2	2,4-Dinitrotoluene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
86-73-7	Fluorene	SVOA-LOW	ug/L	5	U	5	U	0.43	J	18		5	U
84-66-2	Diethylphthalate	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
7005-72-3	4-Chlorophenyl-phenylether	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
100-01-6	4-Nitroaniline	SVOA-LOW	ug/L	10	U	10	U	10	U	10	U	10	U
534-52-1	4,6-Dinitro-2-methylphenol	SVOA-LOW	ug/L	10	U	10	U	10	U	10	U	10	U
86-30-6	N-Nitrosodiphenylamine	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
101-55-3	4-Bromophenyl-phenylether	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
118-74-1	Hexachlorobenzene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
1912-24-9	Atrazine	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
87-86-5	Pentachlorophenol	SVOA-LOW	ug/L	10	U	10	U	10	U	10	U	10	U
85-01-8	Phenanthrene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
120-12-7	Anthracene	SVOA-LOW	ug/L	5	U	5	U	5	U	0.98	J	5	U
86-74-8	Carbazole	SVOA-LOW	ug/L	5	U	5	U	5	U	37		5	U
84-74-2	Di-n-butylphthalate	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
206-44-0	Fluoranthene	SVOA-LOW	ug/L	5	U	5	U	5	U	1.8	J	5	U
129-00-0	Pyrene	SVOA-LOW	ug/L	5	U	0.19	J	5	U	1.3	J	5	U
85-68-7	Butylbenzylphthalate	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
91-94-1	3,3'-Dichlorobenzidine	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
56-55-3	Benzo(a)anthracene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
218-01-9	Chrysene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
117-84-0	Di-n-octyl phthalate	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
205-99-2	Benzo(b)fluoranthene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
207-08-9	Benzo(k)fluoranthene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
50-32-8	Benzo(a)pyrene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
193-39-5	Indeno(1,2,3-cd)pyrene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
53-70-3	Dibenz(a,h)anthracene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
191-24-2	Benzo(g,h,i)perylene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
58-90-2	CHLOROPHENOLS	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U

Federal Creosote Superfund Site - OU3
Y5 - Groundwater Sample
Full Analytical Resuts

Cas Rn	Chemical Name	Analytic Method	Sample Code Sample Name Sample Date Unit \\ Depth	MW-103S-Y5 10/26/2009		MW-104RS-Y5 10/29/2009		MW-110D-Y5 10/28/2009		MW-110I-Y5 10/28/2009		MW-110S-Y5 10/28/2009	
SVOA-SIM	**Semi-Volatile Organic Compounds - SIM**												
91-20-3	Naphthalene	SVOA-SIM	ug/L	0.1	U	0.1	U	0.1	U	0.25		0.1	U
91-57-6	2-Methylnaphthalene	SVOA-SIM	ug/L	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
208-96-8	Acenaphthylene	SVOA-SIM	ug/L	0.1	U	0.1	U	0.032	J	0.4		0.1	U
83-32-9	Acenaphthene	SVOA-SIM	ug/L	0.1	U	0.1	U	1.3		23	J	0.1	U
86-73-7	Fluorene	SVOA-SIM	ug/L	0.1	U	0.1	U	0.28		16	J	0.1	U
87-86-5	Pentachlorophenol	SVOA-SIM	ug/L	0.2	R	0.2	R	0.2	R	0.036	J	0.2	R
85-01-8	Phenanthrene	SVOA-SIM	ug/L	0.029	J	0.1	U	0.1	U	0.14		0.1	U
120-12-7	Anthracene	SVOA-SIM	ug/L	0.1	U	0.038	J	0.1	U	0.9		0.1	U
206-44-0	Fluoranthene	SVOA-SIM	ug/L	0.054	J	0.11		0.1	U	1.9		0.1	U
129-00-0	Pyrene	SVOA-SIM	ug/L	0.06	J	0.15		0.1	U	0.89		0.1	U
56-55-3	Benzo(a)anthracene	SVOA-SIM	ug/L	0.016	J	0.1	U	0.1	U	0.027	J	0.1	U
218-01-9	Chrysene	SVOA-SIM	ug/L	0.1	U	0.1	U	0.1	U	0.018	J	0.1	U
205-99-2	Benzo(b)fluoranthene	SVOA-SIM	ug/L	0.1	U	0.1	U	0.1	U	0.018	J	0.1	U
207-08-9	Benzo(k)fluoranthene	SVOA-SIM	ug/L	0.1	U	0.015	J	0.1	U	0.1	U	0.1	U
50-32-8	Benzo(a)pyrene	SVOA-SIM	ug/L	0.1	U	0.025	J	0.016	J	0.016	J	0.1	U
193-39-5	Indeno(1,2,3-cd)pyrene	SVOA-SIM	ug/L	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
53-70-3	Dibenz(a,h)anthracene	SVOA-SIM	ug/L	0.1	U	0.065	J	0.017	J	0.022	J	0.1	U
191-24-2	Benzo(g,h,i)perylene	SVOA-SIM	ug/L	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
3-MET-W	**Inorganic Analytes**												
7439-89-6	Iron	Met-W	UG/L	230		15000		410		810		260	
7439-96-5	Manganese	Met-W	UG/L	9.8		4500		460		1000		5.3	
4-MEE	**Methane, Ethane, Ethene**												
74-82-8	Methane	RSKSOP147	ug/l	2	U	2.2		2.3		61		2	U
74-84-0	Ethane	RSKSOP147	ug/l	2	U	2	U	2	UJ	2	UJ	2	UJ
74-85-1	Ethene	RSKSOP147	ug/l	2	U	2	U	2	UJ	2	UJ	2	UJ
5-Wetchem	**Additional Parameters**												
7727-37-9	NITROGEN	MCAWW353-2	mg/L	5.1		0.34		0.05	U	0.05	U	5.2	
ALK	Alkalinity, Total (AS CaCO3)	SM2320	mg/L	14		80		87		210		17	
18496-25-8	SULFIDE	MCAWW376-1	mg/L	0.01		0.01		0.01	U	0.01	U	0.01	U
SO4	SULFATE	MCAWW375-	mg/L	42		44		1500		9.2		55	

Federal Creosote Superfund Site - OU3
Y5 - Groundwater Sample
Full Analytical Resuts

Cas Rn	Chemical Name	Analytic Method	Sample Code Sample Name Sample Date Unit \\ Depth	MW-111I-Y5 10/22/2009		MW-111S-Y5 10/22/2009		MW-114D-Y5 10/20/2009		MW-114I-Y5 10/20/2009		MW-114S-Y5 10/20/2009	
(Group Code)	**(Group Description)**												
1-GWMW-VOA	**Volatile Organic Compounds**												
75-71-8	Dichlorodifluoromethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
74-87-3	Chloromethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
75-01-4	Vinyl Chloride	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
74-83-9	Bromomethane	TVOA	ug/L	0.5	UL	0.5	UL	0.5	U	0.5	U	0.5	U
75-00-3	Chloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
75-69-4	Trichlorofluoromethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
75-35-4	1,1-Dichloroethene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
75-15-0	Carbon Disulfide	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
67-64-1	Acetone	TVOA	ug/L	5	U	5	U	5	U	5	U	5	U
79-20-9	Methyl Acetate	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
75-09-2	Methylene Chloride	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
156-60-5	trans-1,2-Dichloroethene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1634-04-4	Methyl Tert-Butyl Ether	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.93		0.5	U
75-34-3	1,1-Dichloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
156-59-2	cis-1,2-Dichloroethene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
78-93-3	2-Butanone	TVOA	ug/L	5	U	5	U	5	U	5	U	5	U
74-97-5	CHLOROBROMOMETHANE	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
67-66-3	Chloroform	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
71-55-6	1,1,1-Trichloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
110-82-7	Cyclohexane	TVOA	ug/L	2	U	2	U	2	U	2	U	2	U
56-23-5	Carbon Tetrachloride	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
71-43-2	Benzene	TVOA	ug/L	0.5	U	0.5	U	3.2		0.5	U	0.5	U
107-06-2	1,2-Dichloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
79-01-6	Trichloroethene	TVOA	ug/L	0.5	U	0.75		0.5	U	0.5	U	0.5	U
78-87-5	1,2-Dichloropropane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
75-27-4	Bromodichloromethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
10061-01-5	cis-1,3-Dichloropropene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
108-10-1	4-Methyl-2-pentanone	TVOA	ug/L	5	U	5	U	5	U	5	U	5	U
108-88-3	Toluene	TVOA	ug/L	0.5	U	5	U	0.5	U	0.5	U	0.5	U
10061-02-6	Trans-1,3-Dichloropropene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
79-00-5	1,1,2-Trichloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
127-18-4	Tetrachloroethene	TVOA	ug/L	0.5	U	7.5		0.5	U	0.5	U	0.5	U
108-87-2	Metylcyclohexane	TVOA	ug/L	2	U	2	U	2	U	2	U	2	U
124-48-1	Dibromochloromethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
106-93-4	1,2-Dibromoethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
591-78-6	2-Hexanone	TVOA	ug/L	5	U	5	U	5	U	5	U	5	U

Federal Creosote Superfund Site - OU3
Y5 - Groundwater Sample
Full Analytical Resuts

			Sample Code	MW-111I-Y5		MW-111S-Y5		MW-114D-Y5		MW-114I-Y5		MW-114S-Y5	
			Sample Name										
			Sample Date	10/22/2009		10/22/2009		10/20/2009		10/20/2009		10/20/2009	
Cas Rn	Chemical Name	Analytic Method	Unit \\ Depth										
108-90-7	Chlorobenzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
100-41-4	Ethylbenzene	TVOA	ug/L	0.5	U	0.73		0.7		0.83		0.5	U
179601-23-1	m,p-Xylene	TVOA	ug/L	0.5	U	0.9		0.5	U	0.5	U	0.5	U
95-47-6	O-XYLENE	TVOA	ug/L	0.5	U	3.9		0.5	U	0.5	U	0.5	U
100-42-5	Styrene	TVOA	ug/L	2	U	2	U	2	U	2	U	2	U
75-25-2	Bromoform	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
98-82-8	Isopropylbenzene	TVOA	ug/L	1	U	3.5		1	U	1	U	1	U
541-73-1	1,3-Dichlorobenzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
106-46-7	1,4-Dichlorobenzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
95-50-1	1,2-Dichlorobenzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
96-12-8	1,2-Dibromo-3-chloropropane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
120-82-1	1,2,4-Trichlorobenzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
87-61-6	1,2,3-TRICHLOROBENZENE	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
79-34-5	1,1,2,2-Tetrachloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Federal Creosote Superfund Site - OU3
Y5 - Groundwater Sample
Full Analytical Resuts

Cas Rn	Chemical Name	Analytic Method	Sample Code Sample Name Sample Date Unit \\ Depth	MW-111I-Y5 10/22/2009		MW-111S-Y5 10/22/2009		MW-114D-Y5 10/20/2009		MW-114I-Y5 10/20/2009		MW-114S-Y5 10/20/2009	
2-GWMW-SVOA	**Semi-Volatile Organic Compounds**												
100-52-7	Benzaldehyde	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
108-95-2	Phenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
111-44-4	bis(2-Chloroethyl)ether	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
95-57-8	2-Chlorophenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
95-48-7	2-Methylphenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
98-86-2	Acetophenone	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
106-44-5	4-Methylphenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
621-64-7	N-Nitroso-di-n-propylamine	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
67-72-1	Hexachloroethane	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
98-95-3	Nitrobenzene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
78-59-1	Isophorone	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
88-75-5	2-Nitrophenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
105-67-9	2,4-Dimethylphenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
111-91-1	bis(2-Chloroethoxy)methane	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
120-83-2	2,4-Dichlorophenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
91-20-3	Naphthalene	SVOA-LOW	ug/L	5	UJ	26	J	0.26	J	1.2	J	5	UJ
106-47-8	4-Chloroaniline	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
87-68-3	Hexachlorobutadiene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
105-60-2	Caprolactam	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
59-50-7	4-Chloro-3-methylphenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
91-57-6	2-Methylnaphthalene	SVOA-LOW	ug/L	5	U	0.16	J	5	U	5	U	5	U
95-94-3	1,2,4,5-TETRACHLOROBENZENE	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
77-47-4	Hexachlorocyclopentadiene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
88-06-2	2,4,6-Trichlorophenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
95-95-4	2,4,5-Trichlorophenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
92-52-4	1,1'Biphenyl	SVOA-LOW	ug/L	5	U	130		0.34	J	1.6	J	5	U
91-58-7	2-Chloronaphthalene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
88-74-4	2-Nitroaniline	SVOA-LOW	ug/L	10	U	10	U	10	U	10	U	10	U
131-11-3	Dimethylphthalate	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
208-96-8	Acenaphthylene	SVOA-LOW	ug/L	5	U	6.6		0.19	J	0.38	J	5	U
606-20-2	2,6-Dinitrotoluene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
99-09-2	3-Nitroaniline	SVOA-LOW	ug/L	10	U	10	U	10	U	10	U	10	U
83-32-9	Acenaphthene	SVOA-LOW	ug/L	5	U	160		1.5	J	39		2.5	J
51-28-5	2,4-Dinitrophenol	SVOA-LOW	ug/L	10	U	10	U	10	U	10	U	10	U
100-02-7	4-Nitrophenol	SVOA-LOW	ug/L	10	U	10	U	10	U	10	U	10	U
132-64-9	Dibenzofuran	SVOA-LOW	ug/L	5	U	180		5	U	9.2		0.43	J

Federal Creosote Superfund Site - OU3
Y5 - Groundwater Sample
Full Analytical Resuts

Cas Rn	Chemical Name	Analytic Method	Sample Code Sample Name Sample Date Unit \\ Depth	MW-111I-Y5 10/22/2009		MW-111S-Y5 10/22/2009		MW-114D-Y5 10/20/2009		MW-114I-Y5 10/20/2009		MW-114S-Y5 10/20/2009	
121-14-2	2,4-Dinitrotoluene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
86-73-7	Fluorene	SVOA-LOW	ug/L	5	U	53		0.33	J	33		1.8	J
84-66-2	Diethylphthalate	SVOA-LOW	ug/L	5	U	5	U	0.18	J	5	U	0.2	J
7005-72-3	4-Chlorophenyl-phenylether	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
100-01-6	4-Nitroaniline	SVOA-LOW	ug/L	10	U	10	U	10	U	10	U	10	U
534-52-1	4,6-Dinitro-2-methylphenol	SVOA-LOW	ug/L	10	U	10	U	10	U	10	U	10	U
86-30-6	N-Nitrosodiphenylamine	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
101-55-3	4-Bromophenyl-phenylether	SVOA-LOW	ug/L	5	UJ	5	UJ	5	UJ	5	UJ	5	UJ
118-74-1	Hexachlorobenzene	SVOA-LOW	ug/L	5	UJ	5	UJ	5	UJ	5	UJ	5	UJ
1912-24-9	Atrazine	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
87-86-5	Pentachlorophenol	SVOA-LOW	ug/L	10	U	10	U	10	U	10	U	10	U
85-01-8	Phenanthrene	SVOA-LOW	ug/L	5	U	100		5	U	0.86	J	5	U
120-12-7	Anthracene	SVOA-LOW	ug/L	5	U	10		5	U	0.81	J	5	U
86-74-8	Carbazole	SVOA-LOW	ug/L	5	U	170		5	U	17		0.94	J
84-74-2	Di-n-butylphthalate	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
206-44-0	Fluoranthene	SVOA-LOW	ug/L	5	UJ	12	J	5	UJ	5.6	J	0.3	J
129-00-0	Pyrene	SVOA-LOW	ug/L	5	U	7		5	U	4.3	J	0.28	J
85-68-7	Butylbenzylphthalate	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
91-94-1	3,3'-Dichlorobenzidine	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
56-55-3	Benzo(a)anthracene	SVOA-LOW	ug/L	5	U	0.54	J	5	U	0.16	J	5	U
218-01-9	Chrysene	SVOA-LOW	ug/L	5	U	0.34	J	5	U	5	U	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
117-84-0	Di-n-octyl phthalate	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
205-99-2	Benzo(b)fluoranthene	SVOA-LOW	ug/L	5	U	0.17	J	5	U	5	U	5	U
207-08-9	Benzo(k)fluoranthene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
50-32-8	Benzo(a)pyrene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
193-39-5	Indeno(1,2,3-cd)pyrene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
53-70-3	Dibenz(a,h)anthracene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
191-24-2	Benzo(g,h,i)perylene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
58-90-2	CHLOROPHENOLS	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U

Federal Creosote Superfund Site - OU3
Y5 - Groundwater Sample
Full Analytical Resuts

Cas Rn	Chemical Name	Analytic Method	Sample Code Sample Name Sample Date Unit \\ Depth	MW-111I-Y5 10/22/2009		MW-111S-Y5 10/22/2009		MW-114D-Y5 10/20/2009		MW-114I-Y5 10/20/2009		MW-114S-Y5 10/20/2009	
SVOA-SIM	**Semi-Volatile Organic Compounds - SIM**												
91-20-3	Naphthalene	SVOA-SIM	ug/L	0.1	U	24	J	0.21		1.3		0.1	U
91-57-6	2-Methylnaphthalene	SVOA-SIM	ug/L	0.1	U	0.14	J	0.1	U	0.1	U	0.1	U
208-96-8	Acenaphthylene	SVOA-SIM	ug/L	0.1	U	5.4	J	0.12		0.3		0.021	J
83-32-9	Acenaphthene	SVOA-SIM	ug/L	0.1	U	93	J	0.84		39		1.4	
86-73-7	Fluorene	SVOA-SIM	ug/L	0.1	U	32	J	0.2		28		0.89	
87-86-5	Pentachlorophenol	SVOA-SIM	ug/L	0.2	R	0.12	J	0.016	J	0.2	R	0.2	R
85-01-8	Phenanthrene	SVOA-SIM	ug/L	0.1	U	70	J	0.02	J	0.7		0.037	J
120-12-7	Anthracene	SVOA-SIM	ug/L	0.1	U	8.4	J	0.017	J	0.8		0.057	J
206-44-0	Fluoranthene	SVOA-SIM	ug/L	0.1	U	11	J	0.1	U	5.9		0.27	
129-00-0	Pyrene	SVOA-SIM	ug/L	0.1	U	5.6	J	0.1	U	3.2		0.2	
56-55-3	Benzo(a)anthracene	SVOA-SIM	ug/L	0.02	J	0.69		0.1	U	0.15		0.1	U
218-01-9	Chrysene	SVOA-SIM	ug/L	0.1	U	0.32	J	0.1	U	0.051	J	0.1	U
205-99-2	Benzo(b)fluoranthene	SVOA-SIM	ug/L	0.1	U	0.14	J	0.1	U	0.1	U	0.1	U
207-08-9	Benzo(k)fluoranthene	SVOA-SIM	ug/L	0.1	U	0.5	UJ	0.1	U	0.1	U	0.1	U
50-32-8	Benzo(a)pyrene	SVOA-SIM	ug/L	0.1	U	0.11	J	0.1	U	0.1	U	0.1	U
193-39-5	Indeno(1,2,3-cd)pyrene	SVOA-SIM	ug/L	0.1	U	0.5	U	0.1	U	0.1	U	0.1	U
53-70-3	Dibenz(a,h)anthracene	SVOA-SIM	ug/L	0.1	U	0.5	U	0.1	U	0.1	U	0.1	U
191-24-2	Benzo(g,h,i)perylene	SVOA-SIM	ug/L	0.1	U	0.5	U	0.1	U	0.1	U	0.1	U
3-MET-W	**Inorganic Analytes**												
7439-89-6	Iron	Met-W	UG/L	270		3300		470		50	U	50	U
7439-96-5	Manganese	Met-W	UG/L	10		11000		300		2000		17	
4-MEE	**Methane, Ethane, Ethene**												
74-82-8	Methane	RSKSOP147	ug/l	2	U	300		2.5		12		2	U
74-84-0	Ethane	RSKSOP147	ug/l	2	U	2	U	2	U	2	U	2	U
74-85-1	Ethene	RSKSOP147	ug/l	2	U	2	U	2	U	2	U	2	U
5-Wetchem	**Additional Parameters**												
7727-37-9	NITROGEN	MCAWW353-2	mg/L	5.3		0.05	UL	0.05	U	0.05	U	1.1	
ALK	Alkalinity, Total (AS CaCO3)	SM2320	mg/L	110		110		67		220		32	
18496-25-8	SULFIDE	MCAWW376-1	mg/L	0.01	U	0.01	U	0.012		0.02		0.015	
SO4	SULFATE	MCAWW375-	mg/L	31		11		1500		5.1		32	

Federal Creosote Superfund Site - OU3
Y5 - Groundwater Sample
Full Analytical Resuts

Cas Rn	Chemical Name	Analytic Method	Sample Code Sample Name Sample Date Unit \\ Depth	MW-116I-Y5 10/26/2009		MW-116I-Y5-DUP MW-601I-Y5 10/26/2009		MW-123D-Y5 10/23/2009		MW-123I-Y5 10/23/2009		MW-123S-Y5 10/23/2009	
(Group Code)	**(Group Description)**												
1-GWMW-VOA	**Volatile Organic Compounds**												
75-71-8	Dichlorodifluoromethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
74-87-3	Chloromethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
75-01-4	Vinyl Chloride	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
74-83-9	Bromomethane	TVOA	ug/L	0.5	UL	0.5	UL	0.5	UL	0.5	UL	0.5	UL
75-00-3	Chloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
75-69-4	Trichlorofluoromethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
75-35-4	1,1-Dichloroethene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
75-15-0	Carbon Disulfide	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
67-64-1	Acetone	TVOA	ug/L	5	U	5	U	5	U	5	U	5	U
79-20-9	Methyl Acetate	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
75-09-2	Methylene Chloride	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
156-60-5	trans-1,2-Dichloroethene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1634-04-4	Methyl Tert-Butyl Ether	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
75-34-3	1,1-Dichloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
156-59-2	cis-1,2-Dichloroethene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
78-93-3	2-Butanone	TVOA	ug/L	5	U	5	U	5	U	5	U	5	U
74-97-5	CHLOROBROMOMETHANE	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
67-66-3	Chloroform	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
71-55-6	1,1,1-Trichloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
110-82-7	Cyclohexane	TVOA	ug/L	2	U	2	U	2	U	2	U	2	U
56-23-5	Carbon Tetrachloride	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
71-43-2	Benzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
107-06-2	1,2-Dichloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
79-01-6	Trichloroethene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
78-87-5	1,2-Dichloropropane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
75-27-4	Bromodichloromethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
10061-01-5	cis-1,3-Dichloropropene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
108-10-1	4-Methyl-2-pentanone	TVOA	ug/L	5	U	5	U	5	U	5	U	5	U
108-88-3	Toluene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
10061-02-6	Trans-1,3-Dichloropropene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
79-00-5	1,1,2-Trichloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
127-18-4	Tetrachloroethene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.75	
108-87-2	Metylcyclohexane	TVOA	ug/L	2	U	2	U	2	U	2	U	2	U
124-48-1	Dibromochloromethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
106-93-4	1,2-Dibromoethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
591-78-6	2-Hexanone	TVOA	ug/L	5	U	5	U	5	U	5	U	5	U

Federal Creosote Superfund Site - OU3
Y5 - Groundwater Sample
Full Analytical Resuts

			Sample Code	MW-116I-Y5		MW-116I-Y5-DUP		MW-123D-Y5		MW-123I-Y5		MW-123S-Y5	
			Sample Name			MW-601I-Y5							
			Sample Date	10/26/2009		10/26/2009		10/23/2009		10/23/2009		10/23/2009	
Cas Rn	Chemical Name	Analytic Method	Unit \\ Depth										
108-90-7	Chlorobenzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
100-41-4	Ethylbenzene	TVOA	ug/L	1.2		1.2		0.5	U	0.5	U	0.5	U
179601-23-1	m,p-Xylene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
95-47-6	O-XYLENE	TVOA	ug/L	1.2		1.2		0.5	U	0.5	U	0.5	U
100-42-5	Styrene	TVOA	ug/L	2	U	2	U	2	UL	2	U	2	U
75-25-2	Bromoform	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
98-82-8	Isopropylbenzene	TVOA	ug/L	1	U	1	U	1	U	1	U	1	U
541-73-1	1,3-Dichlorobenzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
106-46-7	1,4-Dichlorobenzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
95-50-1	1,2-Dichlorobenzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
96-12-8	1,2-Dibromo-3-chloropropane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
120-82-1	1,2,4-Trichlorobenzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
87-61-6	1,2,3-TRICHLOROBENZENE	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
79-34-5	1,1,2,2-Tetrachloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Federal Creosote Superfund Site - OU3
Y5 - Groundwater Sample
Full Analytical Resuts

Cas Rn	Chemical Name	Analytic Method	Sample Code Sample Name Sample Date Unit \\ Depth	MW-116I-Y5 10/26/2009		MW-116I-Y5-DUP MW-601I-Y5 10/26/2009		MW-123D-Y5 10/23/2009		MW-123I-Y5 10/23/2009		MW-123S-Y5 10/23/2009	
2-GWMW-SVOA	**Semi-Volatile Organic Compounds**												
100-52-7	Benzaldehyde	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
108-95-2	Phenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
111-44-4	bis(2-Chloroethyl)ether	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
95-57-8	2-Chlorophenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
95-48-7	2-Methylphenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
98-86-2	Acetophenone	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
106-44-5	4-Methylphenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
621-64-7	N-Nitroso-di-n-propylamine	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
67-72-1	Hexachloroethane	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
98-95-3	Nitrobenzene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
78-59-1	Isophorone	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
88-75-5	2-Nitrophenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
105-67-9	2,4-Dimethylphenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
111-91-1	bis(2-Chloroethoxy)methane	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
120-83-2	2,4-Dichlorophenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
91-20-3	Naphthalene	SVOA-LOW	ug/L	19	J	23	J	5	U	5	U	5	U
106-47-8	4-Chloroaniline	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
87-68-3	Hexachlorobutadiene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
105-60-2	Caprolactam	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
59-50-7	4-Chloro-3-methylphenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
91-57-6	2-Methylnaphthalene	SVOA-LOW	ug/L	0.21	J	0.21	J	5	U	5	U	5	U
95-94-3	1,2,4,5-TETRACHLOROBENZENE	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
77-47-4	Hexachlorocyclopentadiene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
88-06-2	2,4,6-Trichlorophenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
95-95-4	2,4,5-Trichlorophenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
92-52-4	1,1'Biphenyl	SVOA-LOW	ug/L	34		30		5	U	0.2	J	5	U
91-58-7	2-Chloronaphthalene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
88-74-4	2-Nitroaniline	SVOA-LOW	ug/L	10	U	10	U	10	U	10	U	10	U
131-11-3	Dimethylphthalate	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	0.26	J
208-96-8	Acenaphthylene	SVOA-LOW	ug/L	0.69	J	0.66	J	5	U	5	U	5	U
606-20-2	2,6-Dinitrotoluene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
99-09-2	3-Nitroaniline	SVOA-LOW	ug/L	10	U	10	U	10	U	10	U	10	U
83-32-9	Acenaphthene	SVOA-LOW	ug/L	39		36		5	U	0.24	J	5	U
51-28-5	2,4-Dinitrophenol	SVOA-LOW	ug/L	10	U	10	U	10	U	10	U	10	U
100-02-7	4-Nitrophenol	SVOA-LOW	ug/L	10	U	10	U	10	U	10	U	10	U
132-64-9	Dibenzofuran	SVOA-LOW	ug/L	92		79		5	U	0.3	J	5	U

Federal Creosote Superfund Site - OU3
Y5 - Groundwater Sample
Full Analytical Resuts

Cas Rn	Chemical Name	Analytic Method	Sample Code Sample Name Sample Date Unit \\ Depth	MW-116I-Y5 10/26/2009		MW-116I-Y5-DUP MW-601I-Y5 10/26/2009		MW-123D-Y5 10/23/2009		MW-123I-Y5 10/23/2009		MW-123S-Y5 10/23/2009	
121-14-2	2,4-Dinitrotoluene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
86-73-7	Fluorene	SVOA-LOW	ug/L	26		25		5	U	5	U	5	U
84-66-2	Diethylphthalate	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5.7	
7005-72-3	4-Chlorophenyl-phenylether	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
100-01-6	4-Nitroaniline	SVOA-LOW	ug/L	10	U	10	U	10	U	10	U	10	U
534-52-1	4,6-Dinitro-2-methylphenol	SVOA-LOW	ug/L	10	U	10	U	10	U	10	U	10	U
86-30-6	N-Nitrosodiphenylamine	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
101-55-3	4-Bromophenyl-phenylether	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
118-74-1	Hexachlorobenzene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
1912-24-9	Atrazine	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
87-86-5	Pentachlorophenol	SVOA-LOW	ug/L	10	U	10	U	10	U	10	U	10	U
85-01-8	Phenanthrene	SVOA-LOW	ug/L	49		50		5	U	5	U	5	U
120-12-7	Anthracene	SVOA-LOW	ug/L	6.6		7.6		5	U	5	U	5	U
86-74-8	Carbazole	SVOA-LOW	ug/L	28		32		5	U	5	U	5	U
84-74-2	Di-n-butylphthalate	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
206-44-0	Fluoranthene	SVOA-LOW	ug/L	25		32		5	U	5	U	5	U
129-00-0	Pyrene	SVOA-LOW	ug/L	15		16		0.19	J	0.2	J	5	U
85-68-7	Butylbenzylphthalate	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
91-94-1	3,3'-Dichlorobenzidine	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
56-55-3	Benzo(a)anthracene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
218-01-9	Chrysene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	SVOA-LOW	ug/L	0.17	J	0.23	J	5	U	5	U	5	U
117-84-0	Di-n-octyl phthalate	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
205-99-2	Benzo(b)fluoranthene	SVOA-LOW	ug/L	0.22	J	0.28	J	5	U	5	U	5	U
207-08-9	Benzo(k)fluoranthene	SVOA-LOW	ug/L	5	U	0.18	J	5	U	5	U	5	U
50-32-8	Benzo(a)pyrene	SVOA-LOW	ug/L	0.2	J	0.32	J	5	U	5	U	5	U
193-39-5	Indeno(1,2,3-cd)pyrene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
53-70-3	Dibenz(a,h)anthracene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
191-24-2	Benzo(g,h,i)perylene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
58-90-2	CHLOROPHENOLS	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U

Federal Creosote Superfund Site - OU3
Y5 - Groundwater Sample
Full Analytical Resuts

Cas Rn	Chemical Name	Analytic Method	Sample Code Sample Name Sample Date Unit \\ Depth	MW-116I-Y5 10/26/2009		MW-116I-Y5-DUP MW-601I-Y5 10/26/2009		MW-123D-Y5 10/23/2009		MW-123I-Y5 10/23/2009		MW-123S-Y5 10/23/2009	
SVOA-SIM	**Semi-Volatile Organic Compounds - SIM**												
91-20-3	Naphthalene	SVOA-SIM	ug/L	17	J	19	J	0.1	U	0.1	U	0.1	U
91-57-6	2-Methylnaphthalene	SVOA-SIM	ug/L	0.17		0.21		0.1	U	0.1	U	0.1	U
208-96-8	Acenaphthylene	SVOA-SIM	ug/L	0.34		0.35		0.1	U	0.017	J	0.015	J
83-32-9	Acenaphthene	SVOA-SIM	ug/L	29	J	28	J	0.1	U	0.13		0.033	J
86-73-7	Fluorene	SVOA-SIM	ug/L	20	J	19	J	0.1	U	0.048	J	0.029	J
87-86-5	Pentachlorophenol	SVOA-SIM	ug/L	0.019	J	0.024	J	0.2	R	0.037	J	0.032	J
85-01-8	Phenanthrene	SVOA-SIM	ug/L	43	J	41	J	0.029	J	0.075	J	0.11	
120-12-7	Anthracene	SVOA-SIM	ug/L	7.3	J	7	J	0.015	J	0.025	J	0.033	J
206-44-0	Fluoranthene	SVOA-SIM	ug/L	26	J	25	J	0.18		0.11		0.07	J
129-00-0	Pyrene	SVOA-SIM	ug/L	11	J	13	J	0.17		0.15		0.062	J
56-55-3	Benzo(a)anthracene	SVOA-SIM	ug/L	1.2		1.6		0.027	J	0.1	UJ	0.017	J
218-01-9	Chrysene	SVOA-SIM	ug/L	0.43		0.1		0.018	J	0.1	U	0.1	U
205-99-2	Benzo(b)fluoranthene	SVOA-SIM	ug/L	0.23		0.24	J	0.019	J	0.1	U	0.1	U
207-08-9	Benzo(k)fluoranthene	SVOA-SIM	ug/L	0.071	J	0.082	J	0.1	U	0.1	U	0.1	U
50-32-8	Benzo(a)pyrene	SVOA-SIM	ug/L	0.16		0.19	J	0.1	U	0.1	U	0.1	U
193-39-5	Indeno(1,2,3-cd)pyrene	SVOA-SIM	ug/L	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
53-70-3	Dibenz(a,h)anthracene	SVOA-SIM	ug/L	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
191-24-2	Benzo(g,h,i)perylene	SVOA-SIM	ug/L	0.1	U	0.1	U	0.022	J	0.1	U	0.015	J
3-MET-W	**Inorganic Analytes**												
7439-89-6	Iron	Met-W	UG/L	50	U	50	U	650		170		4100	
7439-96-5	Manganese	Met-W	UG/L	3100		3300		100		290		340	
4-MEE	**Methane, Ethane, Ethene**												
74-82-8	Methane	RSKSOP147	ug/l	2.7		2.8		2	U	4.5		2	U
74-84-0	Ethane	RSKSOP147	ug/l	2	U	2	U	2	U	7.2		2	U
74-85-1	Ethene	RSKSOP147	ug/l	2	U	2	U	2	U	2	U	2	U
5-Wetchem	**Additional Parameters**												
7727-37-9	NITROGEN	MCAWW353-2	mg/L	0.36		0.35		2.7		6.2		4.4	
ALK	Alkalinity, Total (AS CaCO3)	SM2320	mg/L	150		150		100		39		89	
18496-25-8	SULFIDE	MCAWW376-1	mg/L	0.01	U	0.01		0.01	U	0.01	U	0.01	U
SO4	SULFATE	MCAWW375-	mg/L	21		21		440		64		46	

Federal Creosote Superfund Site - OU3
Y5 - Groundwater Sample
Full Analytical Resuts

Cas Rn	Chemical Name	Analytic Method	Sample Code Sample Name Sample Date Unit \\ Depth	MW-124D-Y5 10/27/2009		MW-124I-Y5 10/27/2009		MW-124S-Y5 10/27/2009		MW-125I-Y5 10/21/2009		MW-125S-Y5 10/21/2009	
(Group Code)	**(Group Description)**												
1-GWMW-VOA	**Volatile Organic Compounds**												
75-71-8	Dichlorodifluoromethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
74-87-3	Chloromethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
75-01-4	Vinyl Chloride	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
74-83-9	Bromomethane	TVOA	ug/L	0.5	UL	0.5	UL	0.5	UL	0.5	U	0.5	U
75-00-3	Chloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
75-69-4	Trichlorofluoromethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
75-35-4	1,1-Dichloroethene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
75-15-0	Carbon Disulfide	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
67-64-1	Acetone	TVOA	ug/L	5	U	5	U	5	U	5	U	5	U
79-20-9	Methyl Acetate	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
75-09-2	Methylene Chloride	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
156-60-5	trans-1,2-Dichloroethene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1634-04-4	Methyl Tert-Butyl Ether	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
75-34-3	1,1-Dichloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
156-59-2	cis-1,2-Dichloroethene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
78-93-3	2-Butanone	TVOA	ug/L	5	U	5	U	5	U	5	U	5	U
74-97-5	CHLOROBROMOMETHANE	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
67-66-3	Chloroform	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
71-55-6	1,1,1-Trichloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
110-82-7	Cyclohexane	TVOA	ug/L	2	U	2	U	2	U	2	U	2	U
56-23-5	Carbon Tetrachloride	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
71-43-2	Benzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
107-06-2	1,2-Dichloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
79-01-6	Trichloroethene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
78-87-5	1,2-Dichloropropane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
75-27-4	Bromodichloromethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
10061-01-5	cis-1,3-Dichloropropene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
108-10-1	4-Methyl-2-pentanone	TVOA	ug/L	5	U	5	U	5	U	5	U	5	U
108-88-3	Toluene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
10061-02-6	Trans-1,3-Dichloropropene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
79-00-5	1,1,2-Trichloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
127-18-4	Tetrachloroethene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
108-87-2	Metylcyclohexane	TVOA	ug/L	2	U	2	U	2	U	2	U	2	U
124-48-1	Dibromochloromethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
106-93-4	1,2-Dibromoethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
591-78-6	2-Hexanone	TVOA	ug/L	5	U	5	U	5	U	5	U	5	U

Federal Creosote Superfund Site - OU3
Y5 - Groundwater Sample
Full Analytical Resuts

			Sample Code	MW-124D-Y5		MW-124I-Y5		MW-124S-Y5		MW-125I-Y5		MW-125S-Y5	
			Sample Name										
			Sample Date	10/27/2009		10/27/2009		10/27/2009		10/21/2009		10/21/2009	
Cas Rn	Chemical Name	Analytic Method	Unit \\ Depth										
108-90-7	Chlorobenzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
100-41-4	Ethylbenzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
179601-23-1	m,p-Xylene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
95-47-6	O-XYLENE	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
100-42-5	Styrene	TVOA	ug/L	2	U	2	U	2	U	2	U	2	U
75-25-2	Bromoform	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
98-82-8	Isopropylbenzene	TVOA	ug/L	1	U	1	U	1	U	1	U	1	U
541-73-1	1,3-Dichlorobenzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
106-46-7	1,4-Dichlorobenzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
95-50-1	1,2-Dichlorobenzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
96-12-8	1,2-Dibromo-3-chloropropane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
120-82-1	1,2,4-Trichlorobenzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
87-61-6	1,2,3-TRICHLOROBENZENE	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
79-34-5	1,1,2,2-Tetrachloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Federal Creosote Superfund Site - OU3
Y5 - Groundwater Sample
Full Analytical Resuts

Cas Rn	Chemical Name	Analytic Method	Sample Code Sample Name Sample Date Unit \\ Depth	MW-124D-Y5 10/27/2009		MW-124I-Y5 10/27/2009		MW-124S-Y5 10/27/2009		MW-125I-Y5 10/21/2009		MW-125S-Y5 10/21/2009	
2-GWMW-SVOA	**Semi-Volatile Organic Compounds**												
100-52-7	Benzaldehyde	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
108-95-2	Phenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
111-44-4	bis(2-Chloroethyl)ether	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
95-57-8	2-Chlorophenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
95-48-7	2-Methylphenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
98-86-2	Acetophenone	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
106-44-5	4-Methylphenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
621-64-7	N-Nitroso-di-n-propylamine	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
67-72-1	Hexachloroethane	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
98-95-3	Nitrobenzene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
78-59-1	Isophorone	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
88-75-5	2-Nitrophenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
105-67-9	2,4-Dimethylphenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
111-91-1	bis(2-Chloroethoxy)methane	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
120-83-2	2,4-Dichlorophenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
91-20-3	Naphthalene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	UJ	5	UJ
106-47-8	4-Chloroaniline	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
87-68-3	Hexachlorobutadiene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
105-60-2	Caprolactam	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
59-50-7	4-Chloro-3-methylphenol	SVOA-LOW	ug/L	5	U	5	U	5	U	0.28	J	0.17	J
91-57-6	2-Methylnaphthalene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
95-94-3	1,2,4,5-TETRACHLOROBENZENE	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
77-47-4	Hexachlorocyclopentadiene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
88-06-2	2,4,6-Trichlorophenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
95-95-4	2,4,5-Trichlorophenol	SVOA-LOW	ug/L	5	U	5	U	5	U	0.21	J	0.15	J
92-52-4	1,1'Biphenyl	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
91-58-7	2-Chloronaphthalene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
88-74-4	2-Nitroaniline	SVOA-LOW	ug/L	10	U	10	U	10	U	10	U	10	U
131-11-3	Dimethylphthalate	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
208-96-8	Acenaphthylene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
606-20-2	2,6-Dinitrotoluene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
99-09-2	3-Nitroaniline	SVOA-LOW	ug/L	10	U	10	U	10	U	10	U	10	U
83-32-9	Acenaphthene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
51-28-5	2,4-Dinitrophenol	SVOA-LOW	ug/L	10	U	10	U	10	U	10	U	10	U
100-02-7	4-Nitrophenol	SVOA-LOW	ug/L	10	U	10	U	10	U	10	U	10	U
132-64-9	Dibenzofuran	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U

Federal Creosote Superfund Site - OU3
Y5 - Groundwater Sample
Full Analytical Resuts

Cas Rn	Chemical Name	Analytic Method	Sample Code Sample Name Sample Date Unit \\ Depth	MW-124D-Y5 10/27/2009		MW-124I-Y5 10/27/2009		MW-124S-Y5 10/27/2009		MW-125I-Y5 10/21/2009		MW-125S-Y5 10/21/2009	
121-14-2	2,4-Dinitrotoluene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
86-73-7	Fluorene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
84-66-2	Diethylphthalate	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
7005-72-3	4-Chlorophenyl-phenylether	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
100-01-6	4-Nitroaniline	SVOA-LOW	ug/L	10	U	10	U	10	U	10	U	10	U
534-52-1	4,6-Dinitro-2-methylphenol	SVOA-LOW	ug/L	10	U	10	U	10	U	10	U	10	U
86-30-6	N-Nitrosodiphenylamine	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
101-55-3	4-Bromophenyl-phenylether	SVOA-LOW	ug/L	5	U	5	U	5	U	5	UJ	5	UJ
118-74-1	Hexachlorobenzene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	UJ	5	UJ
1912-24-9	Atrazine	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
87-86-5	Pentachlorophenol	SVOA-LOW	ug/L	10	U	10	U	10	U	10	U	10	U
85-01-8	Phenanthrene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
120-12-7	Anthracene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
86-74-8	Carbazole	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
84-74-2	Di-n-butylphthalate	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
206-44-0	Fluoranthene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	UJ	5	UJ
129-00-0	Pyrene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
85-68-7	Butylbenzylphthalate	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
91-94-1	3,3'-Dichlorobenzidine	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
56-55-3	Benzo(a)anthracene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
218-01-9	Chrysene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	0.22	J
117-84-0	Di-n-octyl phthalate	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
205-99-2	Benzo(b)fluoranthene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
207-08-9	Benzo(k)fluoranthene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
50-32-8	Benzo(a)pyrene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
193-39-5	Indeno(1,2,3-cd)pyrene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
53-70-3	Dibenz(a,h)anthracene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
191-24-2	Benzo(g,h,i)perylene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
58-90-2	CHLOROPHENOLS	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U

Federal Creosote Superfund Site - OU3
Y5 - Groundwater Sample
Full Analytical Resuts

Cas Rn	Chemical Name	Analytic Method	Sample Code Sample Name Sample Date Unit \\ Depth	MW-124D-Y5 10/27/2009		MW-124I-Y5 10/27/2009		MW-124S-Y5 10/27/2009		MW-125I-Y5 10/21/2009		MW-125S-Y5 10/21/2009	
SVOA-SIM	**Semi-Volatile Organic Compounds - SIM**												
91-20-3	Naphthalene	SVOA-SIM	ug/L	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
91-57-6	2-Methylnaphthalene	SVOA-SIM	ug/L	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
208-96-8	Acenaphthylene	SVOA-SIM	ug/L	0.1	U	0.1	U	0.1	U	0.044	J	0.031	J
83-32-9	Acenaphthene	SVOA-SIM	ug/L	0.1	U	0.1	U	0.1	U	0.043	J	0.028	J
86-73-7	Fluorene	SVOA-SIM	ug/L	0.1	U	0.016	J	0.1	U	0.041	J	0.032	J
87-86-5	Pentachlorophenol	SVOA-SIM	ug/L	0.2	R	0.1	U	0.2	R	0.14	J	0.083	J
85-01-8	Phenanthrene	SVOA-SIM	ug/L	0.021	J	0.035	J	0.1	U	0.038	J	0.029	J
120-12-7	Anthracene	SVOA-SIM	ug/L	0.1	U	0.037	J	0.1	U	0.069	J	0.049	J
206-44-0	Fluoranthene	SVOA-SIM	ug/L	0.1	U	0.1	U	0.1	U	0.04	J	0.1	U
129-00-0	Pyrene	SVOA-SIM	ug/L	0.06	J	0.059	J	0.1	U	0.081	J	0.1	U
56-55-3	Benzo(a)anthracene	SVOA-SIM	ug/L	0.022	J	0.018	J	0.1	U	0.1	U	0.1	U
218-01-9	Chrysene	SVOA-SIM	ug/L	0.032	J	0.026	J	0.1	U	0.1	U	0.1	U
205-99-2	Benzo(b)fluoranthene	SVOA-SIM	ug/L	0.064	J	0.05	J	0.023	J	0.1	U	0.1	U
207-08-9	Benzo(k)fluoranthene	SVOA-SIM	ug/L	0.017	J	0.018	J	0.1	U	0.1	U	0.1	U
50-32-8	Benzo(a)pyrene	SVOA-SIM	ug/L	0.029	J	0.029	J	0.1	U	0.1	U	0.1	U
193-39-5	Indeno(1,2,3-cd)pyrene	SVOA-SIM	ug/L	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
53-70-3	Dibenz(a,h)anthracene	SVOA-SIM	ug/L	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
191-24-2	Benzo(g,h,i)perylene	SVOA-SIM	ug/L	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
3-MET-W	**Inorganic Analytes**												
7439-89-6	Iron	Met-W	UG/L	790		390		850		50	U	2400	
7439-96-5	Manganese	Met-W	UG/L	25		8.8		170		5.3		6.5	
4-MEE	**Methane, Ethane, Ethene**												
74-82-8	Methane	RSKSOP147	ug/l	2	U	2	U	2	U	2	U	2	U
74-84-0	Ethane	RSKSOP147	ug/l	2	UJ	2	UJ	2	UJ	2	U	2	U
74-85-1	Ethene	RSKSOP147	ug/l	2	UJ	2	UJ	2	UJ	2	U	2	U
5-Wetchem	**Additional Parameters**												
7727-37-9	NITROGEN	MCAWW353-2	mg/L	3.7		5.7		4.7		1.7		3.7	
ALK	Alkalinity, Total (AS CaCO3)	SM2320	mg/L	100		81		100		170		52	
18496-25-8	SULFIDE	MCAWW376-1	mg/L	0.01		0.01	U	0.01	U	0.014		0.015	
SO4	SULFATE	MCAWW375-	mg/L	12		34		68		24		29	

Federal Creosote Superfund Site - OU3
Y5 - Groundwater Sample
Full Analytical Resuts

Cas Rn	Chemical Name	Analytic Method	Sample Code Sample Name Sample Date Unit \\ Depth	MW-126S-Y5 10/21/2009		MW-127S-Y5 10/22/2009		MW-12RS-Y5 10/26/2009		MW-1RS-Y5 10/29/2009		MW-2RD-Y5 10/29/2009	
(Group Code)	**(Group Description)**												
1-GWMW-VOA	**Volatile Organic Compounds**												
75-71-8	Dichlorodifluoromethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
74-87-3	Chloromethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
75-01-4	Vinyl Chloride	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
74-83-9	Bromomethane	TVOA	ug/L	0.5	U	0.5	UL	0.5	UL	0.5	UL	0.5	UL
75-00-3	Chloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
75-69-4	Trichlorofluoromethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
75-35-4	1,1-Dichloroethene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
75-15-0	Carbon Disulfide	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
67-64-1	Acetone	TVOA	ug/L	5	U	5	U	5	U	5	U	5	U
79-20-9	Methyl Acetate	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
75-09-2	Methylene Chloride	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
156-60-5	trans-1,2-Dichloroethene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1634-04-4	Methyl Tert-Butyl Ether	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
75-34-3	1,1-Dichloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
156-59-2	cis-1,2-Dichloroethene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
78-93-3	2-Butanone	TVOA	ug/L	5	U	5	U	5	U	5	U	5	U
74-97-5	CHLOROBROMOMETHANE	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
67-66-3	Chloroform	TVOA	ug/L	0.5	U	0.51		0.5	U	0.5	U	0.5	U
71-55-6	1,1,1-Trichloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
110-82-7	Cyclohexane	TVOA	ug/L	2	U	2	U	2	U	2	U	2	U
56-23-5	Carbon Tetrachloride	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
71-43-2	Benzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	3.6	
107-06-2	1,2-Dichloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
79-01-6	Trichloroethene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
78-87-5	1,2-Dichloropropane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
75-27-4	Bromodichloromethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
10061-01-5	cis-1,3-Dichloropropene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
108-10-1	4-Methyl-2-pentanone	TVOA	ug/L	5	U	5	U	5	U	5	U	5	U
108-88-3	Toluene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	2.4	
10061-02-6	Trans-1,3-Dichloropropene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
79-00-5	1,1,2-Trichloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
127-18-4	Tetrachloroethene	TVOA	ug/L	0.5	U	93		0.5	U	0.5	U	0.5	U
108-87-2	Metylcyclohexane	TVOA	ug/L	2	U	2	U	2	U	2	U	2	U
124-48-1	Dibromochloromethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
106-93-4	1,2-Dibromoethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
591-78-6	2-Hexanone	TVOA	ug/L	5	U	5	U	5	U	5	U	5	U

Federal Creosote Superfund Site - OU3
Y5 - Groundwater Sample
Full Analytical Resuts

			Sample Code	MW-126S-Y5		MW-127S-Y5		MW-12RS-Y5		MW-1RS-Y5		MW-2RD-Y5	
			Sample Name										
			Sample Date	10/21/2009		10/22/2009		10/26/2009		10/29/2009		10/29/2009	
Cas Rn	Chemical Name	Analytic Method	Unit \\ Depth										
108-90-7	Chlorobenzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
100-41-4	Ethylbenzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	8.3	
179601-23-1	m,p-Xylene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	8.7	
95-47-6	O-XYLENE	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	23	
100-42-5	Styrene	TVOA	ug/L	2	U	2	U	2	U	2	U	2	U
75-25-2	Bromoform	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
98-82-8	Isopropylbenzene	TVOA	ug/L	1	U	1	U	1	U	1	U	4.2	
541-73-1	1,3-Dichlorobenzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
106-46-7	1,4-Dichlorobenzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
95-50-1	1,2-Dichlorobenzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
96-12-8	1,2-Dibromo-3-chloropropane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
120-82-1	1,2,4-Trichlorobenzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
87-61-6	1,2,3-TRICHLOROBENZENE	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
79-34-5	1,1,2,2-Tetrachloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Federal Creosote Superfund Site - OU3
Y5 - Groundwater Sample
Full Analytical Resuts

Cas Rn	Chemical Name	Analytic Method	Sample Code Sample Name Sample Date Unit \\ Depth	MW-126S-Y5 10/21/2009		MW-127S-Y5 10/22/2009		MW-12RS-Y5 10/26/2009		MW-1RS-Y5 10/29/2009		MW-2RD-Y5 10/29/2009	
2-GWMW-SVOA	**Semi-Volatile Organic Compounds**												
100-52-7	Benzaldehyde	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
108-95-2	Phenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
111-44-4	bis(2-Chloroethyl)ether	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
95-57-8	2-Chlorophenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
95-48-7	2-Methylphenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	0.54	J
108-60-1	2,2'-oxybis(1-Chloropropane)	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
98-86-2	Acetophenone	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
106-44-5	4-Methylphenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	0.62	J
621-64-7	N-Nitroso-di-n-propylamine	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
67-72-1	Hexachloroethane	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
98-95-3	Nitrobenzene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
78-59-1	Isophorone	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	0.19	J
88-75-5	2-Nitrophenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
105-67-9	2,4-Dimethylphenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	0.45	J
111-91-1	bis(2-Chloroethoxy)methane	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
120-83-2	2,4-Dichlorophenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
91-20-3	Naphthalene	SVOA-LOW	ug/L	5	UJ	5	UJ	5	U	5	UJ	170	J
106-47-8	4-Chloroaniline	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
87-68-3	Hexachlorobutadiene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
105-60-2	Caprolactam	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
59-50-7	4-Chloro-3-methylphenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
91-57-6	2-Methylnaphthalene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
95-94-3	1,2,4,5-TETRACHLOROBENZENE	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
77-47-4	Hexachlorocyclopentadiene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
88-06-2	2,4,6-Trichlorophenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
95-95-4	2,4,5-Trichlorophenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
92-52-4	1,1'Biphenyl	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	12	
91-58-7	2-Chloronaphthalene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
88-74-4	2-Nitroaniline	SVOA-LOW	ug/L	10	U	10	U	10	U	10	U	10	U
131-11-3	Dimethylphthalate	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
208-96-8	Acenaphthylene	SVOA-LOW	ug/L	5	U	5	U	0.54	J	5	U	0.41	J
606-20-2	2,6-Dinitrotoluene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
99-09-2	3-Nitroaniline	SVOA-LOW	ug/L	10	U	10	U	10	U	10	U	10	U
83-32-9	Acenaphthene	SVOA-LOW	ug/L	5	U	5	U	11		5	U	20	
51-28-5	2,4-Dinitrophenol	SVOA-LOW	ug/L	10	U	10	U	10	U	10	U	10	U
100-02-7	4-Nitrophenol	SVOA-LOW	ug/L	10	U	10	U	10	U	10	U	10	U
132-64-9	Dibenzofuran	SVOA-LOW	ug/L	5	U	5	U	20		5	U	21	

Federal Creosote Superfund Site - OU3
Y5 - Groundwater Sample
Full Analytical Resuts

Cas Rn	Chemical Name	Analytic Method	Sample Code Sample Name Sample Date Unit \\ Depth	MW-126S-Y5 10/21/2009		MW-127S-Y5 10/22/2009		MW-12RS-Y5 10/26/2009		MW-1RS-Y5 10/29/2009		MW-2RD-Y5 10/29/2009	
121-14-2	2,4-Dinitrotoluene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
86-73-7	Fluorene	SVOA-LOW	ug/L	5	U	5	U	3.2	J	5	U	11	
84-66-2	Diethylphthalate	SVOA-LOW	ug/L	0.16	J	5	U	5	U	5	U	5	U
7005-72-3	4-Chlorophenyl-phenylether	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
100-01-6	4-Nitroaniline	SVOA-LOW	ug/L	10	U	10	U	10	U	10	U	10	U
534-52-1	4,6-Dinitro-2-methylphenol	SVOA-LOW	ug/L	10	U	10	U	10	U	10	U	10	U
86-30-6	N-Nitrosodiphenylamine	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
101-55-3	4-Bromophenyl-phenylether	SVOA-LOW	ug/L	5	UJ	5	UJ	5	U	5	U	5	U
118-74-1	Hexachlorobenzene	SVOA-LOW	ug/L	5	UJ	5	UJ	5	U	5	U	5	U
1912-24-9	Atrazine	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
87-86-5	Pentachlorophenol	SVOA-LOW	ug/L	10	U	10	U	10	U	10	U	10	U
85-01-8	Phenanthrene	SVOA-LOW	ug/L	5	U	5	U	0.41	J	5	U	6.8	
120-12-7	Anthracene	SVOA-LOW	ug/L	5	U	5	U	0.92	J	5	U	0.86	J
86-74-8	Carbazole	SVOA-LOW	ug/L	5	U	5	U	14		5	U	40	
84-74-2	Di-n-butylphthalate	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
206-44-0	Fluoranthene	SVOA-LOW	ug/L	0.15	J	5	UJ	3.5	J	5	U	1.2	J
129-00-0	Pyrene	SVOA-LOW	ug/L	0.21	J	5	U	1.8	J	5	U	5	U
85-68-7	Butylbenzylphthalate	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
91-94-1	3,3'-Dichlorobenzidine	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
56-55-3	Benzo(a)anthracene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
218-01-9	Chrysene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	SVOA-LOW	ug/L	5	U	5	U	0.22	J	5	U	5	U
117-84-0	Di-n-octyl phthalate	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
205-99-2	Benzo(b)fluoranthene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
207-08-9	Benzo(k)fluoranthene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
50-32-8	Benzo(a)pyrene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
193-39-5	Indeno(1,2,3-cd)pyrene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
53-70-3	Dibenz(a,h)anthracene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
191-24-2	Benzo(g,h,i)perylene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
58-90-2	CHLOROPHENOLS	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U

Federal Creosote Superfund Site - OU3
Y5 - Groundwater Sample
Full Analytical Resuts

Cas Rn	Chemical Name	Analytic Method	Sample Code Sample Name Sample Date Unit \\ Depth	MW-126S-Y5 10/21/2009		MW-127S-Y5 10/22/2009		MW-12RS-Y5 10/26/2009		MW-1RS-Y5 10/29/2009		MW-2RD-Y5 10/29/2009	
SVOA-SIM	**Semi-Volatile Organic Compounds - SIM**												
91-20-3	Naphthalene	SVOA-SIM	ug/L	0.1	U	0.1	U	0.12		0.35		130	J
91-57-6	2-Methylnaphthalene	SVOA-SIM	ug/L	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
208-96-8	Acenaphthylene	SVOA-SIM	ug/L	0.1	U	0.1	U	0.34		0.1	U	0.24	
83-32-9	Acenaphthene	SVOA-SIM	ug/L	0.017	J	0.1	U	9.2	J	0.1	U	15	J
86-73-7	Fluorene	SVOA-SIM	ug/L	0.032	J	0.1	U	2.9		0.1	U	7.8	J
87-86-5	Pentachlorophenol	SVOA-SIM	ug/L	0.2	R	0.2	R	0.017	J	0.2	R	0.2	UJ
85-01-8	Phenanthrene	SVOA-SIM	ug/L	0.052	J	0.1	U	0.32		0.1	U	6.1	J
120-12-7	Anthracene	SVOA-SIM	ug/L	0.035	J	0.1	U	0.78		0.1	U	0.81	
206-44-0	Fluoranthene	SVOA-SIM	ug/L	0.17		0.1	U	3.2		0.1	U	1.2	
129-00-0	Pyrene	SVOA-SIM	ug/L	0.15		0.1	U	1.7		0.1	U	0.77	
56-55-3	Benzo(a)anthracene	SVOA-SIM	ug/L	0.032	J	0.1	U	0.015	J	0.1	U	0.26	
218-01-9	Chrysene	SVOA-SIM	ug/L	0.019	J	0.1	U	0.1	U	0.1	U	0.085	J
205-99-2	Benzo(b)fluoranthene	SVOA-SIM	ug/L	0.1	U	0.1	U	0.1	U	0.1	U	0.14	
207-08-9	Benzo(k)fluoranthene	SVOA-SIM	ug/L	0.1	U	0.1	U	0.1	U	0.1	U	0.055	J
50-32-8	Benzo(a)pyrene	SVOA-SIM	ug/L	0.1	U	0.1	U	0.1	U	0.1	U	0.11	
193-39-5	Indeno(1,2,3-cd)pyrene	SVOA-SIM	ug/L	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
53-70-3	Dibenz(a,h)anthracene	SVOA-SIM	ug/L	0.1	U	0.1	U	0.1	U	0.1	U	0.031	J
191-24-2	Benzo(g,h,i)perylene	SVOA-SIM	ug/L	0.1	U	0.1	U	0.1	U	0.1	U	0.1	UJ
3-MET-W	**Inorganic Analytes**												
7439-89-6	Iron	Met-W	UG/L	1900		10000		14000		1500	L	320	
7439-96-5	Manganese	Met-W	UG/L	20		290		18000		13		1100	
4-MEE	**Methane, Ethane, Ethene**												
74-82-8	Methane	RSKSOP147	ug/l	2	U	2	U	230		2	U	37	
74-84-0	Ethane	RSKSOP147	ug/l	2	U	2	U	2	U	2	U	2	U
74-85-1	Ethene	RSKSOP147	ug/l	2	U	2	U	2	U	2	U	2	U
5-Wetchem	**Additional Parameters**												
7727-37-9	NITROGEN	MCAWW353-2	mg/L	3.4		4.2		0.05	U	3.8		0.05	U
ALK	Alkalinity, Total (AS CaCO3)	SM2320	mg/L	30		29		150		190		100	
18496-25-8	SULFIDE	MCAWW376-1	mg/L	0.01		0.01	U	0.014		0.014		1.2	
SO4	SULFATE	MCAWW375-	mg/L	41		29		41		63		99	

Federal Creosote Superfund Site - OU3
Y5 - Groundwater Sample
Full Analytical Resuts

Cas Rn	Chemical Name	Analytic Method	Sample Code Sample Name Sample Date Unit \\ Depth	MW-2RI-Y5 10/29/2009		MW-2RS-Y5 10/29/2009		MW-2RS-Y5-DUP MW-602S-Y5 10/29/2009		MW-5I-Y5 11/2/2009		MW-6S-Y5 11/2/2009	
(Group Code)	**(Group Description)**												
1-GWMW-VOA	**Volatile Organic Compounds**												
75-71-8	Dichlorodifluoromethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
74-87-3	Chloromethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	1	U	1	U
75-01-4	Vinyl Chloride	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
74-83-9	Bromomethane	TVOA	ug/L	0.5	UL	0.5	UL	0.5	UL	2.2	UJ	2.2	UJ
75-00-3	Chloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
75-69-4	Trichlorofluoromethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
75-35-4	1,1-Dichloroethene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
75-15-0	Carbon Disulfide	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
67-64-1	Acetone	TVOA	ug/L	5	U	5	U	5	U	5	U	5	U
79-20-9	Methyl Acetate	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
75-09-2	Methylene Chloride	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
156-60-5	trans-1,2-Dichloroethene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1634-04-4	Methyl Tert-Butyl Ether	TVOA	ug/L	0.5	U	0.5	U	0.5	U	1.1		0.5	U
75-34-3	1,1-Dichloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
156-59-2	cis-1,2-Dichloroethene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
78-93-3	2-Butanone	TVOA	ug/L	5	U	5	U	5	U	5	U	5	U
74-97-5	CHLOROBROMOMETHANE	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
67-66-3	Chloroform	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
71-55-6	1,1,1-Trichloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
110-82-7	Cyclohexane	TVOA	ug/L	2	U	2	U	2	U	0.5	U	0.5	U
56-23-5	Carbon Tetrachloride	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
71-43-2	Benzene	TVOA	ug/L	1.7		26		25		2.3		11	
107-06-2	1,2-Dichloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
79-01-6	Trichloroethene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
78-87-5	1,2-Dichloropropane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
75-27-4	Bromodichloromethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
10061-01-5	cis-1,3-Dichloropropene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
108-10-1	4-Methyl-2-pentanone	TVOA	ug/L	5	U	5	U	5	U	5	U	5	U
108-88-3	Toluene	TVOA	ug/L	3.3		43		42		17		75	
10061-02-6	Trans-1,3-Dichloropropene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	UJ	0.5	UJ
79-00-5	1,1,2-Trichloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
127-18-4	Tetrachloroethene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
108-87-2	Metylcyclohexane	TVOA	ug/L	2	U	2	U	2	U	0.5	U	0.5	U
124-48-1	Dibromochloromethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
106-93-4	1,2-Dibromoethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
591-78-6	2-Hexanone	TVOA	ug/L	5	U	5	U	5	U	5	U	5	U

Federal Creosote Superfund Site - OU3
Y5 - Groundwater Sample
Full Analytical Resuts

Cas Rn	Chemical Name	Analytic Method	Sample Code Sample Name Sample Date Unit \\ Depth	MW-2RI-Y5 10/29/2009		MW-2RS-Y5 10/29/2009		MW-2RS-Y5-DUP MW-602S-Y5 10/29/2009		MW-5I-Y5 11/2/2009		MW-6S-Y5 11/2/2009	
108-90-7	Chlorobenzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
100-41-4	Ethylbenzene	TVOA	ug/L	54		160		170		58	J	66	
179601-23-1	m,p-Xylene	TVOA	ug/L	55		190		190		80		120	
95-47-6	O-XYLENE	TVOA	ug/L	56		130		140		59	J	57	
100-42-5	Styrene	TVOA	ug/L	2	U	9.1		9.1		2.9		24	
75-25-2	Bromoform	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
98-82-8	Isopropylbenzene	TVOA	ug/L	20		38		38		11		9.4	
541-73-1	1,3-Dichlorobenzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
106-46-7	1,4-Dichlorobenzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
95-50-1	1,2-Dichlorobenzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
96-12-8	1,2-Dibromo-3-chloropropane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	UL	0.5	U
120-82-1	1,2,4-Trichlorobenzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
87-61-6	1,2,3-TRICHLOROBENZENE	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
79-34-5	1,1,2,2-Tetrachloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Federal Creosote Superfund Site - OU3
Y5 - Groundwater Sample
Full Analytical Resuts

Cas Rn	Chemical Name	Analytic Method	Sample Code Sample Name Sample Date Unit \\ Depth	MW-2RI-Y5 10/29/2009		MW-2RS-Y5 10/29/2009		MW-2RS-Y5-DUP MW-602S-Y5 10/29/2009		MW-5I-Y5 11/2/2009		MW-6S-Y5 11/2/2009	
2-GWMW-SVOA	**Semi-Volatile Organic Compounds**												
100-52-7	Benzaldehyde	SVOA-LOW	ug/L	50	U	50	U	50	U	50	U	100	U
108-95-2	Phenol	SVOA-LOW	ug/L	50	U	50	U	50	U	50	UJ	100	UJ
111-44-4	bis(2-Chloroethyl)ether	SVOA-LOW	ug/L	50	UJ	50	U	50	U	50	U	100	U
95-57-8	2-Chlorophenol	SVOA-LOW	ug/L	50	U	50	U	50	U	50	U	100	U
95-48-7	2-Methylphenol	SVOA-LOW	ug/L	50	U	50	U	50	U	50	U	5.1	J
108-60-1	2,2'-oxybis(1-Chloropropane)	SVOA-LOW	ug/L	50	U	50	U	50	U	50	U	100	U
98-86-2	Acetophenone	SVOA-LOW	ug/L	50	U	50	U	50	U	50	U	100	U
106-44-5	4-Methylphenol	SVOA-LOW	ug/L	50	U	1.7	J	1.5	J	4.7	J	4.4	J
621-64-7	N-Nitroso-di-n-propylamine	SVOA-LOW	ug/L	50	U	50	UJ	50	UJ	50	UJ	100	UJ
67-72-1	Hexachloroethane	SVOA-LOW	ug/L	50	U	50	U	50	U	50	U	100	U
98-95-3	Nitrobenzene	SVOA-LOW	ug/L	50	U	50	U	50	U	50	U	100	U
78-59-1	Isophorone	SVOA-LOW	ug/L	50	U	50	U	50	U	50	U	100	U
88-75-5	2-Nitrophenol	SVOA-LOW	ug/L	50	U	50	U	50	U	50	U	100	U
105-67-9	2,4-Dimethylphenol	SVOA-LOW	ug/L	50	U	6.1	J	5.9	J	50	U	54	J
111-91-1	bis(2-Chloroethoxy)methane	SVOA-LOW	ug/L	50	U	50	U	50	U	50	U	100	U
120-83-2	2,4-Dichlorophenol	SVOA-LOW	ug/L	50	U	50	U	50	U	50	U	100	U
91-20-3	Naphthalene	SVOA-LOW	ug/L	3800	J	6000	J	6200	J	7900	J	9300	J
106-47-8	4-Chloroaniline	SVOA-LOW	ug/L	50	U	50	U	50	U	50	U	100	U
87-68-3	Hexachlorobutadiene	SVOA-LOW	ug/L	50	U	50	U	50	U	50	U	100	U
105-60-2	Caprolactam	SVOA-LOW	ug/L	50	U	50	U	50	U	50	U	100	U
59-50-7	4-Chloro-3-methylphenol	SVOA-LOW	ug/L	50	U	50	U	50	U	50	U	100	U
91-57-6	2-Methylnaphthalene	SVOA-LOW	ug/L	120		96		91		730		890	
95-94-3	1,2,4,5-TETRACHLOROBENZENE	SVOA-LOW	ug/L	50	U	50	U	50	U	50	U	100	U
77-47-4	Hexachlorocyclopentadiene	SVOA-LOW	ug/L	50	U	50	U	50	U	50	U	100	U
88-06-2	2,4,6-Trichlorophenol	SVOA-LOW	ug/L	50	U	50	U	50	U	50	U	100	U
95-95-4	2,4,5-Trichlorophenol	SVOA-LOW	ug/L	50	U	50	U	50	U	50	U	100	U
92-52-4	1,1'Biphenyl	SVOA-LOW	ug/L	150		150		150		100		140	
91-58-7	2-Chloronaphthalene	SVOA-LOW	ug/L	50	U	50	U	50	U	50	U	100	U
88-74-4	2-Nitroaniline	SVOA-LOW	ug/L	100	U	100	U	100	U	100	U	200	U
131-11-3	Dimethylphthalate	SVOA-LOW	ug/L	50	U	50	U	50	U	50	U	100	U
208-96-8	Acenaphthylene	SVOA-LOW	ug/L	4.9	J	13	J	13	J	6.5	J	61	J
606-20-2	2,6-Dinitrotoluene	SVOA-LOW	ug/L	50	U	50	U	50	U	50	U	100	U
99-09-2	3-Nitroaniline	SVOA-LOW	ug/L	100	U	100	U	100	U	100	U	200	U
83-32-9	Acenaphthene	SVOA-LOW	ug/L	420		440		440		340		520	
51-28-5	2,4-Dinitrophenol	SVOA-LOW	ug/L	100	U	100	U	100	U	100	U	200	U
100-02-7	4-Nitrophenol	SVOA-LOW	ug/L	100	U	100	U	100	U	100	U	200	U
132-64-9	Dibenzofuran	SVOA-LOW	ug/L	320		330		320		260		320	

Federal Creosote Superfund Site - OU3
Y5 - Groundwater Sample
Full Analytical Resuts

Cas Rn	Chemical Name	Analytic Method	Sample Code Sample Name Sample Date Unit \\ Depth	MW-2RI-Y5 10/29/2009		MW-2RS-Y5 10/29/2009		MW-2RS-Y5-DUP MW-602S-Y5 10/29/2009		MW-5I-Y5 11/2/2009		MW-6S-Y5 11/2/2009	
121-14-2	2,4-Dinitrotoluene	SVOA-LOW	ug/L	50	U	50	U	50	U	50	U	100	U
86-73-7	Fluorene	SVOA-LOW	ug/L	220		200		190		200		360	
84-66-2	Diethylphthalate	SVOA-LOW	ug/L	50	U	50	U	50	U	50	U	100	U
7005-72-3	4-Chlorophenyl-phenylether	SVOA-LOW	ug/L	50	U	50	U	50	U	50	U	100	U
100-01-6	4-Nitroaniline	SVOA-LOW	ug/L	100	U	100	U	100	U	100	U	200	U
534-52-1	4,6-Dinitro-2-methylphenol	SVOA-LOW	ug/L	100	U	100	U	100	U	100	U	200	U
86-30-6	N-Nitrosodiphenylamine	SVOA-LOW	ug/L	50	U	50	U	50	U	50	U	100	U
101-55-3	4-Bromophenyl-phenylether	SVOA-LOW	ug/L	50	U	50	U	50	U	50	UJ	100	UJ
118-74-1	Hexachlorobenzene	SVOA-LOW	ug/L	50	U	50	U	50	U	50	UJ	100	UJ
1912-24-9	Atrazine	SVOA-LOW	ug/L	50	U	50	U	50	U	50	U	100	U
87-86-5	Pentachlorophenol	SVOA-LOW	ug/L	100	U	100	U	100	U	100	U	200	U
85-01-8	Phenanthrene	SVOA-LOW	ug/L	230		210		200		240		440	
120-12-7	Anthracene	SVOA-LOW	ug/L	18	J	12	J	9.8	J	19	J	40	J
86-74-8	Carbazole	SVOA-LOW	ug/L	250		250		250		390		540	
84-74-2	Di-n-butylphthalate	SVOA-LOW	ug/L	50	U	50	U	50	U	50	U	100	U
206-44-0	Fluoranthene	SVOA-LOW	ug/L	21	J	14	J	13	J	27	J	140	
129-00-0	Pyrene	SVOA-LOW	ug/L	11	J	9.5	J	8.4	J	17	J	89	J
85-68-7	Butylbenzylphthalate	SVOA-LOW	ug/L	50	U	50	U	50	U	50	U	100	U
91-94-1	3,3'-Dichlorobenzidine	SVOA-LOW	ug/L	50	U	50	U	50	U	50	U	100	U
56-55-3	Benzo(a)anthracene	SVOA-LOW	ug/L	50	U	50	U	50	U	4.2	J	31	J
218-01-9	Chrysene	SVOA-LOW	ug/L	50	U	1.6	J	50	U	3.2	J	25	J
117-81-7	bis(2-Ethylhexyl)phthalate	SVOA-LOW	ug/L	50	U	50	U	50	U	50	U	100	U
117-84-0	Di-n-octyl phthalate	SVOA-LOW	ug/L	50	U	2.6	J	50	U	50	U	100	U
205-99-2	Benzo(b)fluoranthene	SVOA-LOW	ug/L	50	U	1.6	J	50	U	3.3	J	19	J
207-08-9	Benzo(k)fluoranthene	SVOA-LOW	ug/L	50	U	50	U	50	U	50	U	7.5	J
50-32-8	Benzo(a)pyrene	SVOA-LOW	ug/L	50	U	50	U	50	U	2.6	J	15	J
193-39-5	Indeno(1,2,3-cd)pyrene	SVOA-LOW	ug/L	50	U	50	U	50	U	50	U	7.9	J
53-70-3	Dibenz(a,h)anthracene	SVOA-LOW	ug/L	50	U	50	U	50	U	50	U	100	U
191-24-2	Benzo(g,h,i)perylene	SVOA-LOW	ug/L	50	U	50	J	50	U	50	U	6.1	J
58-90-2	CHLOROPHENOLS	SVOA-LOW	ug/L	50	U	50	U	50	U	50	U	100	U

Federal Creosote Superfund Site - OU3
Y5 - Groundwater Sample
Full Analytical Resuts

Cas Rn	Chemical Name	Analytic Method	Sample Code Sample Name Sample Date Unit \\ Depth	MW-2RI-Y5 10/29/2009		MW-2RS-Y5 10/29/2009		MW-2RS-Y5-DUP MW-602S-Y5 10/29/2009		MW-5I-Y5 11/2/2009		MW-6S-Y5 11/2/2009	
SVOA-SIM	**Semi-Volatile Organic Compounds - SIM**												
91-20-3	Naphthalene	SVOA-SIM	ug/L	730	J	880	J	940	J	1600	J	1900	J
91-57-6	2-Methylnaphthalene	SVOA-SIM	ug/L	130	J	100	J	110	J	630	J	650	J
208-96-8	Acenaphthylene	SVOA-SIM	ug/L	2.8		7.8	J	8.1	J	4.5	J	30	J
83-32-9	Acenaphthene	SVOA-SIM	ug/L	120	J	140	J	140	J	130	J	140	J
86-73-7	Fluorene	SVOA-SIM	ug/L	93	J	86	J	85	J	98	J	120	J
87-86-5	Pentachlorophenol	SVOA-SIM	ug/L	1	UJ	1	UJ	1	UJ	1	UJ	1	UJ
85-01-8	Phenanthrene	SVOA-SIM	ug/L	140	J	110	J	100	J	120	J	200	J
120-12-7	Anthracene	SVOA-SIM	ug/L	16	J	9	J	7.9	J	15	J	31	J
206-44-0	Fluoranthene	SVOA-SIM	ug/L	19	J	12	J	11	J	25	J	94	J
129-00-0	Pyrene	SVOA-SIM	ug/L	11	J	7.1	J	6.9	J	13	J	60	J
56-55-3	Benzo(a)anthracene	SVOA-SIM	ug/L	1.2	J	0.5	UJ	0.5	UJ	5.1	J	36	J
218-01-9	Chrysene	SVOA-SIM	ug/L	0.54	J	0.24	J	0.26	J	2.7	J	18	J
205-99-2	Benzo(b)fluoranthene	SVOA-SIM	ug/L	0.5	UJ	0.5	UJ	0.5	UJ	2.6	J	18	J
207-08-9	Benzo(k)fluoranthene	SVOA-SIM	ug/L	0.13	J	0.5	UJ	0.5	UJ	0.84	J	5.6	J
50-32-8	Benzo(a)pyrene	SVOA-SIM	ug/L	0.25	J	0.11	J	0.091	J	2.1	J	14	J
193-39-5	Indeno(1,2,3-cd)pyrene	SVOA-SIM	ug/L	0.5	UJ	0.5	UJ	0.5	UJ	1.6	J	8	J
53-70-3	Dibenz(a,h)anthracene	SVOA-SIM	ug/L	0.079	J	0.076	J	0.078	J	0.28	J	1.4	J
191-24-2	Benzo(g,h,i)perylene	SVOA-SIM	ug/L	0.5	UJ	0.5	UJ	0.5	UJ	0.89	J	4.1	J
3-MET-W	**Inorganic Analytes**												
7439-89-6	Iron	Met-W	UG/L	540		22000		22000		250		20000	
7439-96-5	Manganese	Met-W	UG/L	3000		12000		12000		1100		4600	
4-MEE	**Methane, Ethane, Ethene**												
74-82-8	Methane	RSKSOP147	ug/l	13		46		44		47		110	
74-84-0	Ethane	RSKSOP147	ug/l	2	U	2.5		2	U	2	U	2	U
74-85-1	Ethene	RSKSOP147	ug/l	2	U	2.2		2	U	2	U	2	U
5-Wetchem	**Additional Parameters**												
7727-37-9	NITROGEN	MCAWW353-2	mg/L	0.05	U	0.11		0.11		0.05	U	0.15	
ALK	Alkalinity, Total (AS CaCO3)	SM2320	mg/L	160		250		250		240		83	
18496-25-8	SULFIDE	MCAWW376-1	mg/L	0.38		0.01		0.012		0.046		0.01	U
SO4	SULFATE	MCAWW375-	mg/L	1	U	22		20		1	U	14	

Federal Creosote Superfund Site - OU3
Y5 - Groundwater Sample
Full Analytical Resuts

Cas Rn	Chemical Name	Analytic Method	Sample Code Sample Name Sample Date Unit \\ Depth	MW-7S-Y5 10/29/2009	
(Group Code)	**(Group Description)**				
1-GWMW-VOA	**Volatile Organic Compounds**				
75-71-8	Dichlorodifluoromethane	TVOA	ug/L	0.5	U
74-87-3	Chloromethane	TVOA	ug/L	0.5	U
75-01-4	Vinyl Chloride	TVOA	ug/L	0.5	U
74-83-9	Bromomethane	TVOA	ug/L	0.5	UL
75-00-3	Chloroethane	TVOA	ug/L	0.5	U
75-69-4	Trichlorofluoromethane	TVOA	ug/L	0.5	U
75-35-4	1,1-Dichloroethene	TVOA	ug/L	0.5	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	TVOA	ug/L	0.5	U
75-15-0	Carbon Disulfide	TVOA	ug/L	0.5	U
67-64-1	Acetone	TVOA	ug/L	5	U
79-20-9	Methyl Acetate	TVOA	ug/L	0.5	U
75-09-2	Methylene Chloride	TVOA	ug/L	0.5	U
156-60-5	trans-1,2-Dichloroethene	TVOA	ug/L	0.5	U
1634-04-4	Methyl Tert-Butyl Ether	TVOA	ug/L	0.5	U
75-34-3	1,1-Dichloroethane	TVOA	ug/L	0.5	U
156-59-2	cis-1,2-Dichloroethene	TVOA	ug/L	0.5	U
78-93-3	2-Butanone	TVOA	ug/L	5	U
74-97-5	CHLOROBROMOMETHANE	TVOA	ug/L	0.5	U
67-66-3	Chloroform	TVOA	ug/L	0.5	U
71-55-6	1,1,1-Trichloroethane	TVOA	ug/L	0.5	U
110-82-7	Cyclohexane	TVOA	ug/L	2	U
56-23-5	Carbon Tetrachloride	TVOA	ug/L	0.5	U
71-43-2	Benzene	TVOA	ug/L	5.1	
107-06-2	1,2-Dichloroethane	TVOA	ug/L	0.5	U
79-01-6	Trichloroethene	TVOA	ug/L	0.5	U
78-87-5	1,2-Dichloropropane	TVOA	ug/L	0.5	U
75-27-4	Bromodichloromethane	TVOA	ug/L	0.5	U
10061-01-5	cis-1,3-Dichloropropene	TVOA	ug/L	0.5	U
108-10-1	4-Methyl-2-pentanone	TVOA	ug/L	5	U
108-88-3	Toluene	TVOA	ug/L	41	
10061-02-6	Trans-1,3-Dichloropropene	TVOA	ug/L	0.5	U
79-00-5	1,1,2-Trichloroethane	TVOA	ug/L	0.5	U
127-18-4	Tetrachloroethene	TVOA	ug/L	0.5	U
108-87-2	Metylcyclohexane	TVOA	ug/L	2	U
124-48-1	Dibromochloromethane	TVOA	ug/L	0.5	U
106-93-4	1,2-Dibromoethane	TVOA	ug/L	0.5	U
591-78-6	2-Hexanone	TVOA	ug/L	5	U

Federal Creosote Superfund Site - OU3
Y5 - Groundwater Sample
Full Analytical Resuts

			Sample Code	MW-7S-Y5	
			Sample Name		
			Sample Date	10/29/2009	
Cas Rn	Chemical Name	Analytic Method	Unit \\ Depth		
108-90-7	Chlorobenzene	TVOA	ug/L	0.5	U
100-41-4	Ethylbenzene	TVOA	ug/L	39	
179601-23-1	m,p-Xylene	TVOA	ug/L	50	
95-47-6	O-XYLENE	TVOA	ug/L	39	
100-42-5	Styrene	TVOA	ug/L	7.3	
75-25-2	Bromoform	TVOA	ug/L	0.5	U
98-82-8	Isopropylbenzene	TVOA	ug/L	3	
541-73-1	1,3-Dichlorobenzene	TVOA	ug/L	0.5	U
106-46-7	1,4-Dichlorobenzene	TVOA	ug/L	0.5	U
95-50-1	1,2-Dichlorobenzene	TVOA	ug/L	0.5	U
96-12-8	1,2-Dibromo-3-chloropropane	TVOA	ug/L	0.5	U
120-82-1	1,2,4-Trichlorobenzene	TVOA	ug/L	0.5	U
87-61-6	1,2,3-TRICHLOROBENZENE	TVOA	ug/L	0.5	U
79-34-5	1,1,2,2-Tetrachloroethane	TVOA	ug/L	0.5	U

Federal Creosote Superfund Site - OU3
Y5 - Groundwater Sample
Full Analytical Resuts

Cas Rn	Chemical Name	Analytic Method	Sample Code Sample Name Sample Date Unit \\ Depth	MW-7S-Y5 10/29/2009	
2-GWMW-SVOA	**Semi-Volatile Organic Compounds**				
100-52-7	Benzaldehyde	SVOA-LOW	ug/L	100	U
108-95-2	Phenol	SVOA-LOW	ug/L	100	U
111-44-4	bis(2-Chloroethyl)ether	SVOA-LOW	ug/L	100	U
95-57-8	2-Chlorophenol	SVOA-LOW	ug/L	100	U
95-48-7	2-Methylphenol	SVOA-LOW	ug/L	100	U
108-60-1	2,2'-oxybis(1-Chloropropane)	SVOA-LOW	ug/L	100	U
98-86-2	Acetophenone	SVOA-LOW	ug/L	100	U
106-44-5	4-Methylphenol	SVOA-LOW	ug/L	5	J
621-64-7	N-Nitroso-di-n-propylamine	SVOA-LOW	ug/L	100	UJ
67-72-1	Hexachloroethane	SVOA-LOW	ug/L	100	U
98-95-3	Nitrobenzene	SVOA-LOW	ug/L	100	U
78-59-1	Isophorone	SVOA-LOW	ug/L	100	U
88-75-5	2-Nitrophenol	SVOA-LOW	ug/L	100	U
105-67-9	2,4-Dimethylphenol	SVOA-LOW	ug/L	23	J
111-91-1	bis(2-Chloroethoxy)methane	SVOA-LOW	ug/L	100	U
120-83-2	2,4-Dichlorophenol	SVOA-LOW	ug/L	100	U
91-20-3	Naphthalene	SVOA-LOW	ug/L	5600	J
106-47-8	4-Chloroaniline	SVOA-LOW	ug/L	100	U
87-68-3	Hexachlorobutadiene	SVOA-LOW	ug/L	100	U
105-60-2	Caprolactam	SVOA-LOW	ug/L	100	U
59-50-7	4-Chloro-3-methylphenol	SVOA-LOW	ug/L	100	U
91-57-6	2-Methylnaphthalene	SVOA-LOW	ug/L	370	
95-94-3	1,2,4,5-TETRACHLOROBENZENE	SVOA-LOW	ug/L	100	U
77-47-4	Hexachlorocyclopentadiene	SVOA-LOW	ug/L	100	U
88-06-2	2,4,6-Trichlorophenol	SVOA-LOW	ug/L	100	U
95-95-4	2,4,5-Trichlorophenol	SVOA-LOW	ug/L	100	U
92-52-4	1,1'Biphenyl	SVOA-LOW	ug/L	140	
91-58-7	2-Chloronaphthalene	SVOA-LOW	ug/L	100	U
88-74-4	2-Nitroaniline	SVOA-LOW	ug/L	200	U
131-11-3	Dimethylphthalate	SVOA-LOW	ug/L	100	U
208-96-8	Acenaphthylene	SVOA-LOW	ug/L	110	J
606-20-2	2,6-Dinitrotoluene	SVOA-LOW	ug/L	100	U
99-09-2	3-Nitroaniline	SVOA-LOW	ug/L	200	U
83-32-9	Acenaphthene	SVOA-LOW	ug/L	540	
51-28-5	2,4-Dinitrophenol	SVOA-LOW	ug/L	200	U
100-02-7	4-Nitrophenol	SVOA-LOW	ug/L	200	U
132-64-9	Dibenzofuran	SVOA-LOW	ug/L	440	

Federal Creosote Superfund Site - OU3
Y5 - Groundwater Sample
Full Analytical Resuts

			Sample Code	MW-7S-Y5	
			Sample Name		
			Sample Date	10/29/2009	
Cas Rn	Chemical Name	Analytic Method	Unit \\ Depth		
121-14-2	2,4-Dinitrotoluene	SVOA-LOW	ug/L	100	U
86-73-7	Fluorene	SVOA-LOW	ug/L	430	
84-66-2	Diethylphthalate	SVOA-LOW	ug/L	100	U
7005-72-3	4-Chlorophenyl-phenylether	SVOA-LOW	ug/L	100	U
100-01-6	4-Nitroaniline	SVOA-LOW	ug/L	200	U
534-52-1	4,6-Dinitro-2-methylphenol	SVOA-LOW	ug/L	200	U
86-30-6	N-Nitrosodiphenylamine	SVOA-LOW	ug/L	100	U
101-55-3	4-Bromophenyl-phenylether	SVOA-LOW	ug/L	100	U
118-74-1	Hexachlorobenzene	SVOA-LOW	ug/L	100	U
1912-24-9	Atrazine	SVOA-LOW	ug/L	100	U
87-86-5	Pentachlorophenol	SVOA-LOW	ug/L	200	U
85-01-8	Phenanthrene	SVOA-LOW	ug/L	850	
120-12-7	Anthracene	SVOA-LOW	ug/L	84	J
86-74-8	Carbazole	SVOA-LOW	ug/L	280	
84-74-2	Di-n-butylphthalate	SVOA-LOW	ug/L	100	U
206-44-0	Fluoranthene	SVOA-LOW	ug/L	550	
129-00-0	Pyrene	SVOA-LOW	ug/L	430	
85-68-7	Butylbenzylphthalate	SVOA-LOW	ug/L	100	U
91-94-1	3,3'-Dichlorobenzidine	SVOA-LOW	ug/L	100	U
56-55-3	Benzo(a)anthracene	SVOA-LOW	ug/L	190	
218-01-9	Chrysene	SVOA-LOW	ug/L	110	
117-81-7	bis(2-Ethylhexyl)phthalate	SVOA-LOW	ug/L	100	U
117-84-0	Di-n-octyl phthalate	SVOA-LOW	ug/L	100	U
205-99-2	Benzo(b)fluoranthene	SVOA-LOW	ug/L	140	
207-08-9	Benzo(k)fluoranthene	SVOA-LOW	ug/L	100	U
50-32-8	Benzo(a)pyrene	SVOA-LOW	ug/L	100	U
193-39-5	Indeno(1,2,3-cd)pyrene	SVOA-LOW	ug/L	58	J
53-70-3	Dibenz(a,h)anthracene	SVOA-LOW	ug/L	10	J
191-24-2	Benzo(g,h,i)perylene	SVOA-LOW	ug/L	43	J
58-90-2	CHLOROPHENOLS	SVOA-LOW	ug/L	100	U

Federal Creosote Superfund Site - OU3
Y5 - Groundwater Sample
Full Analytical Resuts

Cas Rn	Chemical Name	Analytic Method	Sample Code Sample Name Sample Date Unit \\ Depth	MW-7S-Y5 10/29/2009	
SVOA-SIM	**Semi-Volatile Organic Compounds - SIM**				
91-20-3	Naphthalene	SVOA-SIM	ug/L	840	J
91-57-6	2-Methylnaphthalene	SVOA-SIM	ug/L	270	J
208-96-8	Acenaphthylene	SVOA-SIM	ug/L	43	J
83-32-9	Acenaphthene	SVOA-SIM	ug/L	130	J
86-73-7	Fluorene	SVOA-SIM	ug/L	110	J
87-86-5	Pentachlorophenol	SVOA-SIM	ug/L	1	UJ
85-01-8	Phenanthrene	SVOA-SIM	ug/L	160	J
120-12-7	Anthracene	SVOA-SIM	ug/L	33	J
206-44-0	Fluoranthene	SVOA-SIM	ug/L	130	J
129-00-0	Pyrene	SVOA-SIM	ug/L	240	J
56-55-3	Benzo(a)anthracene	SVOA-SIM	ug/L	240	J
218-01-9	Chrysene	SVOA-SIM	ug/L	110	J
205-99-2	Benzo(b)fluoranthene	SVOA-SIM	ug/L	120	J
207-08-9	Benzo(k)fluoranthene	SVOA-SIM	ug/L	36	J
50-32-8	Benzo(a)pyrene	SVOA-SIM	ug/L	90	J
193-39-5	Indeno(1,2,3-cd)pyrene	SVOA-SIM	ug/L	74	J
53-70-3	Dibenz(a,h)anthracene	SVOA-SIM	ug/L	13	J
191-24-2	Benzo(g,h,i)perylene	SVOA-SIM	ug/L	38	J
3-MET-W	**Inorganic Analytes**				
7439-89-6	Iron	Met-W	UG/L	29000	
7439-96-5	Manganese	Met-W	UG/L	4700	
4-MEE	**Methane, Ethane, Ethene**				
74-82-8	Methane	RSKSOP147	ug/l	11	
74-84-0	Ethane	RSKSOP147	ug/l	2	U
74-85-1	Ethene	RSKSOP147	ug/l	2	U
5-Wetchem	**Additional Parameters**				
7727-37-9	NITROGEN	MCAWW353-2	mg/L	0.17	
ALK	Alkalinity, Total (AS CaCO3)	SM2320	mg/L	98	
18496-25-8	SULFIDE	MCAWW376-1	mg/L	0.01	U
SO4	SULFATE	MCAWW375-	mg/L	8.9	

Federal Creosote Superfund Site - OU3
Y5 Groundwater Blanks
Analytical Results

Cas Rn	Chemical Name	Analytic Method	Sample Code Sample Name Sample Date Unit \\ Depth	FB102009 10/20/2009		FB102809 10/28/2009		FB102909 10/29/2009		FB102109 10/21/2009		FB110209 11/2/2009	
(Group Code)	**(Group Description)**												
1-GWMW-VOA	**Volatile Organic Compounds**												
75-71-8	Dichlorodifluoromethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
74-87-3	Chloromethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	1	U
75-01-4	Vinyl Chloride	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
74-83-9	Bromomethane	TVOA	ug/L	0.5	U	0.5	U	0.5	UL	0.5	U	2.2	UJ
75-00-3	Chloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
75-69-4	Trichlorofluoromethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
75-35-4	1,1-Dichloroethene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
75-15-0	Carbon Disulfide	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
67-64-1	Acetone	TVOA	ug/L	5	U	31		41		12		150	
79-20-9	Methyl Acetate	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
75-09-2	Methylene Chloride	TVOA	ug/L	1.2		1.1		0.95		0.66		0.76	
156-60-5	trans-1,2-Dichloroethene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1634-04-4	Methyl Tert-Butyl Ether	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
75-34-3	1,1-Dichloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
156-59-2	cis-1,2-Dichloroethene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
78-93-3	2-Butanone	TVOA	ug/L	5	U	5	U	5	U	5	U	5	U
74-97-5	CHLOROBROMOMETHANE	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
67-66-3	Chloroform	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
71-55-6	1,1,1-Trichloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
110-82-7	Cyclohexane	TVOA	ug/L	2	U	2	U	2	U	2	U	0.5	U
56-23-5	Carbon Tetrachloride	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
71-43-2	Benzene	TVOA	ug/L	0.5	U	1.2		1.4		1.2		1.2	
107-06-2	1,2-Dichloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
79-01-6	Trichloroethene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
78-87-5	1,2-Dichloropropane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
75-27-4	Bromodichloromethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
10061-01-5	cis-1,3-Dichloropropene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
108-10-1	4-Methyl-2-pentanone	TVOA	ug/L	5	U	5	U	5	U	5	U	5	U
108-88-3	Toluene	TVOA	ug/L	0.5	U	41		19		3.6		5.6	
10061-02-6	Trans-1,3-Dichloropropene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	UJ
79-00-5	1,1,2-Trichloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
127-18-4	Tetrachloroethene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
108-87-2	Metylcyclohexane	TVOA	ug/L	2	U	2	U	2	U	2	U	0.5	U
124-48-1	Dibromochloromethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
106-93-4	1,2-Dibromoethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
591-78-6	2-Hexanone	TVOA	ug/L	5	U	5	U	5	U	5	U	5	U

Federal Creosote Superfund Site - OU3
Y5 Groundwater Blanks
Analytical Results

Cas Rn	Chemical Name	Analytic Method	Sample Code Sample Name Sample Date Unit \\ Depth	FB102009 10/20/2009		FB102809 10/28/2009		FB102909 10/29/2009		FB102109 10/21/2009		FB110209 11/2/2009	
108-90-7	Chlorobenzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
100-41-4	Ethylbenzene	TVOA	ug/L	0.5	U	0.8		0.89		0.5	U	0.7	
179601-23-1	m,p-Xylene	TVOA	ug/L	0.5	U	3.5		4		1.5		2.6	
95-47-6	O-XYLENE	TVOA	ug/L	0.5	U	1.2		1.5		0.65		1.2	
100-42-5	Styrene	TVOA	ug/L	2	U	2	U	2	U	2	U	0.5	U
75-25-2	Bromoform	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
98-82-8	Isopropylbenzene	TVOA	ug/L	1	U	1	U	1	U	1	U	0.5	U
541-73-1	1,3-Dichlorobenzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
106-46-7	1,4-Dichlorobenzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
95-50-1	1,2-Dichlorobenzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
96-12-8	1,2-Dibromo-3-chloropropane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
120-82-1	1,2,4-Trichlorobenzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
87-61-6	1,2,3-TRICHLOROBENZENE	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
79-34-5	1,1,2,2-Tetrachloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Federal Creosote Superfund Site - OU3
Y5 Groundwater Blanks
Analytical Results

Cas Rn	Chemical Name	Analytic Method	Sample Code Sample Name Sample Date Unit \\ Depth	FB102009 10/20/2009		FB102809 10/28/2009		FB102909 10/29/2009		FB102109 10/21/2009		FB110209 11/2/2009	
2-GWMW-SVOA	**Semi-Volatile Organic Compounds**												
100-52-7	Benzaldehyde	SVOA-LOW	ug/L	0.16	J	5	U	5	U	5	U	5	U
108-95-2	Phenol	SVOA-LOW	ug/L	0.83	J	1.4	J	2.3	J	1.1	J	2.2	J
111-44-4	bis(2-Chloroethyl)ether	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
95-57-8	2-Chlorophenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
95-48-7	2-Methylphenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
108-60-1	2,2'-oxybis(1-Chloropropane)	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
98-86-2	Acetophenone	SVOA-LOW	ug/L	0.22	J	0.34	J	0.56	J	0.29	J	0.63	J
106-44-5	4-Methylphenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
621-64-7	N-Nitroso-di-n-propylamine	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	UJ
67-72-1	Hexachloroethane	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
98-95-3	Nitrobenzene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
78-59-1	Isophorone	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
88-75-5	2-Nitrophenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
105-67-9	2,4-Dimethylphenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
111-91-1	bis(2-Chloroethoxy)methane	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
120-83-2	2,4-Dichlorophenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
91-20-3	Naphthalene	SVOA-LOW	ug/L	5	UJ	5	U	0.34	J	0.4	J	0.16	J
106-47-8	4-Chloroaniline	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
87-68-3	Hexachlorobutadiene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
105-60-2	Caprolactam	SVOA-LOW	ug/L	0.29	J	7.5		6		0.32	J	3.3	J
59-50-7	4-Chloro-3-methylphenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
91-57-6	2-Methylnaphthalene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
95-94-3	1,2,4,5-TETRACHLOROBENZENE	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
77-47-4	Hexachlorocyclopentadiene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
88-06-2	2,4,6-Trichlorophenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
95-95-4	2,4,5-Trichlorophenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
92-52-4	1,1'Biphenyl	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
91-58-7	2-Chloronaphthalene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
88-74-4	2-Nitroaniline	SVOA-LOW	ug/L	10	U	10	U	10	U	10	U	10	U
131-11-3	Dimethylphthalate	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
208-96-8	Acenaphthylene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
606-20-2	2,6-Dinitrotoluene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
99-09-2	3-Nitroaniline	SVOA-LOW	ug/L	10	U	10	U	10	U	10	U	10	U
83-32-9	Acenaphthene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
51-28-5	2,4-Dinitrophenol	SVOA-LOW	ug/L	10	U	10	U	10	U	10	U	10	U
100-02-7	4-Nitrophenol	SVOA-LOW	ug/L	10	U	10	U	10	U	10	U	10	U
132-64-9	Dibenzofuran	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U

Federal Creosote Superfund Site - OU3
Y5 Groundwater Blanks
Analytical Results

Cas Rn	Chemical Name	Analytic Method	Sample Code Sample Name Sample Date Unit \\ Depth	FB102009 10/20/2009		FB102809 10/28/2009		FB102909 10/29/2009		FB102109 10/21/2009		FB110209 11/2/2009	
121-14-2	2,4-Dinitrotoluene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
86-73-7	Fluorene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
84-66-2	Diethylphthalate	SVOA-LOW	ug/L	5	U	0.93	J	1.7	J	0.22	J	0.74	J
7005-72-3	4-Chlorophenyl-phenylether	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
100-01-6	4-Nitroaniline	SVOA-LOW	ug/L	10	U	10	U	10	U	10	U	10	U
534-52-1	4,6-Dinitro-2-methylphenol	SVOA-LOW	ug/L	10	U	10	U	10	U	10	U	10	U
86-30-6	N-Nitrosodiphenylamine	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
101-55-3	4-Bromophenyl-phenylether	SVOA-LOW	ug/L	5	UJ	5	U	5	U	5	UJ	5	UJ
118-74-1	Hexachlorobenzene	SVOA-LOW	ug/L	5	UJ	5	U	5	U	5	UJ	5	UJ
1912-24-9	Atrazine	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
87-86-5	Pentachlorophenol	SVOA-LOW	ug/L	10	U	10	U	10	U	10	U	10	U
85-01-8	Phenanthrene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	0.17	J
120-12-7	Anthracene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
86-74-8	Carbazole	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
84-74-2	Di-n-butylphthalate	SVOA-LOW	ug/L	5	U	0.34	J	0.43	J	5	U	0.37	J
206-44-0	Fluoranthene	SVOA-LOW	ug/L	5	UJ	5	U	5	U	5	UJ	5	U
129-00-0	Pyrene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
85-68-7	Butylbenzylphthalate	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
91-94-1	3,3'-Dichlorobenzidine	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
56-55-3	Benzo(a)anthracene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
218-01-9	Chrysene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	SVOA-LOW	ug/L	5	U	0.71	J	0.54	J	5	U	0.35	J
117-84-0	Di-n-octyl phthalate	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
205-99-2	Benzo(b)fluoranthene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
207-08-9	Benzo(k)fluoranthene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
50-32-8	Benzo(a)pyrene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
193-39-5	Indeno(1,2,3-cd)pyrene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
53-70-3	Dibenz(a,h)anthracene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
191-24-2	Benzo(g,h,i)perylene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U
58-90-2	CHLOROPHENOLS	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U	5	U

Federal Creosote Superfund Site - OU3
Y5 Groundwater Blanks
Analytical Results

Cas Rn	Chemical Name	Analytic Method	Sample Code Sample Name Sample Date Unit \\ Depth	FB102009 10/20/2009		FB102809 10/28/2009		FB102909 10/29/2009		FB102109 10/21/2009		FB110209 11/2/2009	
SVOA-SIM	**Semi-Volatile Organic Compounds - SIM**												
91-20-3	Naphthalene	SVOA-SIM	ug/L	0.077	J	0.11		0.2		0.34		0.043	J
91-57-6	2-Methylnaphthalene	SVOA-SIM	ug/L	0.035	J	0.04	J	0.1	U	0.1		0.025	J
208-96-8	Acenaphthylene	SVOA-SIM	ug/L	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
83-32-9	Acenaphthene	SVOA-SIM	ug/L	0.1	U	0.1	U	0.078	J	0.1	U	0.12	
86-73-7	Fluorene	SVOA-SIM	ug/L	0.1	U	0.1	U	0.027	J	0.1	U	0.036	J
87-86-5	Pentachlorophenol	SVOA-SIM	ug/L	0.2	R	0.2	R	0.2	R	0.2	R	0.039	J
85-01-8	Phenanthrene	SVOA-SIM	ug/L	0.1	U	0.02	J	0.091	J	0.1	U	0.14	
120-12-7	Anthracene	SVOA-SIM	ug/L	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
206-44-0	Fluoranthene	SVOA-SIM	ug/L	0.1	U	0.027	J	0.066	J	0.1	U	0.038	J
129-00-0	Pyrene	SVOA-SIM	ug/L	0.1	U	0.024	J	0.054	J	0.1	U	0.022	J
56-55-3	Benzo(a)anthracene	SVOA-SIM	ug/L	0.1	U	0.1	U	0.022	J	0.1	U	0.1	UJ
218-01-9	Chrysene	SVOA-SIM	ug/L	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
205-99-2	Benzo(b)fluoranthene	SVOA-SIM	ug/L	0.1	U	0.1	U	0.016	J	0.1	U	0.1	U
207-08-9	Benzo(k)fluoranthene	SVOA-SIM	ug/L	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
50-32-8	Benzo(a)pyrene	SVOA-SIM	ug/L	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
193-39-5	Indeno(1,2,3-cd)pyrene	SVOA-SIM	ug/L	0.1	U	0.024	J	0.017	J	0.1	U	0.016	J
53-70-3	Dibenz(a,h)anthracene	SVOA-SIM	ug/L	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
191-24-2	Benzo(g,h,i)perylene	SVOA-SIM	ug/L	0.1	U	0.022	J	0.016	J	0.1	U	0.1	U
3-MET-W	**Inorganic Analytes**												
7439-89-6	Iron	Met-W	UG/L	50	U	50	U	50	U	50	U	50	U
7439-96-5	Manganese	Met-W	UG/L	5	U	5	U	5	U	5	U	5	U
4-MEE	**Methane, Ethane, Ethene**												
74-82-8	Methane	RSKSOP147	ug/l	2	U	2	U	2	U	2	U	2	U
74-84-0	Ethane	RSKSOP147	ug/l	2	U	2	UJ	2	U	2	U	2	U
74-85-1	Ethene	RSKSOP147	ug/l	2	U	2	UJ	2	U	2	U	2	U

Federal Creosote Superfund Site - OU3
Y5 Groundwater Blanks
Analytical Results

Cas Rn	Chemical Name	Analytic Method	Sample Code Sample Name Sample Date Unit \\ Depth	FB102209 10/22/2009		FB102309 10/23/2009		FB102609 10/26/2009		FB102709 10/27/2009		TB102009 10/20/2009	
(Group Code)	**(Group Description)**												
1-GWMW-VOA	**Volatile Organic Compounds**												
75-71-8	Dichlorodifluoromethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
74-87-3	Chloromethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
75-01-4	Vinyl Chloride	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
74-83-9	Bromomethane	TVOA	ug/L	0.5	UL	0.5	UL	0.5	UL	0.5	UL	0.5	U
75-00-3	Chloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
75-69-4	Trichlorofluoromethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
75-35-4	1,1-Dichloroethene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
75-15-0	Carbon Disulfide	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
67-64-1	Acetone	TVOA	ug/L	12		26		24		36		5	U
79-20-9	Methyl Acetate	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
75-09-2	Methylene Chloride	TVOA	ug/L	0.5	U	0.5	U	1.3		1.1		1.3	
156-60-5	trans-1,2-Dichloroethene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1634-04-4	Methyl Tert-Butyl Ether	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
75-34-3	1,1-Dichloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
156-59-2	cis-1,2-Dichloroethene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
78-93-3	2-Butanone	TVOA	ug/L	5	U	5	U	5	U	5	U	5	U
74-97-5	CHLOROBROMOMETHANE	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
67-66-3	Chloroform	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
71-55-6	1,1,1-Trichloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
110-82-7	Cyclohexane	TVOA	ug/L	2	U	2	U	2	U	2	U	2	U
56-23-5	Carbon Tetrachloride	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
71-43-2	Benzene	TVOA	ug/L	0.5		2.3		0.84		1.6		0.5	U
107-06-2	1,2-Dichloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
79-01-6	Trichloroethene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
78-87-5	1,2-Dichloropropane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
75-27-4	Bromodichloromethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
10061-01-5	cis-1,3-Dichloropropene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
108-10-1	4-Methyl-2-pentanone	TVOA	ug/L	5	U	5	U	5	U	5	U	5	U
108-88-3	Toluene	TVOA	ug/L	1.9		6.5		3.2		5.4		0.5	U
10061-02-6	Trans-1,3-Dichloropropene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
79-00-5	1,1,2-Trichloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
127-18-4	Tetrachloroethene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
108-87-2	Metylcyclohexane	TVOA	ug/L	2	U	2	U	2	U	2	U	2	U
124-48-1	Dibromochloromethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
106-93-4	1,2-Dibromoethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
591-78-6	2-Hexanone	TVOA	ug/L	5	U	5	U	5	U	5	U	5	U

Federal Creosote Superfund Site - OU3
Y5 Groundwater Blanks
Analytical Results

Cas Rn	Chemical Name	Analytic Method	Sample Code Sample Name Sample Date Unit \\ Depth	FB102209 10/22/2009		FB102309 10/23/2009		FB102609 10/26/2009		FB102709 10/27/2009		TB102009 10/20/2009	
108-90-7	Chlorobenzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
100-41-4	Ethylbenzene	TVOA	ug/L	0.5	U	0.73		0.5	U	0.68		0.5	U
179601-23-1	m,p-Xylene	TVOA	ug/L	0.9		3.2		1.6		3.1		0.5	U
95-47-6	O-XYLENE	TVOA	ug/L	0.5	U	1.4		0.6		1.2		0.5	U
100-42-5	Styrene	TVOA	ug/L	2	U	2	U	2	U	2	U	2	U
75-25-2	Bromoform	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
98-82-8	Isopropylbenzene	TVOA	ug/L	1	U	1	U	1	U	1	U	1	U
541-73-1	1,3-Dichlorobenzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
106-46-7	1,4-Dichlorobenzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
95-50-1	1,2-Dichlorobenzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
96-12-8	1,2-Dibromo-3-chloropropane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
120-82-1	1,2,4-Trichlorobenzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
87-61-6	1,2,3-TRICHLOROBENZENE	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
79-34-5	1,1,2,2-Tetrachloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Federal Creosote Superfund Site - OU3
Y5 Groundwater Blanks
Analytical Results

Cas Rn	Chemical Name	Analytic Method	Sample Code Sample Name Sample Date Unit \\ Depth	FB102209 10/22/2009		FB102309 10/23/2009		FB102609 10/26/2009		FB102709 10/27/2009		TB102009 10/20/2009	
2-GWMW-SVOA	**Semi-Volatile Organic Compounds**												
100-52-7	Benzaldehyde	SVOA-LOW	ug/L	0.36	J	5	U	5	U	5	U		
108-95-2	Phenol	SVOA-LOW	ug/L	0.7	J	1.1	J	1.2	J	1.8	J		
111-44-4	bis(2-Chloroethyl)ether	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U		
95-57-8	2-Chlorophenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U		
95-48-7	2-Methylphenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U		
108-60-1	2,2'-oxybis(1-Chloropropane)	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U		
98-86-2	Acetophenone	SVOA-LOW	ug/L	0.21	J	0.36	J	0.35	J	0.39	J		
106-44-5	4-Methylphenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U		
621-64-7	N-Nitroso-di-n-propylamine	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U		
67-72-1	Hexachloroethane	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U		
98-95-3	Nitrobenzene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U		
78-59-1	Isophorone	SVOA-LOW	ug/L	5	U	0.2	J	0.22	J	0.19	J		
88-75-5	2-Nitrophenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U		
105-67-9	2,4-Dimethylphenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U		
111-91-1	bis(2-Chloroethoxy)methane	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U		
120-83-2	2,4-Dichlorophenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U		
91-20-3	Naphthalene	SVOA-LOW	ug/L	0.18	J	0.34	J	5	U	0.23	J		
106-47-8	4-Chloroaniline	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U		
87-68-3	Hexachlorobutadiene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U		
105-60-2	Caprolactam	SVOA-LOW	ug/L	0.26	J	0.47	J	1.1	J	1.3	J		
59-50-7	4-Chloro-3-methylphenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U		
91-57-6	2-Methylnaphthalene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U		
95-94-3	1,2,4,5-TETRACHLOROBENZENE	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U		
77-47-4	Hexachlorocyclopentadiene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U		
88-06-2	2,4,6-Trichlorophenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U		
95-95-4	2,4,5-Trichlorophenol	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U		
92-52-4	1,1'Biphenyl	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U		
91-58-7	2-Chloronaphthalene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U		
88-74-4	2-Nitroaniline	SVOA-LOW	ug/L	10	U	10	U	10	U	10	U		
131-11-3	Dimethylphthalate	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U		
208-96-8	Acenaphthylene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U		
606-20-2	2,6-Dinitrotoluene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U		
99-09-2	3-Nitroaniline	SVOA-LOW	ug/L	10	U	10	U	10	U	10	U		
83-32-9	Acenaphthene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U		
51-28-5	2,4-Dinitrophenol	SVOA-LOW	ug/L	10	U	10	U	10	U	10	U		
100-02-7	4-Nitrophenol	SVOA-LOW	ug/L	10	U	10	U	10	U	10	U		
132-64-9	Dibenzofuran	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U		

Federal Creosote Superfund Site - OU3
Y5 Groundwater Blanks
Analytical Results

Cas Rn	Chemical Name	Analytic Method	Sample Code Sample Name Sample Date Unit \\ Depth	FB102209 10/22/2009		FB102309 10/23/2009		FB102609 10/26/2009		FB102709 10/27/2009		TB102009 10/20/2009	
121-14-2	2,4-Dinitrotoluene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U		
86-73-7	Fluorene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U		
84-66-2	Diethylphthalate	SVOA-LOW	ug/L	0.18	J	0.35	J	0.26	J	1.3	J		
7005-72-3	4-Chlorophenyl-phenylether	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U		
100-01-6	4-Nitroaniline	SVOA-LOW	ug/L	10	U	10	U	10	U	10	U		
534-52-1	4,6-Dinitro-2-methylphenol	SVOA-LOW	ug/L	10	U	10	U	10	U	10	U		
86-30-6	N-Nitrosodiphenylamine	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U		
101-55-3	4-Bromophenyl-phenylether	SVOA-LOW	ug/L	5	UJ	5	U	5	U	5	U		
118-74-1	Hexachlorobenzene	SVOA-LOW	ug/L	5	UJ	5	U	5	U	5	U		
1912-24-9	Atrazine	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U		
87-86-5	Pentachlorophenol	SVOA-LOW	ug/L	10	U	10	U	10	U	10	U		
85-01-8	Phenanthrene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U		
120-12-7	Anthracene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U		
86-74-8	Carbazole	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U		
84-74-2	Di-n-butylphthalate	SVOA-LOW	ug/L	0.28	J	0.35	J	0.31	J	0.41	J		
206-44-0	Fluoranthene	SVOA-LOW	ug/L	5	UJ	5	U	5	U	5	U		
129-00-0	Pyrene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U		
85-68-7	Butylbenzylphthalate	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U		
91-94-1	3,3'-Dichlorobenzidine	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U		
56-55-3	Benzo(a)anthracene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U		
218-01-9	Chrysene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U		
117-81-7	bis(2-Ethylhexyl)phthalate	SVOA-LOW	ug/L	5	U	0.4	J	5	U	0.35	J		
117-84-0	Di-n-octyl phthalate	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U		
205-99-2	Benzo(b)fluoranthene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U		
207-08-9	Benzo(k)fluoranthene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U		
50-32-8	Benzo(a)pyrene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U		
193-39-5	Indeno(1,2,3-cd)pyrene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U		
53-70-3	Dibenz(a,h)anthracene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U		
191-24-2	Benzo(g,h,i)perylene	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U		
58-90-2	CHLOROPHENOLS	SVOA-LOW	ug/L	5	U	5	U	5	U	5	U		

Federal Creosote Superfund Site - OU3
Y5 Groundwater Blanks
Analytical Results

Cas Rn	Chemical Name	Analytic Method	Sample Code Sample Name Sample Date Unit \\ Depth	FB102209 10/22/2009		FB102309 10/23/2009		FB102609 10/26/2009		FB102709 10/27/2009		TB102009 10/20/2009	
SVOA-SIM	**Semi-Volatile Organic Compounds - SIM**												
91-20-3	Naphthalene	SVOA-SIM	ug/L	0.27		0.28		0.077	J	0.17			
91-57-6	2-Methylnaphthalene	SVOA-SIM	ug/L	0.045	J	0.11		0.023	J	0.063	J		
208-96-8	Acenaphthylene	SVOA-SIM	ug/L	0.022	J	0.1	U	0.1	U	0.1	U		
83-32-9	Acenaphthene	SVOA-SIM	ug/L	0.43		0.1	U	0.1	U	0.1	U		
86-73-7	Fluorene	SVOA-SIM	ug/L	0.12		0.1	U	0.1	U	0.1	U		
87-86-5	Pentachlorophenol	SVOA-SIM	ug/L	0.2	R	0.2	R	0.2	R	0.015	J		
85-01-8	Phenanthrene	SVOA-SIM	ug/L	0.42		0.1	U	0.1	U	0.1	U		
120-12-7	Anthracene	SVOA-SIM	ug/L	0.053	J	0.1	U	0.1	U	0.1	U		
206-44-0	Fluoranthene	SVOA-SIM	ug/L	0.059	J	0.1	U	0.1	U	0.017	J		
129-00-0	Pyrene	SVOA-SIM	ug/L	0.048	J	0.1	U	0.1	U	0.1	U		
56-55-3	Benzo(a)anthracene	SVOA-SIM	ug/L	0.1	U	0.1	UJ	0.1	U	0.1	U		
218-01-9	Chrysene	SVOA-SIM	ug/L	0.1	U	0.1	U	0.1	U	0.1	U		
205-99-2	Benzo(b)fluoranthene	SVOA-SIM	ug/L	0.1	U	0.1	U	0.1	U	0.1	U		
207-08-9	Benzo(k)fluoranthene	SVOA-SIM	ug/L	0.1	UJ	0.1	U	0.1	U	0.1	U		
50-32-8	Benzo(a)pyrene	SVOA-SIM	ug/L	0.1	U	0.1	U	0.1	U	0.1	U		
193-39-5	Indeno(1,2,3-cd)pyrene	SVOA-SIM	ug/L	0.1	U	0.1	U	0.1	U	0.043	J		
53-70-3	Dibenz(a,h)anthracene	SVOA-SIM	ug/L	0.1	U	0.1	U	0.1	U	0.023	J		
191-24-2	Benzo(g,h,i)perylene	SVOA-SIM	ug/L	0.1	U	0.1	U	0.017	J	0.029	J		
3-MET-W	**Inorganic Analytes**												
7439-89-6	Iron	Met-W	UG/L	50	U	50	U	50	U	50	U		
7439-96-5	Manganese	Met-W	UG/L	5	U	5	U	5	U	5	U		
4-MEE	**Methane, Ethane, Ethene**												
74-82-8	Methane	RSKSOP147	ug/l	2	U	2	U	2	U	2	U		
74-84-0	Ethane	RSKSOP147	ug/l	2	U	2	U	2	U	2	UJ		
74-85-1	Ethene	RSKSOP147	ug/l	2	U	2	U	2	U	2	UJ		

Federal Creosote Superfund Site - OU3
Y5 Groundwater Blanks
Analytical Results

Cas Rn	Chemical Name	Analytic Method	Sample Code Sample Name Sample Date Unit \\ Depth	TB102109 10/21/2009		TB102209 10/22/2009		TB102309 10/23/2009		TB102609 10/26/2009		TB102709 10/27/2009	
(Group Code)	**(Group Description)**												
1-GWMW-VOA	**Volatile Organic Compounds**												
75-71-8	Dichlorodifluoromethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
74-87-3	Chloromethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
75-01-4	Vinyl Chloride	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
74-83-9	Bromomethane	TVOA	ug/L	0.5	U	0.5	UL	0.5	UL	0.5	UL	0.5	UL
75-00-3	Chloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
75-69-4	Trichlorofluoromethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
75-35-4	1,1-Dichloroethene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
75-15-0	Carbon Disulfide	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
67-64-1	Acetone	TVOA	ug/L	5	U	5	U	5	U	5	U	5	U
79-20-9	Methyl Acetate	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
75-09-2	Methylene Chloride	TVOA	ug/L	1.3		1.2		1.2		0.97		1.3	
156-60-5	trans-1,2-Dichloroethene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1634-04-4	Methyl Tert-Butyl Ether	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
75-34-3	1,1-Dichloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
156-59-2	cis-1,2-Dichloroethene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
78-93-3	2-Butanone	TVOA	ug/L	5	U	5	U	5	U	5	U	5	U
74-97-5	CHLOROBROMOMETHANE	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
67-66-3	Chloroform	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
71-55-6	1,1,1-Trichloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
110-82-7	Cyclohexane	TVOA	ug/L	2	U	2	U	2	U	2	U	2	U
56-23-5	Carbon Tetrachloride	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
71-43-2	Benzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
107-06-2	1,2-Dichloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
79-01-6	Trichloroethene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
78-87-5	1,2-Dichloropropane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
75-27-4	Bromodichloromethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
10061-01-5	cis-1,3-Dichloropropene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
108-10-1	4-Methyl-2-pentanone	TVOA	ug/L	5	U	5	U	5	U	5	U	5	U
108-88-3	Toluene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.62		0.5	U
10061-02-6	Trans-1,3-Dichloropropene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
79-00-5	1,1,2-Trichloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
127-18-4	Tetrachloroethene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
108-87-2	Metylcyclohexane	TVOA	ug/L	2	U	2	U	2	U	2	U	2	U
124-48-1	Dibromochloromethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
106-93-4	1,2-Dibromoethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
591-78-6	2-Hexanone	TVOA	ug/L	5	U	5	U	5	U	5	U	5	U

Federal Creosote Superfund Site - OU3
Y5 Groundwater Blanks
Analytical Results

Cas Rn	Chemical Name	Analytic Method	Sample Code Sample Name Sample Date Unit \\ Depth	TB102109 10/21/2009		TB102209 10/22/2009		TB102309 10/23/2009		TB102609 10/26/2009		TB102709 10/27/2009	
108-90-7	Chlorobenzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
100-41-4	Ethylbenzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
179601-23-1	m,p-Xylene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
95-47-6	O-XYLENE	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
100-42-5	Styrene	TVOA	ug/L	2	U	2	U	2	U	2	U	2	U
75-25-2	Bromoform	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
98-82-8	Isopropylbenzene	TVOA	ug/L	1	U	1	U	1	U	1	U	1	U
541-73-1	1,3-Dichlorobenzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
106-46-7	1,4-Dichlorobenzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
95-50-1	1,2-Dichlorobenzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
96-12-8	1,2-Dibromo-3-chloropropane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
120-82-1	1,2,4-Trichlorobenzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
87-61-6	1,2,3-TRICHLOROBENZENE	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
79-34-5	1,1,2,2-Tetrachloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Federal Creosote Superfund Site - OU3
Y5 Groundwater Blanks
Analytical Results

Cas Rn	Chemical Name	Analytic Method	Sample Code Sample Name Sample Date Unit \\ Depth	TB102109 10/21/2009	TB102209 10/22/2009	TB102309 10/23/2009	TB102609 10/26/2009	TB102709 10/27/2009
2-GWMW-SVOA	**Semi-Volatile Organic Compounds**							
100-52-7	Benzaldehyde	SVOA-LOW	ug/L					
108-95-2	Phenol	SVOA-LOW	ug/L					
111-44-4	bis(2-Chloroethyl)ether	SVOA-LOW	ug/L					
95-57-8	2-Chlorophenol	SVOA-LOW	ug/L					
95-48-7	2-Methylphenol	SVOA-LOW	ug/L					
108-60-1	2,2'-oxybis(1-Chloropropane)	SVOA-LOW	ug/L					
98-86-2	Acetophenone	SVOA-LOW	ug/L					
106-44-5	4-Methylphenol	SVOA-LOW	ug/L					
621-64-7	N-Nitroso-di-n-propylamine	SVOA-LOW	ug/L					
67-72-1	Hexachloroethane	SVOA-LOW	ug/L					
98-95-3	Nitrobenzene	SVOA-LOW	ug/L					
78-59-1	Isophorone	SVOA-LOW	ug/L					
88-75-5	2-Nitrophenol	SVOA-LOW	ug/L					
105-67-9	2,4-Dimethylphenol	SVOA-LOW	ug/L					
111-91-1	bis(2-Chloroethoxy)methane	SVOA-LOW	ug/L					
120-83-2	2,4-Dichlorophenol	SVOA-LOW	ug/L					
91-20-3	Naphthalene	SVOA-LOW	ug/L					
106-47-8	4-Chloroaniline	SVOA-LOW	ug/L					
87-68-3	Hexachlorobutadiene	SVOA-LOW	ug/L					
105-60-2	Caprolactam	SVOA-LOW	ug/L					
59-50-7	4-Chloro-3-methylphenol	SVOA-LOW	ug/L					
91-57-6	2-Methylnaphthalene	SVOA-LOW	ug/L					
95-94-3	1,2,4,5-TETRACHLOROBENZENE	SVOA-LOW	ug/L					
77-47-4	Hexachlorocyclopentadiene	SVOA-LOW	ug/L					
88-06-2	2,4,6-Trichlorophenol	SVOA-LOW	ug/L					
95-95-4	2,4,5-Trichlorophenol	SVOA-LOW	ug/L					
92-52-4	1,1'Biphenyl	SVOA-LOW	ug/L					
91-58-7	2-Chloronaphthalene	SVOA-LOW	ug/L					
88-74-4	2-Nitroaniline	SVOA-LOW	ug/L					
131-11-3	Dimethylphthalate	SVOA-LOW	ug/L					
208-96-8	Acenaphthylene	SVOA-LOW	ug/L					
606-20-2	2,6-Dinitrotoluene	SVOA-LOW	ug/L					
99-09-2	3-Nitroaniline	SVOA-LOW	ug/L					
83-32-9	Acenaphthene	SVOA-LOW	ug/L					
51-28-5	2,4-Dinitrophenol	SVOA-LOW	ug/L					
100-02-7	4-Nitrophenol	SVOA-LOW	ug/L					
132-64-9	Dibenzofuran	SVOA-LOW	ug/L					

Federal Creosote Superfund Site - OU3
Y5 Groundwater Blanks
Analytical Results

			Sample Code	TB102109		TB102209		TB102309		TB102609		TB102709	
			Sample Name										
			Sample Date	10/21/2009		10/22/2009		10/23/2009		10/26/2009		10/27/2009	
Cas Rn	Chemical Name	Analytic Method	Unit \\ Depth										
121-14-2	2,4-Dinitrotoluene	SVOA-LOW	ug/L										
86-73-7	Fluorene	SVOA-LOW	ug/L										
84-66-2	Diethylphthalate	SVOA-LOW	ug/L										
7005-72-3	4-Chlorophenyl-phenylether	SVOA-LOW	ug/L										
100-01-6	4-Nitroaniline	SVOA-LOW	ug/L										
534-52-1	4,6-Dinitro-2-methylphenol	SVOA-LOW	ug/L										
86-30-6	N-Nitrosodiphenylamine	SVOA-LOW	ug/L										
101-55-3	4-Bromophenyl-phenylether	SVOA-LOW	ug/L										
118-74-1	Hexachlorobenzene	SVOA-LOW	ug/L										
1912-24-9	Atrazine	SVOA-LOW	ug/L										
87-86-5	Pentachlorophenol	SVOA-LOW	ug/L										
85-01-8	Phenanthrene	SVOA-LOW	ug/L										
120-12-7	Anthracene	SVOA-LOW	ug/L										
86-74-8	Carbazole	SVOA-LOW	ug/L										
84-74-2	Di-n-butylphthalate	SVOA-LOW	ug/L										
206-44-0	Fluoranthene	SVOA-LOW	ug/L										
129-00-0	Pyrene	SVOA-LOW	ug/L										
85-68-7	Butylbenzylphthalate	SVOA-LOW	ug/L										
91-94-1	3,3'-Dichlorobenzidine	SVOA-LOW	ug/L										
56-55-3	Benzo(a)anthracene	SVOA-LOW	ug/L										
218-01-9	Chrysene	SVOA-LOW	ug/L										
117-81-7	bis(2-Ethylhexyl)phthalate	SVOA-LOW	ug/L										
117-84-0	Di-n-octyl phthalate	SVOA-LOW	ug/L										
205-99-2	Benzo(b)fluoranthene	SVOA-LOW	ug/L										
207-08-9	Benzo(k)fluoranthene	SVOA-LOW	ug/L										
50-32-8	Benzo(a)pyrene	SVOA-LOW	ug/L										
193-39-5	Indeno(1,2,3-cd)pyrene	SVOA-LOW	ug/L										
53-70-3	Dibenz(a,h)anthracene	SVOA-LOW	ug/L										
191-24-2	Benzo(g,h,i)perylene	SVOA-LOW	ug/L										
58-90-2	CHLOROPHENOLS	SVOA-LOW	ug/L										

Federal Creosote Superfund Site - OU3
Y5 Groundwater Blanks
Analytical Results

Cas Rn	Chemical Name	Analytic Method	Sample Code Sample Name Sample Date Unit \\ Depth	TB102109 10/21/2009	TB102209 10/22/2009	TB102309 10/23/2009	TB102609 10/26/2009	TB102709 10/27/2009
SVOA-SIM	**Semi-Volatile Organic Compounds - SIM**							
91-20-3	Naphthalene	SVOA-SIM	ug/L					
91-57-6	2-Methylnaphthalene	SVOA-SIM	ug/L					
208-96-8	Acenaphthylene	SVOA-SIM	ug/L					
83-32-9	Acenaphthene	SVOA-SIM	ug/L					
86-73-7	Fluorene	SVOA-SIM	ug/L					
87-86-5	Pentachlorophenol	SVOA-SIM	ug/L					
85-01-8	Phenanthrene	SVOA-SIM	ug/L					
120-12-7	Anthracene	SVOA-SIM	ug/L					
206-44-0	Fluoranthene	SVOA-SIM	ug/L					
129-00-0	Pyrene	SVOA-SIM	ug/L					
56-55-3	Benzo(a)anthracene	SVOA-SIM	ug/L					
218-01-9	Chrysene	SVOA-SIM	ug/L					
205-99-2	Benzo(b)fluoranthene	SVOA-SIM	ug/L					
207-08-9	Benzo(k)fluoranthene	SVOA-SIM	ug/L					
50-32-8	Benzo(a)pyrene	SVOA-SIM	ug/L					
193-39-5	Indeno(1,2,3-cd)pyrene	SVOA-SIM	ug/L					
53-70-3	Dibenz(a,h)anthracene	SVOA-SIM	ug/L					
191-24-2	Benzo(g,h,i)perylene	SVOA-SIM	ug/L					
3-MET-W	**Inorganic Analytes**							
7439-89-6	Iron	Met-W	UG/L					
7439-96-5	Manganese	Met-W	UG/L					
4-MEE	**Methane, Ethane, Ethene**							
74-82-8	Methane	RSKSOP147	ug/l					
74-84-0	Ethane	RSKSOP147	ug/l					
74-85-1	Ethene	RSKSOP147	ug/l					

Federal Creosote Superfund Site - OU3
Y5 Groundwater Blanks
Analytical Results

Cas Rn	Chemical Name	Analytic Method	Sample Code Sample Name Sample Date Unit \\ Depth	TB102809 10/28/2009		TB102909 10/29/2009		TB110209 11/2/2009	
(Group Code)	**(Group Description)**								
1-GWMW-VOA	**Volatile Organic Compounds**								
75-71-8	Dichlorodifluoromethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U
74-87-3	Chloromethane	TVOA	ug/L	0.5	U	0.5	U	1	U
75-01-4	Vinyl Chloride	TVOA	ug/L	0.5	U	0.5	U	0.5	U
74-83-9	Bromomethane	TVOA	ug/L	0.5	U	0.5	UL	2.2	UJ
75-00-3	Chloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U
75-69-4	Trichlorofluoromethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U
75-35-4	1,1-Dichloroethene	TVOA	ug/L	0.5	U	0.5	U	0.5	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U
75-15-0	Carbon Disulfide	TVOA	ug/L	0.5	U	0.5	U	0.5	U
67-64-1	Acetone	TVOA	ug/L	5	U	5.6		5	U
79-20-9	Methyl Acetate	TVOA	ug/L	0.5	U	0.5	U	0.5	U
75-09-2	Methylene Chloride	TVOA	ug/L	0.7		0.54		1.1	
156-60-5	trans-1,2-Dichloroethene	TVOA	ug/L	0.5	U	0.5	U	0.5	U
1634-04-4	Methyl Tert-Butyl Ether	TVOA	ug/L	0.5	U	0.5	U	0.5	U
75-34-3	1,1-Dichloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U
156-59-2	cis-1,2-Dichloroethene	TVOA	ug/L	0.5	U	0.5	U	0.5	U
78-93-3	2-Butanone	TVOA	ug/L	5	U	5	U	5	U
74-97-5	CHLOROBROMOMETHANE	TVOA	ug/L	0.5	U	0.5	U	0.5	U
67-66-3	Chloroform	TVOA	ug/L	0.5	U	0.5	U	0.5	U
71-55-6	1,1,1-Trichloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U
110-82-7	Cyclohexane	TVOA	ug/L	2	U	2	U	0.5	U
56-23-5	Carbon Tetrachloride	TVOA	ug/L	0.5	U	0.5	U	0.5	U
71-43-2	Benzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U
107-06-2	1,2-Dichloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U
79-01-6	Trichloroethene	TVOA	ug/L	0.5	U	0.5	U	0.5	U
78-87-5	1,2-Dichloropropane	TVOA	ug/L	0.5	U	0.5	U	0.5	U
75-27-4	Bromodichloromethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U
10061-01-5	cis-1,3-Dichloropropene	TVOA	ug/L	0.5	U	0.5	U	0.5	U
108-10-1	4-Methyl-2-pentanone	TVOA	ug/L	5	U	5	U	5	U
108-88-3	Toluene	TVOA	ug/L	0.85		1.1		0.5	U
10061-02-6	Trans-1,3-Dichloropropene	TVOA	ug/L	0.5	U	0.5	U	0.5	UJ
79-00-5	1,1,2-Trichloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U
127-18-4	Tetrachloroethene	TVOA	ug/L	0.5	U	0.5	U	0.5	U
108-87-2	Metylcyclohexane	TVOA	ug/L	2	U	2	U	0.5	U
124-48-1	Dibromochloromethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U
106-93-4	1,2-Dibromoethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U
591-78-6	2-Hexanone	TVOA	ug/L	5	U	5	U	5	U

Federal Creosote Superfund Site - OU3
Y5 Groundwater Blanks
Analytical Results

			Sample Code	TB102809		TB102909		TB110209	
			Sample Name						
			Sample Date	10/28/2009		10/29/2009		11/2/2009	
Cas Rn	Chemical Name	Analytic Method	Unit \\ Depth						
108-90-7	Chlorobenzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U
100-41-4	Ethylbenzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U
179601-23-1	m,p-Xylene	TVOA	ug/L	0.5	U	0.54		0.5	U
95-47-6	O-XYLENE	TVOA	ug/L	0.5	U	0.5	U	0.5	U
100-42-5	Styrene	TVOA	ug/L	2	U	2	U	0.5	U
75-25-2	Bromoform	TVOA	ug/L	0.5	U	0.5	U	0.5	U
98-82-8	Isopropylbenzene	TVOA	ug/L	1	U	1	U	0.5	U
541-73-1	1,3-Dichlorobenzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U
106-46-7	1,4-Dichlorobenzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U
95-50-1	1,2-Dichlorobenzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U
96-12-8	1,2-Dibromo-3-chloropropane	TVOA	ug/L	0.5	U	0.5	U	0.5	U
120-82-1	1,2,4-Trichlorobenzene	TVOA	ug/L	0.5	U	0.5	U	0.5	U
87-61-6	1,2,3-TRICHLOROBENZENE	TVOA	ug/L	0.5	U	0.5	U	0.5	U
79-34-5	1,1,2,2-Tetrachloroethane	TVOA	ug/L	0.5	U	0.5	U	0.5	U

Federal Creosote Superfund Site - OU3
Y5 Groundwater Blanks
Analytical Results

Cas Rn	Chemical Name	Analytic Method	Sample Code Sample Name Sample Date Unit \\ Depth	TB102809 10/28/2009		TB102909 10/29/2009		TB110209 11/2/2009	
2-GWMW-SVOA	**Semi-Volatile Organic Compounds**								
100-52-7	Benzaldehyde	SVOA-LOW	ug/L						
108-95-2	Phenol	SVOA-LOW	ug/L						
111-44-4	bis(2-Chloroethyl)ether	SVOA-LOW	ug/L						
95-57-8	2-Chlorophenol	SVOA-LOW	ug/L						
95-48-7	2-Methylphenol	SVOA-LOW	ug/L						
108-60-1	2,2'-oxybis(1-Chloropropane)	SVOA-LOW	ug/L						
98-86-2	Acetophenone	SVOA-LOW	ug/L						
106-44-5	4-Methylphenol	SVOA-LOW	ug/L						
621-64-7	N-Nitroso-di-n-propylamine	SVOA-LOW	ug/L						
67-72-1	Hexachloroethane	SVOA-LOW	ug/L						
98-95-3	Nitrobenzene	SVOA-LOW	ug/L						
78-59-1	Isophorone	SVOA-LOW	ug/L						
88-75-5	2-Nitrophenol	SVOA-LOW	ug/L						
105-67-9	2,4-Dimethylphenol	SVOA-LOW	ug/L						
111-91-1	bis(2-Chloroethoxy)methane	SVOA-LOW	ug/L						
120-83-2	2,4-Dichlorophenol	SVOA-LOW	ug/L						
91-20-3	Naphthalene	SVOA-LOW	ug/L						
106-47-8	4-Chloroaniline	SVOA-LOW	ug/L						
87-68-3	Hexachlorobutadiene	SVOA-LOW	ug/L						
105-60-2	Caprolactam	SVOA-LOW	ug/L						
59-50-7	4-Chloro-3-methylphenol	SVOA-LOW	ug/L						
91-57-6	2-Methylnaphthalene	SVOA-LOW	ug/L						
95-94-3	1,2,4,5-TETRACHLOROBENZENE	SVOA-LOW	ug/L						
77-47-4	Hexachlorocyclopentadiene	SVOA-LOW	ug/L						
88-06-2	2,4,6-Trichlorophenol	SVOA-LOW	ug/L						
95-95-4	2,4,5-Trichlorophenol	SVOA-LOW	ug/L						
92-52-4	1,1'Biphenyl	SVOA-LOW	ug/L						
91-58-7	2-Chloronaphthalene	SVOA-LOW	ug/L						
88-74-4	2-Nitroaniline	SVOA-LOW	ug/L						
131-11-3	Dimethylphthalate	SVOA-LOW	ug/L						
208-96-8	Acenaphthylene	SVOA-LOW	ug/L						
606-20-2	2,6-Dinitrotoluene	SVOA-LOW	ug/L						
99-09-2	3-Nitroaniline	SVOA-LOW	ug/L						
83-32-9	Acenaphthene	SVOA-LOW	ug/L						
51-28-5	2,4-Dinitrophenol	SVOA-LOW	ug/L						
100-02-7	4-Nitrophenol	SVOA-LOW	ug/L						
132-64-9	Dibenzofuran	SVOA-LOW	ug/L						

Federal Creosote Superfund Site - OU3
Y5 Groundwater Blanks
Analytical Results

			Sample Code	TB102809		TB102909		TB110209	
			Sample Name						
			Sample Date	10/28/2009		10/29/2009		11/2/2009	
Cas Rn	Chemical Name	Analytic Method	Unit \\ Depth						
121-14-2	2,4-Dinitrotoluene	SVOA-LOW	ug/L						
86-73-7	Fluorene	SVOA-LOW	ug/L						
84-66-2	Diethylphthalate	SVOA-LOW	ug/L						
7005-72-3	4-Chlorophenyl-phenylether	SVOA-LOW	ug/L						
100-01-6	4-Nitroaniline	SVOA-LOW	ug/L						
534-52-1	4,6-Dinitro-2-methylphenol	SVOA-LOW	ug/L						
86-30-6	N-Nitrosodiphenylamine	SVOA-LOW	ug/L						
101-55-3	4-Bromophenyl-phenylether	SVOA-LOW	ug/L						
118-74-1	Hexachlorobenzene	SVOA-LOW	ug/L						
1912-24-9	Atrazine	SVOA-LOW	ug/L						
87-86-5	Pentachlorophenol	SVOA-LOW	ug/L						
85-01-8	Phenanthrene	SVOA-LOW	ug/L						
120-12-7	Anthracene	SVOA-LOW	ug/L						
86-74-8	Carbazole	SVOA-LOW	ug/L						
84-74-2	Di-n-butylphthalate	SVOA-LOW	ug/L						
206-44-0	Fluoranthene	SVOA-LOW	ug/L						
129-00-0	Pyrene	SVOA-LOW	ug/L						
85-68-7	Butylbenzylphthalate	SVOA-LOW	ug/L						
91-94-1	3,3'-Dichlorobenzidine	SVOA-LOW	ug/L						
56-55-3	Benzo(a)anthracene	SVOA-LOW	ug/L						
218-01-9	Chrysene	SVOA-LOW	ug/L						
117-81-7	bis(2-Ethylhexyl)phthalate	SVOA-LOW	ug/L						
117-84-0	Di-n-octyl phthalate	SVOA-LOW	ug/L						
205-99-2	Benzo(b)fluoranthene	SVOA-LOW	ug/L						
207-08-9	Benzo(k)fluoranthene	SVOA-LOW	ug/L						
50-32-8	Benzo(a)pyrene	SVOA-LOW	ug/L						
193-39-5	Indeno(1,2,3-cd)pyrene	SVOA-LOW	ug/L						
53-70-3	Dibenz(a,h)anthracene	SVOA-LOW	ug/L						
191-24-2	Benzo(g,h,i)perylene	SVOA-LOW	ug/L						
58-90-2	CHLOROPHENOLS	SVOA-LOW	ug/L						

Federal Creosote Superfund Site - OU3
Y5 Groundwater Blanks
Analytical Results

Cas Rn	Chemical Name	Analytic Method	Sample Code Sample Name Sample Date Unit \\ Depth	TB102809 10/28/2009		TB102909 10/29/2009		TB110209 11/2/2009	
SVOA-SIM	**Semi-Volatile Organic Compounds - SIM**								
91-20-3	Naphthalene	SVOA-SIM	ug/L						
91-57-6	2-Methylnaphthalene	SVOA-SIM	ug/L						
208-96-8	Acenaphthylene	SVOA-SIM	ug/L						
83-32-9	Acenaphthene	SVOA-SIM	ug/L						
86-73-7	Fluorene	SVOA-SIM	ug/L						
87-86-5	Pentachlorophenol	SVOA-SIM	ug/L						
85-01-8	Phenanthrene	SVOA-SIM	ug/L						
120-12-7	Anthracene	SVOA-SIM	ug/L						
206-44-0	Fluoranthene	SVOA-SIM	ug/L						
129-00-0	Pyrene	SVOA-SIM	ug/L						
56-55-3	Benzo(a)anthracene	SVOA-SIM	ug/L						
218-01-9	Chrysene	SVOA-SIM	ug/L						
205-99-2	Benzo(b)fluoranthene	SVOA-SIM	ug/L						
207-08-9	Benzo(k)fluoranthene	SVOA-SIM	ug/L						
50-32-8	Benzo(a)pyrene	SVOA-SIM	ug/L						
193-39-5	Indeno(1,2,3-cd)pyrene	SVOA-SIM	ug/L						
53-70-3	Dibenz(a,h)anthracene	SVOA-SIM	ug/L						
191-24-2	Benzo(g,h,i)perylene	SVOA-SIM	ug/L						
3-MET-W	**Inorganic Analytes**								
7439-89-6	Iron	Met-W	UG/L						
7439-96-5	Manganese	Met-W	UG/L						
4-MEE	**Methane, Ethane, Ethene**								
74-82-8	Methane	RSKSOP147	ug/l						
74-84-0	Ethane	RSKSOP147	ug/l						
74-85-1	Ethene	RSKSOP147	ug/l						

Appendix E

Data Usability Report

DATA USABILITY WORKSHEET
Site: Federal Creosote
Medium: Groundwater
Event: 2009 Annual Sampling of Monitoring Wells

Activity	Comment
Field Sampling	
Discuss sampling problems and field conditions that affect data usability.	Groundwater samples were collected from 31 monitoring wells in October 2009. Sampling procedures outlined in the August 2005 Sampling and Analysis Plan (SAP) and 2007 SAP Addendum was followed: A summary of samples collected is shown on Table E-1. The additional analysis of semi-volatile samples by selective ion monitoring (SIM) was added during the 2009 sampling event. There were no apparent problems or deviations from the field collection program that might affect data usability.
Are samples representative of receptor exposure for this medium (e.g. sample depth, grab vs. composite, filtered vs. unfiltered, low flow, etc.)?	The sampling scheme in the Field Sampling Plan was adhered to and included upgradient and/or crossgradient wells in unimpacted areas; wells in the source areas; wells downgradient of the source areas; wells downgradient of the plume where contaminant concentrations were below regulatory acceptance levels. Samples were analyzed for trace level volatile organic compounds (VOCs), low level semi-volatile organic compounds (SVOCs), and listed SVOC SIM compounds under Contract Laboratory (CLP) Statement of Work (SOW) SOM01.2, and metals under CLP SOW ILM05.4 along with natural attenuation (NA) parameters analyzed by EPA Division of Environmental Science and Assessment laboratory (DESA). These parameters are similar to the contaminants detected during the remedial investigation. All monitoring well samples were collected using low flow sampling and parameter stabilization techniques.

DATA USABILITY WORKSHEET
Site: Federal Creosote
Medium: Groundwater
Event: 2009 Annual Sampling of Monitoring Wells

Activity	Comment
Assess the effect of field QC results on data usability.	BLANKS: Volatile results indicated slight contamination in trip and rinsate blanks (Table E-2a and E-2b respectively). Some of these blank contaminants are common laboratory contaminants. Most VOCs detected in both rinsate and trip blanks were below or within five times the contract required quantitation limit (CRQL).

DATA USABILITY WORKSHEET
Site: Federal Creosote
Medium: Groundwater
Event: 2009 Annual Sampling of Monitoring Wells

Activity	Comment
Assess the effect of field QC results on data usability.	Acetone was used to decontaminate the sampling equipment which may account for the levels detected in the field rinsate blanks. Acetone, methylene chloride, benzene, toluene, ethybenzene, m,p-xylene, and o-xylene were detected above the CRQL in several trip and field rinsate blanks. These compounds were detected at concentrations below their associated action levels, therefore the presence of these compounds in the blanks does not adversely impact data usability. Semi-volatile results indicated contamination at or below the CRQL for benzaldehyde, phenol, acetophenone, isophorone, naphthalene, caprolactam, diethylphthalate, phenanthrene, di-n-butylphthalate, and bis(2-ethyhexyl)phthalate. The concentration of captrolactam detected in FB102809 was greater than the CRQL. Semi-volatile SIM results indicated contamination at or below the CRQL for naphthalene, 2-methylnaphthalene, acenaphthylene, acenaphthene, fluorene, pentachlorophenol, phenanthrene, anthracene, fluoranthene, pyrene, benzo(a)anthracene, benzo(b)fluoranthene, indeno(1,2,3-cd)pyrene, dibenz(a,h)anthracene, and benzo(g,h,i)perylene. The concentrations of acenaphthene and phenanthrene detected in FB102209 and FB110209 were greater than the CRQL. The concentration of fluorene detected in FB102209 was greater than the CRQL. The concentrations of naphthalene detected in FB102809, FB102909, FB102109, FB102209, FB102309, and FB102709 were greater than the CRQL. Appropriate sample results associated with a contaminated blank were qualified with a "U" during validation. These contaminant concentrations are generally low (less than CRQL). Those blank contaminants that are greater than the CRQL were below the project action level criteria so there is no adverse impact on data usability.

DATA USABILITY WORKSHEET
Site: Federal Creosote
Medium: Groundwater
Event: 2009 Annual Sampling of Monitoring Wells

Activity	Comment
Assess the effect of field QC results on data usability.	**FIELD DUPLICATES:** Table E-3 contains a summary of field duplicate results. chrysene was the only compound with a absolute difference (ABS) greater than CQRL. The remaining results were within the RPD of 50 percent or ABS less than the CRQL criteria stated in the quality assurance project plan (QAPP). Field duplicate results indicate sampling precision was achieved.
Summarize the effect of field sampling issues on data usability, if applicable.	No field sampling issues were identified.
Analytical Techniques	
Were the analytical methods appropriate to meet project needs?	Yes. Groundwater samples were analyzed for trace level VOCs, low level SVOCs, and SVOC SIM according to CLP SOW for Organic Analytical Services for Superfund, SOM01.2. Inorganic analysis was performed according to CLP SOW for Inorganic Analysis, Multi-Media, Multi-Concentration, and ILM05.4/iron and manganese. Additional parameters were analyzed as stated in the QAPP by the EPA DESA laboratory equivalent standard operating procedures (SOPs) as listed on Table 2-3. These methods and SAP criteria have sufficient QA/QC requirements to provide data of appropriate quality for this remedial activity.
Were detection limits adequate?	Yes, detection limits were adequate. The sensitivity requirements were met for all parameters with the exception of cyclohexane, methylcyclohexane, isopropylbenzene and styrene that were elevated due to their initial calibration curve. These exceptions did not impact data usability because the resulting reporting limit is greater than site criteria. The sensitivity requirements listed in the QAPP were established to meet the data quality objectives of the groundwater monitoring. QAPP required sensitivities and project action level goals were met by the detection limits achieved.

DATA USABILITY WORKSHEET
Site: Federal Creosote
Medium: Groundwater
Event: 2009 Annual Sampling of Monitoring Wells

Activity	Comment
Summarize the effect of analytical technique issues on data usability, if applicable.	There are no analytical technique issues that should affect data usability. The SIM analysis was used to in order to achieve lower CRQLs in order to meet state limits
Data Quality Objectives	
Precision - How were duplicates handled?	Relative percent differences (RPDs) were calculated for two pairs of duplicate samples; RPD calculations were not performed for duplicate pairs with detection in only one of the samples. In this case the absolute difference (ABS) was calculated and compared to the CRQL. Precision was assessed using ABS criteria when the duplicate results are less than five times the CRQL. Approximately 99 percent of the RPDs and/or ABS were less than or equal to an RPD of 50 percent or less than CRQL respectively (See Table E-3 for field duplicate results)
Accuracy - How were split samples handled?	Split samples were not collected. Data accuracy was measured from laboratory control samples, matrix spikes/matrix spike duplicates, laboratory duplicates and surrogates. Blank evaluations also contributed to the determination of accuracy. The data was determined to be accurate except for the deviations from established QC ranges noted in the data validation reports. These are summarized in the next section.
Representativeness - Indicate any problems associated with data representativeness (e.g., trip blank or rinsate blank contamination, chain of custody problems, etc.).	Seven VOCs were detected in some trip and field blanks; details are discussed above under field sampling blanks. Ten SVOCs were detected in field blanks; details are discussed above under field sampling blanks.

DATA USABILITY WORKSHEET
Site: Federal Creosote
Medium: Groundwater
Event: 2009 Annual Sampling of Monitoring Wells

Activity	Comment
Representativeness - Indicate any problems associated with data representativeness (e.g., trip blank or rinsate blank contamination, chain of custody problems, etc.).	Fifteen SVOCs by SIM analysis were detected in field blanks; details are discussed above under field sampling blanks. Chrysene, benzo(a)anthracene, bezo(k)fluoranthene, benzo(a)pyrene, and bis(2-ethylhexyl)phthalate were found in method blanks at concentrations less than the CRQL. Benzo(g,h,i)perylene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene, were found in method blanks at concentrations less than CRQL associated with SVOC SIM analysis During data validation, results deemed to be non-representative were either qualified "U" or "J".
Completeness - Indicate any problems associated with data completeness (e.g., incorrect sample analysis, incomplete sample records, problems with field procedures, etc.).	The project data completeness goal was to generate 90 percent usable data and to collect at least 90 percent of planned data. Ninety-nine percent of the data were judged to be valid and usable (see Table E-4). The remaining one percent of the data was rejected as follows: 13 non-detect pentachlorophenol SVOC SIM results were rejected due to poor relative response factor. In summary, the data set met the completeness goal established in the SAP.
Comparability - Indicate any problems associated with data comparability	No problems have been associated with data comparability.
Were the Data Quality Objectives (DQOs) specified in the QAPP satisfied?	Yes, the DQOs identified in the SAP were satisfied.
Summarize the effect of DQO issues on data usability, if applicable.	There are no DQO issues that should affect data usability.

DATA USABILITY WORKSHEET
Site: Federal Creosote
Medium: Groundwater
Event: 2009 Annual Sampling of Monitoring Wells

Activity	Comment
Data Validation and Interpretation	
What are the data validation requirements?	For organic samples, validators were required to check the following items: holding times, instrument performance checks, initial and continuing calibrations, blanks, deuterated or system monitoring compounds, LCS or matrix spike/matrix spike duplicates, regional QA/QC, internal standards, target compound identification, CRQLs, tentatively identified compounds, system performance, and overall assessment of data. For inorganic samples, validators were required to check holding times, CRQL standard, calibration, blanks, interference check standard, laboratory control samples, duplicate samples, matrix spike samples, ICP serial dilution, and field duplicates. Computer-Aided Data Review and Evaluation (CADRE) was used to assess compliance with the CLP specifications. EPA performed an overall assessment of the data.
What method or guidance was used to validate the data?	Region II's Environmental Services Assistance Team (ESAT) data validators reviewed the CLP data using: SOP HW-35 for semi-volatile organics; DESA used their internal validation SOP G-25 to validate VOCs, metals and natural attenuation parameters. All are based on modifications to the *National Functional Guidelines for Organic (and Inorganic) Data Review, USEPA 10/99 (and 10/04)*
Was the data validation method consistent with guidance? Discuss any discrepancies.	Yes. The data validation method was consistent with regional guidance.
Were all data qualifiers defined? Discuss those which were not.	Yes. All data qualifiers were defined.
Which qualifiers represent useable data?	B, D, J, L, U, UJ, and UL

DATA USABILITY WORKSHEET
Site: Federal Creosote
Medium: Groundwater
Event: 2009 Annual Sampling of Monitoring Wells

Activity	Comment
Which qualifiers represent unusable data?	R
How are tentatively identified compounds handled?	Not applicable to the Groundwater Monitoring.
Summarize the effect of data validation and interpretation issues, if applicable.	Unusable data qualified with an "R" will not be used. All data that has not been rejected, both qualified and unqualified, will be used.
Additional notes:	Several sample results were qualified as estimated "J" or "UJ" based on minor exceedances in initial and continuing calibrations in both the SVOC and SVOC SIM analyses. Associated sample results were appropriately qualified. Several sample results were qualified as estimated "J" based on internal standard area counts below criteria in the SVOC SIM analysis. Associated sample results were appropriately qualified. Some sample results exceeded the calibration range and were qualified as estimated "J".

DATA USABILITY WORKSHEET
Site: Federal Creosote
Medium: Groundwater
Event: 2009 Annual Sampling of Monitoring Wells

Data Validation Qualifiers

The following qualifiers are used with the reported data.

Qualifiers:

B	-	Compound present in associated blank
D	-	Associated result is from a diluted sample analysis
U	-	Compound was analyzed for but not detected. The associated numerical value is the sample quantitation.
J	-	Estimated data due to exceeded quality control criteria.
L	-	The identification is acceptable; the reported value may be biased low.
UJ	-	Estimated non-detect data due to exceeded quality control criteria.
UL	-	Compound was not detected, the associated CRQL may be biased low
R	-	Rejected unusable data. Data is known to contain significant errors based on documented information and must not be used by the data user.

DATA USABILITY WORKSHEET
Site: Federal Creosote
Medium: Groundwater
Event: 2009 Annual Sampling of Monitoring Wells

Acronyms

ABS	absolute difference
CAS	chemical abstract registry number
CDM	CDM Federal Programs Corporation
CLP	Contract Laboratory program
CRQL	contact required quantitation limit
D	laboratory duplicate
DO	dissolved oxygen
Dup	duplicate
DESA	Division of Environmental Science and Assessment
DMC	deuterated monitoring compound
DO	dissolved oxygen
DQO	data quality objective
DV	data validation
EPA	(United States) Environmental Protection Agency
ICP	inductively coupled plasma
IS	internal standard
L	liter
LCS	laboratory control sample
mg	milligram
µg	microgram
MS	matrix spike
MSD	matrix spike duplicate
NA	not applicable
ORP	oxidation reduction potential
QAPP	quality assurance project plan
QA/QC	quality assurance quality control
RPD	relative percent difference
RRF	relative response factor
SAP	sampling and analysis plan
SIM	selective ion monitoring
SOP	standard operating procedure
SOW	statement of work
SVOC	semi-volatile compounds
VOC	volatile organic compound
%R	percent recovery

Table E-1
Sample Summary
2009 Groundwater Sampling - Long Term Monitoring Program
Federal Creosote Site
Manville, NJ

Sample Name	Date	Ferrous Iron	Nitrate / Nitrite	Sulfate	Sulfide	Metals (iron & manganese)	Methane, Etheane, and Ethene	Alkalinity	Semi-volatiles	Semi-volatiled SIM Analysis	Trace Volatile
Environmental Samples											
MW-103S-Y5	10/26/09	X	X	X	X	X	X	X	X	X	X
MW-104RS-Y5	10/29/09	X	X	X	X	X	X	X	X	X	X
MW-110D-Y5	10/28/09	X	X	X	X	X	X	X	X	X	X
MW-110I-Y5	10/28/09	X	X	X	X	X	X	X	X	X	X
MW-110S-Y5	10/28/09	X	X	X	X	X	X	X	X	X	X
MW-111I-Y5	10/22/09	X	X	X	X	X	X	X	X	X	X
MW-111S-Y5	10/22/09	X	X	X	X	X	X	X	X	X	X
MW-114D-Y5	10/20/09	X	X	X	X	X	X	X	X	X	X
MW-114I-Y5	10/20/09	X	X	X	X	X	X	X	X	X	X
MW-114S-Y5	10/20/09	X	X	X	X	X	X	X	X	X	X
MW-116I-Y5	10/26/09	X	X	X	X	X	X	X	X	X	X
MW-116I-Y5-DUP	10/26/09	X	X	X	X	X	X	X	X	X	X
MW-123D-Y5	10/23/09	X	X	X	X	X	X	X	X	X	X
MW-123I-Y5	10/23/09	X	X	X	X	X	X	X	X	X	X
MW-123S-Y5	10/23/09	X	X	X	X	X	X	X	X	X	X
MW-124D-Y5	10/27/09	X	X	X	X	X	X	X	X	X	X
MW-124I-Y5	10/27/09	X	X	X	X	X	X	X	X	X	X
MW-124S-Y5	10/27/09	X	X	X	X	X	X	X	X	X	X
MW-125I-Y5	10/21/09	X	X	X	X	X	X	X	X	X	X
MW-125S-Y5	10/21/09	X	X	X	X	X	X	X	X	X	X
MW-126S-Y5	10/21/09	X	X	X	X	X	X	X	X	X	X
MW-127S-Y5	10/22/09	X	X	X	X	X	X	X	X	X	X
MW-12RS-Y5	10/26/09	X	X	X	X	X	X	X	X	X	X
MW-1RS-Y5	10/29/09	X	X	X	X	X	X	X	X	X	X
MW-2RD-Y5	10/29/09	X	X	X	X	X	X	X	X	X	X
MW-2RI-Y5	10/29/09	X	X	X	X	X	X	X	X	X	X
MW-2RS-Y5	10/29/09	X	X	X	X	X	X	X	X	X	X
MW-2RS-Y5-DUP	10/29/09	X	X	X	X	X	X	X	X	X	X

Table E-1
Sample Summary
2009 Groundwater Sampling - Long Term Monitoring Program
Federal Creosote Site
Manville, NJ

Sample Name	Date	Ferrous Iron	Nitrate / Nitrite	Sulfate	Sulfide	Metals (iron & manganese)	Methane, Etheane, and Ethene	Alkalinity	Semi-volatiles	Semi-volatiled SIM Analysis	Trace Volatile
MW-5I-Y5	11/2/09	X	X	X	X	X	X	X	X	X	X
MW-6S-Y5	11/2/09	X	X	X	X	X	X	X	X	X	X
MW-7S-Y5	10/29/09	X	X	X	X	X	X	X	X	X	X
Field Rinsate Blanks											
FB102009	10/20/09					X	X		X	X	X
FB102109	10/21/09					X	X		X	X	X
FB102209	10/22/09					X	X		X	X	X
FB102309	10/23/09					X	X		X	X	X
FB102609	10/26/09					X	X		X	X	X
FB102709	10/27/09					X	X		X	X	X
FB102809	10/28/09					X	X		X	X	X
FB102909	10/29/09					X	X		X	X	X
FB110209	11/2/09					X	X		X	X	X
Trip Balnks											
TB102009	10/20/09										X
TB102109	10/21/09										X
TB102209	10/22/09										X
TB102309	10/23/09										X
TB102609	10/26/09										X
TB102709	10/27/09										X
TB102809	10/28/09										X
TB102909	10/29/09										X
TB110209	11/2/09										X

Table E-2a
Trip Blanks
2009 Groundwater Sampling - Long Term Monitoring Program
Federal Creosote Superfund Site
Manville, NJ

Cas Rn	Chemical Name	Sample Code Sample Name Sample Date Unit \\ Depth	TB102009 10/20/2009		TB102109 10/21/2009		TB102209 10/22/2009		TB102309 10/23/2009		TB102609 10/26/2009		TB102709 10/27/2009		TB102809 10/28/2009		TB102909 10/29/2009		TB110209 11/2/2009	
Volatile Organic Compounds																				
67-64-1	Acetone	µg/L	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5.6		5	U
75-09-2	Methylene Chloride	µg/L	1.3		1.3		1.2		1.2		0.97		1.3		0.7		0.54		1.1	
71-43-2	Benzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
108-88-3	Toluene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.62		0.5	U	0.85		1.1		0.5	U
100-41-4	Ethylbenzene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
179601-23-1	m,p-Xylene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.54		0.5	U
95-47-6	o-Xylene	µg/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Table E-2b
Field Rinsate Blanks
2009 Groundwater Sampling - Long Term Monitoring Program
Federal Creosote Superfund Site
Manville, NJ

Cas Rn	Chemical Name	Sample Code Sample Name Sample Date Unit \\ Depth	FB102009 10/20/2009		FB102809 10/28/2009		FB102909 10/29/2009		FB102109 10/21/2009		FB110209 11/2/2009		FB102209 10/22/2009		FB102309 10/23/2009		FB102609 10/26/2009		FB102709 10/27/2009	
Volatile Organic Compounds																				
67-64-1	Acetone	µg/L	5	U	31		41		12		150		12		26		24		36	
75-09-2	Methylene Chloride	µg/L	1.2		1.1		0.95		0.66		0.76		0.5	U	0.5	U	1.3		1.1	
71-43-2	Benzene	µg/L	0.5	U	1.2		1.4		1.2		1.2		0.5		2.3		0.84		1.6	
108-88-3	Toluene	µg/L	0.5	U	41		19		3.6		5.6		1.9		6.5		3.2		5.4	
100-41-4	Ethylbenzene	µg/L	0.5	U	0.8		0.89		0.5	U	0.7		0.5	U	0.73		0.5	U	0.68	
179601-23-1	m,p-Xylene	µg/L	0.5	U	3.5		4		1.5		2.6		0.9		3.2		1.6		3.1	
95-47-6	o-Xylene	µg/L	0.5	U	1.2		1.5		0.65		1.2		0.5	U	1.4		0.6		1.2	
Semi-Volatile Organic Compounds																				
100-52-7	Benzaldehyde	µg/L	0.16	J	5	U	5	U	5	U	5	U	0.36	J	5	U	5	U	5	U
108-95-2	Phenol	µg/L	0.83	J	1.4	J	2.3	J	1.1	J	2.2	J	0.7	J	1.1	J	1.2	J	1.8	J
98-86-2	Acetophenone	µg/L	0.22	J	0.34	J	0.56	J	0.29	J	0.63	J	0.21	J	0.36	J	0.35	J	0.39	J
78-59-1	Isophorone	µg/L	5	U	5	U	5	U	5	U	5	U	5	U	0.2	J	0.22	J	0.19	J
91-20-3	Naphthalene	µg/L	5	UJ	5	U	0.34	J	0.4	J	0.16	J	0.18	J	0.34	J	5	U	0.23	J
105-60-2	Caprolactam	µg/L	0.29	J	7.5		6		0.32	J	3.3	J	0.26	J	0.47	J	1.1	J	1.3	J
84-66-2	Diethylphthalate	µg/L	5	U	0.93	J	1.7	J	0.22	J	0.74	J	0.18	J	0.35	J	0.26	J	1.3	J
85-01-8	Phenanthrene	µg/L	5	U	5	U	5	U	5	U	0.17	J	5	U	5	U	5	U	5	U
84-74-2	Di-n-butylphthalate	µg/L	5	U	0.34	J	0.43	J	5	U	0.37	J	0.28	J	0.35	J	0.31	J	0.41	J
117-81-7	bis(2-Ethylhexyl)phthalate	µg/L	5	U	0.71	J	0.54	J	5	U	0.35	J	5	U	0.4	J	5	U	0.35	J
Semi-Volatile Organic Compounds - SIM																				
91-20-3	Naphthalene	µg/L	0.077	J	0.11		0.2		0.34		0.043	J	0.27		0.28		0.077	J	0.17	
91-57-6	2-Methylnaphthalene	µg/L	0.035	J	0.04	J	0.1	U	0.1		0.025	J	0.045	J	0.11		0.023	J	0.063	J
208-96-8	Acenaphthylene	µg/L	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.022	J	0.1	U	0.1	U	0.1	U
83-32-9	Acenaphthene	µg/L	0.1	U	0.1	U	0.078	J	0.1	U	0.12		0.43		0.1	U	0.1	U	0.1	U
86-73-7	Fluorene	µg/L	0.1	U	0.1	U	0.027	J	0.1	U	0.036	J	0.12		0.1	U	0.1	U	0.1	U
87-86-5	Pentachlorophenol	µg/L	0.2	R	0.2	R	0.2	R	0.2	R	0.039	J	0.2	R	0.2	R	0.2	R	0.015	J
85-01-8	Phenanthrene	µg/L	0.1	U	0.02	J	0.091	J	0.1	U	0.14		0.42		0.1	U	0.1	U	0.1	U
120-12-7	Anthracene	µg/L	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.053	J	0.1	U	0.1	U	0.1	U
206-44-0	Fluoranthene	µg/L	0.1	U	0.027	J	0.066	J	0.1	U	0.038	J	0.059	J	0.1	U	0.1	U	0.017	J
129-00-0	Pyrene	µg/L	0.1	U	0.024	J	0.054	J	0.1	U	0.022	J	0.048	J	0.1	U	0.1	U	0.1	U
56-55-3	Benzo(a)anthracene	µg/L	0.1	U	0.1	U	0.022	J	0.1	U	0.1	UJ	0.1	U	0.1	UJ	0.1	U	0.1	U
205-99-2	Benzo(b)fluoranthene	µg/L	0.1	U	0.1	U	0.016	J	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
193-39-5	Indeno(1,2,3-cd)pyrene	µg/L	0.1	U	0.024	J	0.017	J	0.1	U	0.016	J	0.1	U	0.1	U	0.1	U	0.043	J
53-70-3	Dibenz(a,h)anthracene	µg/L	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.023	J
191-24-2	Benzo(g,h,i)perylene	µg/L	0.1	U	0.022	J	0.016	J	0.1	U	0.1	U	0.1	U	0.1	U	0.017	J	0.029	J

CDM

Table E-3
Duplicate Sample Summary
2009 Groundwater Sampling - Long Term Monitoring Program
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Cas Rn	Chemical Name	Sample Code Sample Name Sample Date Unit \\ Depth	MW-116I-Y5 10/26/2009		MW-116I-Y5-DUP MW-601I-Y5 10/26/2009		RPD < 50	ABS < CRQL
1-GWMW-VOA	**Volatile Organic Compounds**							
75-71-8	Dichlorodifluoromethane	µg/L	0.5	U	0.5	U	-	-
74-87-3	Chloromethane	µg/L	0.5	U	0.5	U	-	-
75-01-4	Vinyl Chloride	µg/L	0.5	U	0.5	U	-	-
74-83-9	Bromomethane	µg/L	0.5	UL	0.5	UL	-	-
75-00-3	Chloroethane	µg/L	0.5	U	0.5	U	-	-
75-69-4	Trichlorofluoromethane	µg/L	0.5	U	0.5	U	-	-
75-35-4	1,1-Dichloroethene	µg/L	0.5	U	0.5	U	-	-
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	µg/L	0.5	U	0.5	U	-	-
75-15-0	Carbon Disulfide	µg/L	0.5	U	0.5	U	-	-
67-64-1	Acetone	µg/L	5	U	5	U	-	-
79-20-9	Methyl Acetate	µg/L	0.5	U	0.5	U	-	-
75-09-2	Methylene Chloride	µg/L	0.5	U	0.5	U	-	-
156-60-5	trans-1,2-Dichloroethene	µg/L	0.5	U	0.5	U	-	-
1634-04-4	Methyl Tert-Butyl Ether	µg/L	0.5	U	0.5	U	-	-
75-34-3	1,1-Dichloroethane	µg/L	0.5	U	0.5	U	-	-
156-59-2	cis-1,2-Dichloroethene	µg/L	0.5	U	0.5	U	-	-
78-93-3	2-Butanone	µg/L	5	U	5	U	-	-
74-97-5	Chlorobromomethane	µg/L	0.5	U	0.5	U	-	-
67-66-3	Chloroform	µg/L	0.5	U	0.5	U	-	-
71-55-6	1,1,1-Trichloroethane	µg/L	0.5	U	0.5	U	-	-
110-82-7	Cyclohexane	µg/L	2	U	2	U	-	-
56-23-5	Carbon Tetrachloride	µg/L	0.5	U	0.5	U	-	-
71-43-2	Benzene	µg/L	0.5	U	0.5	U	-	-
107-06-2	1,2-Dichloroethane	µg/L	0.5	U	0.5	U	-	-
79-01-6	Trichloroethene	µg/L	0.5	U	0.5	U	-	-
78-87-5	1,2-Dichloropropane	µg/L	0.5	U	0.5	U	-	-
75-27-4	Bromodichloromethane	µg/L	0.5	U	0.5	U	-	-
10061-01-5	cis-1,3-Dichloropropene	µg/L	0.5	U	0.5	U	-	-
108-10-1	4-Methyl-2-pentanone	µg/L	5	U	5	U	-	-
108-88-3	Toluene	µg/L	0.5	U	0.5	U	-	-
10061-02-6	Trans-1,3-Dichloropropene	µg/L	0.5	U	0.5	U	-	-
79-00-5	1,1,2-Trichloroethane	µg/L	0.5	U	0.5	U	-	-
127-18-4	Tetrachloroethene	µg/L	0.5	U	0.5	U	-	-
108-87-2	Methylcyclohexane	µg/L	2	U	2	U	-	-
124-48-1	Dibromochloromethane	µg/L	0.5	U	0.5	U	-	-
106-93-4	1,2-Dibromoethane	µg/L	0.5	U	0.5	U	-	-
591-78-6	2-Hexanone	µg/L	5	U	5	U	-	-
108-90-7	Chlorobenzene	µg/L	0.5	U	0.5	U	-	-
100-41-4	Ethylbenzene	µg/L	1.2		1.2		0	-
179601-23-1	m,p-Xylene	µg/L	0.5	U	0.5	U	-	-
95-47-6	o-Xylene	µg/L	1.2		1.2		0	-
100-42-5	Styrene	µg/L	2	U	2	U	-	-
75-25-2	Bromoform	µg/L	0.5	U	0.5	U	-	-
98-82-8	Isopropylbenzene	µg/L	1	U	1	U	-	-
541-73-1	1,3-Dichlorobenzene	µg/L	0.5	U	0.5	U	-	-
106-46-7	1,4-Dichlorobenzene	µg/L	0.5	U	0.5	U	-	-
95-50-1	1,2-Dichlorobenzene	µg/L	0.5	U	0.5	U	-	-
96-12-8	1,2-Dibromo-3-chloropropane	µg/L	0.5	U	0.5	U	-	-
120-82-1	1,2,4-Trichlorobenzene	µg/L	0.5	U	0.5	U	-	-
87-61-6	1,2,3-Trichlorobenzene	µg/L	0.5	U	0.5	U	-	-
79-34-5	1,1,2,2-Tetrachloroethane	µg/L	0.5	U	0.5	U	-	-

Table E-3
Duplicate Sample Summary
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Cas Rn	Chemical Name	Sample Code Sample Name Sample Date Unit \\ Depth	MW-116I-Y5 10/26/2009		MW-116I-Y5-DUP MW-601I-Y5 10/26/2009		RPD < 50	ABS < CRQL
2-GWMW-SVOA	**Semi-Volatile Organic Compounds**							
100-52-7	Benzaldehyde	µg/L	5	U	5	U	-	-
108-95-2	Phenol	µg/L	5	U	5	U	-	-
111-44-4	bis(2-Chloroethyl)ether	µg/L	5	U	5	U	-	-
95-57-8	2-Chlorophenol	µg/L	5	U	5	U	-	-
95-48-7	2-Methylphenol	µg/L	5	U	5	U	-	-
108-60-1	2,2'-oxybis(1-Chloropropane)	µg/L	5	U	5	U	-	-
98-86-2	Acetophenone	µg/L	5	U	5	U	-	-
106-44-5	4-Methylphenol	µg/L	5	U	5	U	-	-
621-64-7	N-Nitroso-di-n-propylamine	µg/L	5	U	5	U	-	-
67-72-1	Hexachloroethane	µg/L	5	U	5	U	-	-
98-95-3	Nitrobenzene	µg/L	5	U	5	U	-	-
78-59-1	Isophorone	µg/L	5	U	5	U	-	-
88-75-5	2-Nitrophenol	µg/L	5	U	5	U	-	-
105-67-9	2,4-Dimethylphenol	µg/L	5	U	5	U	-	-
111-91-1	bis(2-Chloroethoxy)methane	µg/L	5	U	5	U	-	-
120-83-2	2,4-Dichlorophenol	µg/L	5	U	5	U	-	-
91-20-3	Naphthalene	µg/L	19	J	23	J	-	4
106-47-8	4-Chloroaniline	µg/L	5	U	5	U	-	-
87-68-3	Hexachlorobutadiene	µg/L	5	U	5	U	-	-
105-60-2	Caprolactam	µg/L	5	U	5	U	-	-
59-50-7	4-Chloro-3-methylphenol	µg/L	5	U	5	U	-	-
91-57-6	2-Methylnaphthalene	µg/L	0.21	J	0.21	J	-	0
95-94-3	1,2,4,5-Tetrachlorobenzene	µg/L	5	U	5	U	-	-
77-47-4	Hexachlorocyclopentadiene	µg/L	5	U	5	U	-	-
88-06-2	2,4,6-Trichlorophenol	µg/L	5	U	5	U	-	-
95-95-4	2,4,5-Trichlorophenol	µg/L	5	U	5	U	-	-
92-52-4	1,1'Biphenyl	µg/L	34		30		13	
91-58-7	2-Chloronaphthalene	µg/L	5	U	5	U	-	-
88-74-4	2-Nitroaniline	µg/L	10	U	10	U	-	-
131-11-3	Dimethylphthalate	µg/L	5	U	5	U	-	-
208-96-8	Acenaphthylene	µg/L	0.69	J	0.66	J	-	0.03
606-20-2	2,6-Dinitrotoluene	µg/L	5	U	5	U	-	-
99-09-2	3-Nitroaniline	µg/L	10	U	10	U	-	-
83-32-9	Acenaphthene	µg/L	39		36		8	
51-28-5	2,4-Dinitrophenol	µg/L	10	U	10	U	-	-
100-02-7	4-Nitrophenol	µg/L	10	U	10	U	-	-
132-64-9	Dibenzofuran	µg/L	92		79		15	
121-14-2	2,4-Dinitrotoluene	µg/L	5	U	5	U	-	-
86-73-7	Fluorene	µg/L	26		25		4	

Table E-3
Duplicate Sample Summary
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Cas Rn	Chemical Name	Sample Code Sample Name Sample Date Unit \\ Depth	MW-116I-Y5 10/26/2009		MW-116I-Y5-DUP MW-601I-Y5 10/26/2009		RPD < 50	ABS < CRQL
84-66-2	Diethylphthalate	µg/L	5	U	5	U	-	-
7005-72-3	4-Chlorophenyl-phenylether	µg/L	5	U	5	U	-	-
100-01-6	4-Nitroaniline	µg/L	10	U	10	U	-	-
534-52-1	4,6-Dinitro-2-methylphenol	µg/L	10	U	10	U	-	-
86-30-6	N-Nitrosodiphenylamine	µg/L	5	U	5	U	-	-
101-55-3	4-Bromophenyl-phenylether	µg/L	5	U	5	U	-	-
118-74-1	Hexachlorobenzene	µg/L	5	U	5	U	-	-
1912-24-9	Atrazine	µg/L	5	U	5	U	-	-
87-86-5	Pentachlorophenol	µg/L	10	U	10	U	-	-
85-01-8	Phenanthrene	µg/L	49		50		2	-
120-12-7	Anthracene	µg/L	6.6		7.6		-	1
86-74-8	Carbazole	µg/L	28		32		13	-
84-74-2	Di-n-butylphthalate	µg/L	5	U	5	U	-	-
206-44-0	Fluoranthene	µg/L	25		32		25	-
129-00-0	Pyrene	µg/L	15		16		-	1
85-68-7	Butylbenzylphthalate	µg/L	5	U	5	U	-	-
91-94-1	3,3'-Dichlorobenzidine	µg/L	5	U	5	U	-	-
56-55-3	Benzo(a)anthracene	µg/L	5	U	5	U	-	-
218-01-9	Chrysene	µg/L	5	U	5	U	-	-
117-81-7	bis(2-Ethylhexyl)phthalate	µg/L	0.17	J	0.23	J	-	0.06
117-84-0	Di-n-octyl phthalate	µg/L	5	U	5	U	-	-
205-99-2	Benzo(b)fluoranthene	µg/L	0.22	J	0.28	J	-	0.06
207-08-9	Benzo(k)fluoranthene	µg/L	5	U	0.18	J	-	4.82
50-32-8	Benzo(a)pyrene	µg/L	0.2	J	0.32	J	-	0.12
193-39-5	Indeno(1,2,3-cd)pyrene	µg/L	5	U	5	U	-	-
53-70-3	Dibenz(a,h)anthracene	µg/L	5	U	5	U	-	-
191-24-2	Benzo(g,h,i)perylene	µg/L	5	U	5	U	-	-
58-90-2	Chlorophenols	µg/L	5	U	5	U	-	-

Table E-3
Duplicate Sample Summary
2009 Groundwater Sampling - Long Term Monitoring Program
Federal Creosote Superfund Site
Manville, NJ

Cas Rn	Chemical Name	Sample Code Sample Name Sample Date Unit \\ Depth	MW-116I-Y5 10/26/2009		MW-116I-Y5-DUP MW-601I-Y5 10/26/2009		RPD < 50	ABS < CRQL
SVOA-SIM	**Semi-Volatile Organic Compounds - SIM**							
91-20-3	Naphthalene	µg/L	17	J	19	J	-	2
91-57-6	2-Methylnaphthalene	µg/L	0.17		0.21		21	-
208-96-8	Acenaphthylene	µg/L	0.34		0.35		3	-
83-32-9	Acenaphthene	µg/L	29	J	28	J	-	-
86-73-7	Fluorene	µg/L	20	J	19	J	5	-
87-86-5	Pentachlorophenol	µg/L	0.019	J	0.024	J	-	-
85-01-8	Phenanthrene	µg/L	43	J	41	J	5	-
120-12-7	Anthracene	µg/L	7.3	J	7	J	4	-
206-44-0	Fluoranthene	µg/L	26	J	25	J	4	-
129-00-0	Pyrene	µg/L	11	J	13	J	17	-
56-55-3	Benzo(a)anthracene	µg/L	1.2		1.6		29	-
218-01-9	**Chrysene**	µg/L	0.43		0.1		-	**0.33**
205-99-2	Benzo(b)fluoranthene	µg/L	0.23		0.24	J	-	0.01
207-08-9	Benzo(k)fluoranthene	µg/L	0.071	J	0.082	J	-	0.011
50-32-8	Benzo(a)pyrene	µg/L	0.16		0.19	J	-	0.03
193-39-5	Indeno(1,2,3-cd)pyrene	µg/L	0.1	U	0.1	U	-	-
53-70-3	Dibenz(a,h)anthracene	µg/L	0.1	U	0.1	U	-	-
191-24-2	Benzo(g,h,i)perylene	µg/L	0.1	U	0.1	U	-	-
3-MET-W	**Inorganic Analytes**							
7439-89-6	Iron	µg/L	50	U	50	U	-	-
7439-96-5	Manganese	µg/L	3100		3300		6	-
4-MEE	**Methane, Ethane, Ethene**							
74-82-8	Methane	µg/L	2.7		2.8		-	0.1
74-84-0	Ethane	µg/L	2	U	2	U	-	-
74-85-1	Ethene	µg/L	2	U	2	U	-	-
5-Wetchem	**Additional Parameters**							
Fe-ferrous	Ferrous Iron	mg/L	0.3	U	0.3	U	-	-
7727-37-9	Nitrogen	mg/L	0.36		0.35		3	-
ALK	Alkalinity, Total (as CaCO3)	mg/L	150		150		0	-
18496-25-8	Sulfide	mg/L	0.01	U	0.01		-	0
SO4	Sulfate	mg/L	21		21		0	-

Table E-3
Duplicate Sample Summary
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Federal Creosote Superfund Site
Manville, NJ

Cas Rn	Chemical Name	Sample Code Sample Name Sample Date Unit \\ Depth	MW-2RS-Y5 10/29/2009		MW-2RS-Y5-DUP MW-602S-Y5 10/29/2009		RPD < 50	ABS < CRQL
1-GWMW-VOA	**Volatile Organic Compounds**							
75-71-8	Dichlorodifluoromethane	µg/L	0.5	U	0.5	U	-	-
74-87-3	Chloromethane	µg/L	0.5	U	0.5	U	-	-
75-01-4	Vinyl Chloride	µg/L	0.5	U	0.5	U	-	-
74-83-9	Bromomethane	µg/L	0.5	UL	0.5	UL	-	-
75-00-3	Chloroethane	µg/L	0.5	U	0.5	U	-	-
75-69-4	Trichlorofluoromethane	µg/L	0.5	U	0.5	U	-	-
75-35-4	1,1-Dichloroethene	µg/L	0.5	U	0.5	U	-	-
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	µg/L	0.5	U	0.5	U	-	-
75-15-0	Carbon Disulfide	µg/L	0.5	U	0.5	U	-	-
67-64-1	Acetone	µg/L	5	U	5	U	-	-
79-20-9	Methyl Acetate	µg/L	0.5	U	0.5	U	-	-
75-09-2	Methylene Chloride	µg/L	0.5	U	0.5	U	-	-
156-60-5	trans-1,2-Dichloroethene	µg/L	0.5	U	0.5	U	-	-
1634-04-4	Methyl Tert-Butyl Ether	µg/L	0.5	U	0.5	U	-	-
75-34-3	1,1-Dichloroethane	µg/L	0.5	U	0.5	U	-	-
156-59-2	cis-1,2-Dichloroethene	µg/L	0.5	U	0.5	U	-	-
78-93-3	2-Butanone	µg/L	5	U	5	U	-	-
74-97-5	Chlorobromomethane	µg/L	0.5	U	0.5	U	-	-
67-66-3	Chloroform	µg/L	0.5	U	0.5	U	-	-
71-55-6	1,1,1-Trichloroethane	µg/L	0.5	U	0.5	U	-	-
110-82-7	Cyclohexane	µg/L	2	U	2	U	-	-
56-23-5	Carbon Tetrachloride	µg/L	0.5	U	0.5	U	-	-
71-43-2	Benzene	µg/L	26		25		4	-
107-06-2	1,2-Dichloroethane	µg/L	0.5	U	0.5	U	-	-
79-01-6	Trichloroethene	µg/L	0.5	U	0.5	U	-	-
78-87-5	1,2-Dichloropropane	µg/L	0.5	U	0.5	U	-	-
75-27-4	Bromodichloromethane	µg/L	0.5	U	0.5	U	-	-
10061-01-5	cis-1,3-Dichloropropene	µg/L	0.5	U	0.5	U	-	-
108-10-1	4-Methyl-2-pentanone	µg/L	5	U	5	U	-	-
108-88-3	Toluene	µg/L	43		42		2	-
10061-02-6	Trans-1,3-Dichloropropene	µg/L	0.5	U	0.5	U	-	-
79-00-5	1,1,2-Trichloroethane	µg/L	0.5	U	0.5	U	-	-
127-18-4	Tetrachloroethene	µg/L	0.5	U	0.5	U	-	-
108-87-2	Methylcyclohexane	µg/L	2	U	2	U	-	-
124-48-1	Dibromochloromethane	µg/L	0.5	U	0.5	U	-	-
106-93-4	1,2-Dibromoethane	µg/L	0.5	U	0.5	U	-	-
591-78-6	2-Hexanone	µg/L	5	U	5	U	-	-
108-90-7	Chlorobenzene	µg/L	0.5	U	0.5	U	-	-
100-41-4	Ethylbenzene	µg/L	160		170		6	-
179601-23-1	m,p-Xylene	µg/L	190		190		0	-
95-47-6	o-Xylene	µg/L	130		140		7	-
100-42-5	Styrene	µg/L	9.1		9.1		0	-
75-25-2	Bromoform	µg/L	0.5	U	0.5	U	-	-
98-82-8	Isopropylbenzene	µg/L	38		38		0	-
541-73-1	1,3-Dichlorobenzene	µg/L	0.5	U	0.5	U	-	-
106-46-7	1,4-Dichlorobenzene	µg/L	0.5	U	0.5	U	-	-
95-50-1	1,2-Dichlorobenzene	µg/L	0.5	U	0.5	U	-	-
96-12-8	1,2-Dibromo-3-chloropropane	µg/L	0.5	U	0.5	U	-	-
120-82-1	1,2,4-Trichlorobenzene	µg/L	0.5	U	0.5	U	-	-
87-61-6	1,2,3-Trichlorobenzene	µg/L	0.5	U	0.5	U	-	-
79-34-5	1,1,2,2-Tetrachloroethane	µg/L	0.5	U	0.5	U	-	-

Table E-3
Duplicate Sample Summary
2009 Groundwater Sampling - Long Term Monitoring Program
Federal Creosote Superfund Site
Manville, NJ

Cas Rn	Chemical Name	Sample Code Sample Name Sample Date Unit \\ Depth	MW-2RS-Y5 10/29/2009		MW-2RS-Y5-DUP MW-602S-Y5 10/29/2009		RPD < 50	ABS < CRQL
2-GWMW-SVOA	**Semi-Volatile Organic Compounds**							
100-52-7	Benzaldehyde	µg/L	50	U	50	U	-	-
108-95-2	Phenol	µg/L	50	U	50	U	-	-
111-44-4	bis(2-Chloroethyl)ether	µg/L	50	U	50	U	-	-
95-57-8	2-Chlorophenol	µg/L	50	U	50	U	-	-
95-48-7	2-Methylphenol	µg/L	50	U	50	U	-	-
108-60-1	2,2'-oxybis(1-Chloropropane)	µg/L	50	U	50	U	-	-
98-86-2	Acetophenone	µg/L	50	U	50	U	-	-
106-44-5	4-Methylphenol	µg/L	1.7	J	1.5	J	-	0.2
621-64-7	N-Nitroso-di-n-propylamine	µg/L	50	UJ	50	UJ	-	-
67-72-1	Hexachloroethane	µg/L	50	U	50	U	-	-
98-95-3	Nitrobenzene	µg/L	50	U	50	U	-	-
78-59-1	Isophorone	µg/L	50	U	50	U	-	-
88-75-5	2-Nitrophenol	µg/L	50	U	50	U	-	-
105-67-9	2,4-Dimethylphenol	µg/L	6.1	J	5.9	J	-	0.2
111-91-1	bis(2-Chloroethoxy)methane	µg/L	50	U	50	U	-	-
120-83-2	2,4-Dichlorophenol	µg/L	50	U	50	U	-	-
91-20-3	Naphthalene	µg/L	6000	J	6200	J	3	
106-47-8	4-Chloroaniline	µg/L	50	U	50	U	-	-
87-68-3	Hexachlorobutadiene	µg/L	50	U	50	U	-	-
105-60-2	Caprolactam	µg/L	50	U	50	U	-	-
59-50-7	4-Chloro-3-methylphenol	µg/L	50	U	50	U	-	-
91-57-6	2-Methylnaphthalene	µg/L	96		91		-	5
95-94-3	1,2,4,5-Tetrachlorobenzene	µg/L	50	U	50	U	-	-
77-47-4	Hexachlorocyclopentadiene	µg/L	50	U	50	U	-	-
88-06-2	2,4,6-Trichlorophenol	µg/L	50	U	50	U	-	-
95-95-4	2,4,5-Trichlorophenol	µg/L	50	U	50	U	-	-
92-52-4	1,1'Biphenyl	µg/L	150		150		-	0
91-58-7	2-Chloronaphthalene	µg/L	50	U	50	U	-	-
88-74-4	2-Nitroaniline	µg/L	100	U	100	U	-	-
131-11-3	Dimethylphthalate	µg/L	50	U	50	U	-	-
208-96-8	Acenaphthylene	µg/L	13	J	13	J	-	0
606-20-2	2,6-Dinitrotoluene	µg/L	50	U	50	U	-	-
99-09-2	3-Nitroaniline	µg/L	100	U	100	U	-	-
83-32-9	Acenaphthene	µg/L	440		440		0	-
51-28-5	2,4-Dinitrophenol	µg/L	100	U	100	U	-	-
100-02-7	4-Nitrophenol	µg/L	100	U	100	U	-	-
132-64-9	Dibenzofuran	µg/L	330		320		3	-
121-14-2	2,4-Dinitrotoluene	µg/L	50	U	50	U	-	-
86-73-7	Fluorene	µg/L	200		190		-	10

Table E-3
Duplicate Sample Summary
2009 Groundwater Sampling - Long Term Monitoring Program
Federal Creosote Superfund Site
Manville, NJ

Cas Rn	Chemical Name	Sample Code Sample Name Sample Date Unit \\ Depth	MW-2RS-Y5 10/29/2009		MW-2RS-Y5-DUP MW-602S-Y5 10/29/2009		RPD < 50	ABS < CRQL
84-66-2	Diethylphthalate	µg/L	50	U	50	U	-	-
7005-72-3	4-Chlorophenyl-phenylether	µg/L	50	U	50	U	-	-
100-01-6	4-Nitroaniline	µg/L	100	U	100	U	-	-
534-52-1	4,6-Dinitro-2-methylphenol	µg/L	100	U	100	U	-	-
86-30-6	N-Nitrosodiphenylamine	µg/L	50	U	50	U	-	-
101-55-3	4-Bromophenyl-phenylether	µg/L	50	U	50	U	-	-
118-74-1	Hexachlorobenzene	µg/L	50	U	50	U	-	-
1912-24-9	Atrazine	µg/L	50	U	50	U	-	-
87-86-5	Pentachlorophenol	µg/L	100	U	100	U	-	-
85-01-8	Phenanthrene	µg/L	210		200		-	10
120-12-7	Anthracene	µg/L	12	J	9.8	J	-	2.2
86-74-8	Carbazole	µg/L	250		250		0	-
84-74-2	Di-n-butylphthalate	µg/L	50	U	50	U	-	-
206-44-0	Fluoranthene	µg/L	14	J	13	J	-	1
129-00-0	Pyrene	µg/L	9.5	J	8.4	J	-	1.1
85-68-7	Butylbenzylphthalate	µg/L	50	U	50	U	-	-
91-94-1	3,3'-Dichlorobenzidine	µg/L	50	U	50	U	-	-
56-55-3	Benzo(a)anthracene	µg/L	50	U	50	U	-	-
218-01-9	Chrysene	µg/L	1.6	J	50	U	-	-
117-81-7	bis(2-Ethylhexyl)phthalate	µg/L	50	U	50	U	-	-
117-84-0	Di-n-octyl phthalate	µg/L	2.6	J	50	U	-	47.4
205-99-2	Benzo(b)fluoranthene	µg/L	1.6	J	50	U	-	48.4
207-08-9	Benzo(k)fluoranthene	µg/L	50	U	50	U	-	-
50-32-8	Benzo(a)pyrene	µg/L	50	U	50	U	-	-
193-39-5	Indeno(1,2,3-cd)pyrene	µg/L	50	U	50	U	-	-
53-70-3	Dibenz(a,h)anthracene	µg/L	50	U	50	U	-	-
191-24-2	Benzo(g,h,i)perylene	µg/L	50	J	50	U	-	0
58-90-2	Chlorophenols	µg/L	50	U	50	U	-	-

Table E-3
Duplicate Sample Summary
2009 Groundwater Sampling - Long Term Monitoring Program
Federal Creosote Superfund Site
Manville, NJ

Cas Rn	Chemical Name	Sample Code Sample Name Sample Date Unit \\ Depth	MW-2RS-Y5 10/29/2009		MW-2RS-Y5-DUP MW-602S-Y5 10/29/2009		RPD < 50	ABS < CRQL
SVOA-SIM	**Semi-Volatile Organic Compounds - SIM**							
91-20-3	Naphthalene	µg/L	880	J	940	J	7	-
91-57-6	2-Methylnaphthalene	µg/L	100	J	110	J	10	-
208-96-8	Acenaphthylene	µg/L	7.8	J	8.1	J	4	-
83-32-9	Acenaphthene	µg/L	140	J	140	J	0	-
86-73-7	Fluorene	µg/L	86	J	85	J	1	-
87-86-5	Pentachlorophenol	µg/L	1	UJ	1	UJ	-	-
85-01-8	Phenanthrene	µg/L	110	J	100	J	10	-
120-12-7	Anthracene	µg/L	9	J	7.9	J	13	-
206-44-0	Fluoranthene	µg/L	12	J	11	J	9	-
129-00-0	Pyrene	µg/L	7.1	J	6.9	J	3	-
56-55-3	Benzo(a)anthracene	µg/L	0.5	UJ	0.5	UJ	-	-
218-01-9	Chrysene	µg/L	0.24	J	0.26	J	-	0.02
205-99-2	Benzo(b)fluoranthene	µg/L	0.5	UJ	0.5	UJ	-	-
207-08-9	Benzo(k)fluoranthene	µg/L	0.5	UJ	0.5	UJ	-	-
50-32-8	Benzo(a)pyrene	µg/L	0.11	J	0.091	J	-	0.019
193-39-5	Indeno(1,2,3-cd)pyrene	µg/L	0.5	UJ	0.5	UJ	-	-
53-70-3	Dibenz(a,h)anthracene	µg/L	0.076	J	0.078	J	-	0.002
191-24-2	Benzo(g,h,i)perylene	µg/L	0.5	UJ	0.5	UJ	-	-
3-MET-W	**Inorganic Analytes**							
7439-89-6	Iron	µg/L	22000		22000		0	-
7439-96-5	Manganese	µg/L	12000		12000		0	-
4-MEE	**Methane, Ethane, Ethene**							
74-82-8	Methane	µg/L	46		44		4	-
74-84-0	Ethane	µg/L	2.5		2	U	-	-
74-85-1	Ethene	µg/L	2.2		2	U	-	-
5-Wetchem	**Additional Parameters**							
Fe-ferrous	Ferrous Iron	mg/L	22		21.8		1	-
7727-37-9	Nitrogen	mg/L	0.11		0.11		0	-
ALK	Alkalinity, Total (as CaCO3)	mg/L	250		250		0	-
18496-25-8	Sulfide	mg/L	0.01		0.012		-	0.002
SO4	Sulfate	mg/L	22		20		10	-

Table E-4
Analytical Completeness
2009 Groundwater Sampling - Long Term Monitoring Program
Federal Creosote Superfund Site
Manville, NJ

analytical Method	Analysis	ND	HITS	REJECTS	TOTAL	Just "J's"
MCAWW353-2	Nitrate / Nitrite	9	22	0	31	0
MCAWW375-	Sulfate	2	29	0	31	0
MCAWW376-1	Sulfide	14	17	0	31	0
ILM05.4	Iron and Manganese	5	57	0	62	0
RSKSOP147	Methane/Ethane/Ethene	73	47	0	120	4
SM2320	Alkalinity	0	31	0	31	0
SOM01.2 - SVOC Low	Semi-volatile Organics	1836	241	0	2077	149
SOM01.2 SVOC Trace	Semi-Volatile Organics SIM	245	300	13	558	238
SOM01.2 Volatile Trace	Trace Level Volatile Organics	1510	71	0	1581	2
	Totals	**3694**	**815**	**13**	**4522**	**393**
			Percent Rejected	0.29%		

Appendix F

Well Inventory

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: 2500068859
Well Tag ID: MW-1RS
Well Installation date: 7/10/07

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	623444	
Easting (State Plane)	468516	

Cross streets (if applicable): _____

GPS Instrument used: _____
Datum: _____
Accuracy/Precision: _____

Well Construction Details

Type of well (Circle one)	Flush Mount	
Well lock\security type:	Pad lock	
Elevation (top of inner casing):	52.04'	
Surface casing material:	Steel	
Well casing material:	Stainless Steel	
Surface Casing diameter:	8	*inches*
Well Diameter:	4	*inches*
Well Depth (as installed):	35	*ftbgs*
Well Depth (as measured):	33.5	*fttic*
Screened interval:	15(19-34'bgs)	*ft*
Open hole interval:		*ft*
Depth to water (10/19/09):	21.1	*ftbtic*

Date: 10/29/2009 *Time:* *13:15*

* If multilevel well please see attached worksheet.

EPA Region 2 Superfund Well Assessment Checklist

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable) 0 *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL:	0	*% LEL*
O_2:	20.9	*40% Vol.*
CO:	0	*ppm*
H_2S:	0	*ppm*

Do readings indicate unsafe conditions exist? No

Well Condition

Is the concrete pad in good condition?	Yes	
Is the well surface casing in good condition?	Yes	
Is the surface casing vertical?		No
Is there an internal well seal?	Yes	
Has there been physical damage to the well?		No
Does sounding depth match completed depth?	Yes	
Is measuring point marked?	Yes	
Is the well clearly labeled?		No
Flush mount - Is it secure from runoff?	Yes	

Other Comments _____

_____

Recommendations

Well needs to be redeveloped		No
Well needs to be re-surveyed.		No
Well needs to be repaired.		No
Well needs to be replaced.		No
Well needs to be properly abandoned.		No
No action necessary.	Yes	

Comments

Inspected by: Tom Horn

Date of Inspection: 10/29/09

Reviewed by: _____ **(Print)**

_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: 2500068860
Well Tag ID: MW-2RS
Well Installation date: 7/13/07

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	623559	
Easting (State Plane)	468836	

Cross streets (if applicable): NA

GPS Instrument used:
Datum:
Accuracy/Precision:

Well Construction Details

Type of well (Circle one)	Flush Mount	
Well lock\security type:	No lock	
Elevation (top of inner casing):	50.13'	
Surface casing material:	Steel	
Well casing material:	Stainless Steel	
Surface Casing diameter:	4	*inches*
Well Diameter:	8	*inches*
Well Depth (as installed):	33	*ftbgs*
Well Depth (as measured):	32.7	*fttic*
Screened interval:	17-32	*ft*
Open hole interval:	NA	*ft*
Depth to water (10/19/09):	19.95	*ftbtic*

Date: 10/29/2009 *Time:* *11:45*

* If multilevel well please see attached worksheet.

EPA Region 2 Superfund Well Assessment Checklist

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable) 0 *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL:	NA	*% LEL*
O_2:	NA	*40% Vol.*
CO:	NA	*ppm*
H_2S:	NA	*ppm*

Do readings indicate unsafe conditions exist? No

Well Condition

Is the concrete pad in good condition?	Yes	
Is the well surface casing in good condition?	Yes	
Is the surface casing vertical?	NA	
Is there an internal well seal?	Yes	
Has there been physical damage to the well?		No
Does sounding depth match completed depth?		No
Is measuring point marked?		No
Is the well clearly labeled?	Yes	
Flush mount - Is it secure from runoff?	Yes	

Other Comments _____

_____

Recommendations

Well needs to be redeveloped		No
Well needs to be re-surveyed.		No
Well needs to be repaired.		No
Well needs to be replaced.		No
Well needs to be properly abandoned.		No
No action necessary.	Yes	

Comments

Inspected by: S. Martinelli

Date of Inspection: 10/29/09

Reviewed by: _____ **(Print)**

_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: 2500068861
Well Tag ID: MW-2RI
Well Installation date: 8/24/07

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	623567	
Easting (State Plane)	468841	

Cross streets (if applicable): _____

GPS Instrument used: _____
Datum: _____
Accuracy/Precision: _____

Well Construction Details

Type of well (Circle one) Flush Mount Stick up Multilevel Well*
Well lock\security type: No lock on well cap, tight seal on cap _____

Elevation (top of inner casing):	50.04'	
Surface casing material:	Steel	
Well casing material:	Stainless Steel	
Surface Casing diameter:	4	*inches*
Well Diameter:	8	*inches*
Well Depth (as installed):	75	*ftbgs*
Well Depth (as measured):	74.5	*fttic*
Screened interval:	69-74	*ftbgs*
Open hole interval:	NA	*ft*
Depth to water (10/19/09):	20.24	*ftbtic*

Date: 10/29/2009 *Time: 10:40*

* If multilevel well please see attached worksheet.

EPA Region 2 Superfund Well Assessment Checklist

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable) 0 *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL:	NA	*% LEL*
O_2:	NA	*40% Vol.*
CO:	NA	*ppm*
H_2S:	NA	*ppm*

Do readings indicate unsafe conditions exist? No

Well Condition

Is the concrete pad in good condition?	Yes	
Is the well surface casing in good condition?	Yes	
Is the surface casing vertical?	NA	
Is there an internal well seal?	Yes	
Has there been physical damage to the well?		No
Does sounding depth match completed depth?	Yes	
Is measuring point marked?		No
Is the well clearly labeled?	Yes	
Flush mount - Is it secure from runoff?	Yes	

Other Comments _____

_____

Recommendations

Well needs to be redeveloped		No
Well needs to be re-surveyed.		No
Well needs to be repaired.		No
Well needs to be replaced.		No
Well needs to be properly abandoned.		No
No action necessary.	Yes	

Comments

Inspected by: S. Martinelli

Date of Inspection: 10/29/09

Reviewed by: _____ **(Print)**

_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: 2500068862
Well Tag ID: MW-2RD
Well Installation date: 8/22/07

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	623570	
Easting (State Plane)	468852	

Cross streets (if applicable): _____ NA

GPS Instrument used: _____
Datum: _____
Accuracy/Precision: _____

Well Construction Details

Type of well (Circle one)	Flush Mount	
Well lock\security type: _____	Plug w/out lock	
Elevation (top of inner casing): ____	50.14'	
Surface casing material: _____	Steel	
Well casing material: _____	Stainless Steel	
Surface Casing diameter: _____	8	*inches*
Well Diameter: _____	4	*inches*
Well Depth (as installed): _____	200	*ftbgs*
Well Depth (as measured): _____	199.8	*fttic*
Screened interval: _____	188-198	*ft*
Open hole interval: _____	NA	*ft*
Depth to water (10/19/09): _____	20.6	*ftbtic*
Date:	10/29/2009	*Time: 09:35*

* If multilevel well please see attached worksheet.

EPA Region 2 Superfund Well Assessment Checklist

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable) 0 *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL:	NA	*% LEL*
O_2:	NA	*40% Vol.*
CO:	NA	*ppm*
H_2S:	NA	*ppm*

Do readings indicate unsafe conditions exist? No

Well Condition

Is the concrete pad in good condition?	Yes	
Is the well surface casing in good condition?	Yes	
Is the surface casing vertical?		No
Is there an internal well seal?	Yes	
Has there been physical damage to the well?		No
Does sounding depth match completed depth?	Yes	
Is measuring point marked?		No
Is the well clearly labeled?	Yes	
Flush mount - Is it secure from runoff?	Yes	

Other Comments _____

Recommendations

Well needs to be redeveloped		No
Well needs to be re-surveyed.		No
Well needs to be repaired.		No
Well needs to be replaced.		No
Well needs to be properly abandoned.		No
No action necessary.	Yes	

Comments

Inspected by: Sean O'Hare

Date of Inspection: 10/29/09

Reviewed by: _____ **(Print)**

_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: Not Available
Well Tag ID: MW-4D
Well Installation date: 3/16/98

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	624197.12	
Easting (State Plane)	470521.15	

Cross streets (if applicable): _____ NA

GPS Instrument used: _____
Datum: _____
Accuracy/Precision: _____

Well Construction Details

Type of well (Circle one)	Flush Mount	
Well lock\security type: _____	Unkown	
Elevation (top of inner casing): ____	42.66'	
Surface casing material: _____		
Well casing material: _____	PVC	
Surface Casing diameter: _____	2	*inches*
Well Diameter: _____	4	*inches*
Well Depth (as installed): _____	198	*ftbgs*
Well Depth (as measured): _____	unknown	*fttic*
Screened interval: _____	178-198	*ft*
Open hole interval: _____	NA	*ft*
Depth to water: _____	NA	*ftbtic*
Date:	10/30/2009	*Time:* _____

* If multilevel well please see attached worksheet.

EPA Region 2 Superfund Well Assessment Checklist

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable): _____ *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL: _____ *% LEL*
O_2: _____ *40% Vol.*
CO: _____ *ppm*
H_2S: _____ *ppm*

Do readings indicate unsafe conditions exist? Yes No

Well Condition

Is the concrete pad in good condition?	NA
Is the well surface casing in good condition?	NA
Is the surface casing vertical?	NA
Is there an internal well seal?	NA
Has there been physical damage to the well?	YES
Does sounding depth match completed depth?	NA
Is measuring point marked?	NA
Is the well clearly labeled?	NA
Flush mount - Is it secure from runoff?	NA

Other Comments Well covered by debris/stone - could not locate_____

Recommendations

Well needs to be redeveloped	
Well needs to be re-surveyed.	
Well needs to be repaired.	
Well needs to be replaced.	
Well needs to be properly abandoned.	Yes
No action necessary.	

Comments

well covered by debris/stone - could not locate

Inspected by: S. Martinelli
Date of Inspection: 10/30/2009
Reviewed by: _____ **(Print)**
_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: Data Not Available
Well Tag ID: MW-5S
Well Installation date: 3/16/98

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	623223.85	
Easting (State Plane)	469918.66	

Cross streets (if applicable): NA

GPS Instrument used:
Datum:
Accuracy/Precision:

Well Construction Details

Type of well (Circle one)	Flush Mount	
Well lock\security type: No lock	No lock	
Elevation (top of inner casing):	39.81'	
Surface casing material:	Steel	
Well casing material:	PVC	
Surface Casing diameter:	4	*inches*
Well Diameter:	2	*inches*
Well Depth (as installed):	24.5	*ftbgs*
Well Depth (as measured):	24.1	*fttic*
Screened interval:	14-24	*ft*
Open hole interval:	NA	*ft*
Depth to water (10/19/09):	11.13	*ftbtic*

Date: 10/30/2009 *Time: 09:25*

* If multilevel well please see attached worksheet.

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable) 0 *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL: _____ *% LEL*
O_2: _____ *40% Vol.*
CO: _____ *ppm*
H_2S: _____ *ppm*

Do readings indicate unsafe conditions exist? No

Well Condition

Is the concrete pad in good condition?	Yes	
Is the well surface casing in good condition?	Yes	
Is the surface casing vertical?	N/A	
Is there an internal well seal?	Yes	
Has there been physical damage to the well?		No
Does sounding depth match completed depth?	Yes	
Is measuring point marked?	Yes	
Is the well clearly labeled?	Yes	
Flush mount - Is it secure from runoff?	Yes	

Other Comments _____
_____

Recommendations

Well needs to be redeveloped		No
Well needs to be re-surveyed.		No
Well needs to be repaired.		No
Well needs to be replaced.		No
Well needs to be properly abandoned.		No
No action necessary.	Yes	No

Comments

Inspected by: S. Martinelli _____
Date of Inspection:10/30/09 _____
Reviewed by: _____ **(Print)**
_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: Data Not Available
Well Tag ID: MW-5I
Well Installation date: 2/24/98

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	623229.01	
Easting (State Plane)	469920.92	

Cross streets (if applicable): _____

GPS Instrument used: _____
Datum: _____
Accuracy/Precision: _____

Well Construction Details

Type of well (Circle one)	Flush Mount	
Well lock\security type: Lock on well cap		
Elevation (top of inner casing): ____	40.40'	
Surface casing material:	Steel	
Well casing material:	PVC	
Surface Casing diameter: _____	4	*inches*
Well Diameter: _____	2	*inches*
Well Depth (as installed): _____	56	*ftbgs*
Well Depth (as measured): _____	55.82	*fttic*
Screened interval: _____	45-55	*ft*
Open hole interval: _____	NA	*ft*
Depth to water (10/19/09): _____	11.89	*ftbtoc*

Date: 10/30/2009 *Time:* 0930

* If multilevel well please see attached worksheet.

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable) 0 *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL: _____ *% LEL*
O_2: _____ *40% Vol.*
CO: _____ *ppm*
H_2S: _____ *ppm*

Do readings indicate unsafe conditions exist? No

Well Condition

Is the concrete pad in good condition?	Yes	
Is the well surface casing in good condition?	Yes	
Is the surface casing vertical?	N/A	
Is there an internal well seal?	Yes	
Has there been physical damage to the well?		No
Does sounding depth match completed depth?	Yes	
Is measuring point marked?	Yes	
Is the well clearly labeled?	Yes	
Flush mount - Is it secure from runoff?	Yes	

Other Comments _____
_____

Recommendations

Well needs to be redeveloped		No
Well needs to be re-surveyed.		No
Well needs to be repaired.		No
Well needs to be replaced.		No
Well needs to be properly abandoned.		No
No action necessary.	Yes	

Comments

Inspected by: S. Martinelli
Date of Inspection: 10/30/2009
Reviewed by: _____ **(Print)**
_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: Not Available
Well Tag ID: MW-6S
Well Installation date: 3/16/98

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	623105.06	
Easting (State Plane)	469822.15	

Cross streets (if applicable): _____

GPS Instrument used: _____
Datum: _____
Accuracy/Precision: _____

Well Construction Details

Type of well (Circle one)	Flush Mount	
Well lock\security type:	Lock on well	
Elevation (top of inner casing):	40.50'	
Surface casing material:	Steel	
Well casing material:	PVC	
Surface Casing diameter:	2	*inches*
Well Diameter:	4	*inches*
Well Depth (as installed):	22.6	*ftbgs*
Well Depth (as measured):	21.86	*fttic*
Screened interval:	14-24	*ft*
Open hole interval:	NA	*ft*
Depth to water (10/19/09):	12.04	*ftbtic*

Date: 10/30/2009 *Time: 08:30*

* If multilevel well please see attached worksheet.

EPA Region 2 Superfund Well Assessment Checklist

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable) 0 *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL: _____ *% LEL*
O_2: _____ *40% Vol.*
CO: _____ *ppm*
H_2S: _____ *ppm*

Do readings indicate unsafe conditions exist? No

Well Condition

Is the concrete pad in good condition?	Yes
Is the well surface casing in good condition?	Yes
Is the surface casing vertical?	NA
Is there an internal well seal?	Yes
Has there been physical damage to the well?	Yes
Does sounding depth match completed depth?	Yes
Is measuring point marked?	Yes
Is the well clearly labeled?	Yes
Flush mount - Is it secure from runoff?	Yes

Other Comments _____

Recommendations

Well needs to be redeveloped		No
Well needs to be re-surveyed.		No
Well needs to be repaired.		No
Well needs to be replaced.		No
Well needs to be properly abandoned.		No
No action necessary.	Yes	

Comments

Inspected by: S. Martinelli
Date of Inspection: 10/30/2009
Reviewed by: _____ **(Print)**
_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: Not Available
Well Tag ID: MW-7S
Well Installation date: 3/10/98

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	622979.63	
Easting (State Plane)	469720.11	

Cross streets (if applicable): _____

GPS Instrument used: _____
Datum: _____
Accuracy/Precision: _____

Well Construction Details

Type of well (Circle one)	Flush Mount	
Well lock\security type:	Lock on well cap	
Elevation (top of inner casing):	40.72'	
Surface casing material:	Steel	
Well casing material:	PVC	
Surface Casing diameter:	4	*inches*
Well Diameter:	2	*inches*
Well Depth (as installed):	25.3	*ftbgs*
Well Depth (as measured):	24.9	*fttic*
Screened interval:	14.5-24.5	*ft*
Open hole interval:	NA	*ft*
Depth to water (10/19/09):	12.37	*ftbtic*

Date: 10/30/2009 *Time: 11:03*

* If multilevel well please see attached worksheet.

EPA Region 2 Superfund Well Assessment Checklist

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable) 0 *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL: _____ *% LEL*
O_2: _____ *40% Vol.*
CO: _____ *ppm*
H_2S: _____ *ppm*

Do readings indicate unsafe conditions exist? No

Well Condition

Is the concrete pad in good condition?	Yes	
Is the well surface casing in good condition?	Yes	
Is the surface casing vertical?	N/A	
Is there an internal well seal?	Yes	
Has there been physical damage to the well?		No
Does sounding depth match completed depth?	Yes	
Is measuring point marked?	Yes	
Is the well clearly labeled?		No
Flush mount - Is it secure from runoff?	Yes	

Other Comments _____

_____

Recommendations

Well needs to be redeveloped		No
Well needs to be re-surveyed.		No
Well needs to be repaired.		No
Well needs to be replaced.		No
Well needs to be properly abandoned.		No
No action necessary.	Yes	

Comments

Inspected by: S. Martinelli
Date of Inspection: 10/30/09
Reviewed by: _____ **(Print)**
_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: Not Available
Well Tag ID: MW-8I
Well Installation date: 3/11/98

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	622563.37	
Easting (State Plane)	469379.19	

Cross streets (if applicable): _____

GPS Instrument used: _____
Datum: _____
Accuracy/Precision: _____

Well Construction Details

Type of well (Circle one) Flush Mount
Well lock\security type: No lock
Elevation (top of inner casing): 41.62 '
Surface casing material: Steel
Well casing material: PVC

Surface Casing diameter:	4	*inches*
Well Diameter:	2	*inches*
Well Depth (as installed):	55	*ftbgs*
Well Depth (as measured):	54.51	*fttic*
Screened interval:	45-55	*ft*
Open hole interval:	NA	*ft*
Depth to water (10/19/09):	14.01	*ftbtic*

Date: 10/30/2009 *Time: 10:20*

* If multilevel well please see attached worksheet.

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable) 0 *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL: _____ *% LEL*
O_2: _____ *40% Vol.*
CO: _____ *ppm*
H_2S: _____ *ppm*

Do readings indicate unsafe conditions exist? No

Well Condition

Is the concrete pad in good condition?	Yes	
Is the well surface casing in good condition?	Yes	
Is the surface casing vertical?	NA	
Is there an internal well seal?	Yes	
Has there been physical damage to the well?		No
Does sounding depth match completed depth?	Yes	
Is measuring point marked?	Yes	
Is the well clearly labeled?	Yes	
Flush mount - Is it secure from runoff?	Yes	

Other Comments _____

_____

Recommendations

Well needs to be redeveloped		No
Well needs to be re-surveyed.		No
Well needs to be repaired.		No
Well needs to be replaced.		No
Well needs to be properly abandoned.		No
No action necessary.	Yes	No

Comments

Inspected by: S. Martinelli
Date of Inspection: 10/30/09
Reviewed by: _____ **(Print)**
_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: Not Available
Well Tag ID: MW-8D
Well Installation date: 3/11/98

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	622557.79	
Easting (State Plane)	469375.48	

Cross streets (if applicable):

GPS Instrument used:
Datum:
Accuracy/Precision:

Well Construction Details

Type of well (Circle one)	Flush Mount	
Well lock\security type:	lock on well cap	
Elevation (top of inner casing):	41.76'	
Surface casing material:	Steel	
Well casing material:	PVC	
Surface Casing diameter:	4	*inches*
Well Diameter:	2	*inches*
Well Depth (as installed):	198	*ftbgs*
Well Depth (as measured):	197.73	*fttic*
Screened interval:	178-198	*ft*
Open hole interval:	NA	*ft*
Depth to water (10/19/09):	12.47	*ftbtic*

Date: 10/30/2009 *Time: 10:15*

* If multilevel well please see attached worksheet.

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable) 0 *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL: _____ *% LEL*
O_2: _____ *40% Vol.*
CO: _____ *ppm*
H_2S: _____ *ppm*

Do readings indicate unsafe conditions exist? No

Well Condition

Is the concrete pad in good condition?	Yes	
Is the well surface casing in good condition?	Yes	
Is the surface casing vertical?	NA	
Is there an internal well seal?	Yes	
Has there been physical damage to the well?	Yes	
Does sounding depth match completed depth?	Yes	
Is measuring point marked?		No
Is the well clearly labeled?	Yes	
Flush mount - Is it secure from runoff?	Yes	

Other Comments _____

_____

Recommendations

Well needs to be redeveloped		No
Well needs to be re-surveyed.		No
Well needs to be repaired.		No
Well needs to be replaced.		No
Well needs to be properly abandoned.		No
No action necessary.	Yes	

Comments

Inspected by: S. Martinelli
Date of Inspection: 10/30/2009
Reviewed by: _____ **(Print)**
_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: Not Available
Well Tag ID: MW-9S
Well Installation date: 3/13/98

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	623079.69	
Easting (State Plane)	469545.75	

Cross streets (if applicable): along East Camplain Road

GPS Instrument used: _____
Datum: _____
Accuracy/Precision: _____

Well Construction Details

Type of well (Circle one)	Flush Mount	
Well lock\security type:	lock on well cap	
Elevation (top of inner casing):	44.63	
Surface casing material:	Steel	
Well casing material:	PVC	
Surface Casing diameter: _____	4	*inches*
Well Diameter: _____	2	*inches*
Well Depth (as installed): _____	28	*ftbgs*
Well Depth (as measured): _____	27.78	*fttic*
Screened interval: _____	18-28	*ft*
Open hole interval: _____	NA	*ft*
Depth to water (10/19/09): _____	15.61	*ftbtic*

Date: 10/30/2009 *Time:* *09:40*

* If multilevel well please see attached worksheet.

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable) 0 *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL: _____ *% LEL*
O_2: _____ *40% Vol.*
CO: _____ *ppm*
H_2S: _____ *ppm*

Do readings indicate unsafe conditions exist? No

Well Condition

Is the concrete pad in good condition?	Yes	
Is the well surface casing in good condition?	Yes	
Is the surface casing vertical?	NA	
Is there an internal well seal?	Yes	
Has there been physical damage to the well?		No
Does sounding depth match completed depth?	Yes	
Is measuring point marked?	Yes	
Is the well clearly labeled?	Yes	
Flush mount - Is it secure from runoff?	Yes	

Other Comments _____
_____

Recommendations

Well needs to be redeveloped		No
Well needs to be re-surveyed.		No
Well needs to be repaired.		No
Well needs to be replaced.		No
Well needs to be properly abandoned.		No
No action necessary.	Yes	

Comments

Inspected by: S. Martinelli
Date of Inspection: 10/30/2009
Reviewed by: _____ **(Print)**
_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: Not available
Well Tag ID: MW-10S
Well Installation date: 3/2/98

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	623215.28	
Easting (State Plane)	469670.35	

Cross streets (if applicable): Along East Camplain Road

GPS Instrument used: _____
Datum: _____
Accuracy/Precision: _____

Well Construction Details

Type of well (Circle one)	Flush Mount	
Well lock\security type:	Lock on cap	
Elevation (top of inner casing):	43.02'	
Surface casing material:	Steel	
Well casing material:	PVC	
Surface Casing diameter:	4	*inches*
Well Diameter:	2	*inches*
Well Depth (as installed):	24.5	*ftbgs*
Well Depth (as measured):	23.91	*fttic*
Screened interval:	14-24	*ft*
Open hole interval:	NA	*ft*
Depth to water (10/19/09):	14.01	*ftbtic*

Date: 10/30/2009 *Time: 09:30*

* If multilevel well please see attached worksheet.

EPA Region 2 Superfund Well Assessment Checklist

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable) 0 *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL: _____ *% LEL*
O_2: _____ *40% Vol.*
CO: _____ *ppm*
H_2S: _____ *ppm*

Do readings indicate unsafe conditions exist? No

Well Condition

Is the concrete pad in good condition?	Yes	
Is the well surface casing in good condition?	Yes	
Is the surface casing vertical?	N/A	
Is there an internal well seal?	Yes	
Has there been physical damage to the well?		No
Does sounding depth match completed depth?	Yes	
Is measuring point marked?		No
Is the well clearly labeled?	Yes	
Flush mount - Is it secure from runoff?	Yes	

Other Comments _____

_____

Recommendations

Well needs to be redeveloped		No
Well needs to be re-surveyed.		No
Well needs to be repaired.		No
Well needs to be replaced.		No
Well needs to be properly abandoned.		No
No action necessary.	Yes	No

Comments

Inspected by: S. Martinelli
Date of Inspection: 10/30/09
Reviewed by: _____ **(Print)**
_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: Not Available
Well Tag ID: MW-10I
Well Installation date: 3/13/98

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	623216.52	
Easting (State Plane)	469671.34	

Cross streets (if applicable): _____ along East Camplain Road

GPS Instrument used: _____
Datum: _____
Accuracy/Precision: _____

Well Construction Details

Type of well (Circle one)	Flush Mount	
Well lock\security type: _____	No lock	
Elevation (top of inner casing): ____	43.04'	
Surface casing material: _____	Steel	
Well casing material: _____	PVC	
Surface Casing diameter: _____	4	*inches*
Well Diameter: _____	2	*inches*
Well Depth (as installed): _____	50	*ftbgs*
Well Depth (as measured): _____	49.73	*fttic*
Screened interval: _____	40-50	*ft*
Open hole interval: _____	NA	*ft*
Depth to water (10/19/09): _____	14.25	*ftbtic*

Date: 10/30/2009 *Time: 09:35* _____

* If multilevel well please see attached worksheet.

EPA Region 2 Superfund Well Assessment Checklist

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable) 0 *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL: _____ *% LEL*
O_2: _____ *40% Vol.*
CO: _____ *ppm*
H_2S: _____ *ppm*

Do readings indicate unsafe conditions exist? No

Well Condition

Is the concrete pad in good condition?	Yes	
Is the well surface casing in good condition?	Yes	
Is the surface casing vertical?	N/A	
Is there an internal well seal?	Yes	
Has there been physical damage to the well?		No
Does sounding depth match completed depth?	Yes	
Is measuring point marked?	Yes	
Is the well clearly labeled?	Yes	
Flush mount - Is it secure from runoff?	Yes	

Other Comments _____

_____

Recommendations

Well needs to be redeveloped		No
Well needs to be re-surveyed.		No
Well needs to be repaired.		No
Well needs to be replaced.		No
Well needs to be properly abandoned.		No
No action necessary.	Yes	

Comments

Inspected by: S. Martinelli
Date of Inspection: 10/30/09
Reviewed by: _____ **(Print)**
_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: 2500068853
Well Tag ID: MW-12RS
Well Installation date: 7/17/07

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	623365	
Easting (State Plane)	468877	

Cross streets (if applicable): Corner of Valerie Drive and Claire Court

GPS Instrument used: _____
Datum: _____
Accuracy/Precision: _____

Well Construction Details

Type of well (Circle one)	Flush Mount	
Well lock\security type:	No lock on well cover	
Elevation (top of inner casing):	47.23'	
Surface casing material:	Steel	
Well casing material:	Metal	
Surface Casing diameter:	4	*inches*
Well Diameter:	8	*inches*
Well Depth (as installed):	31.5	*fttic*
Well Depth (as measured):	31.1	*fttic*
Screened interval:	15.5-30.5	*ft*
Open hole interval:	NA	*ft*
Depth to water (10/19/09):	17.41	*ftbtic*

Date: 10/26/2009 *Time: 10:15*

* If multilevel well please see attached worksheet.

EPA Region 2 Superfund Well Assessment Checklist

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable) 0 *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL:	NA	*% LEL*
O_2:	NA	*40% Vol.*
CO:	NA	*ppm*
H_2S:	NA	*ppm*

Do readings indicate unsafe conditions exist? No

Well Condition

Is the concrete pad in good condition?	Yes	
Is the well surface casing in good condition?	Yes	
Is the surface casing vertical?	N/A	
Is there an internal well seal?	Yes	
Has there been physical damage to the well?		No
Does sounding depth match completed depth?	Yes	
Is measuring point marked?		No
Is the well clearly labeled?	Yes	
Flush mount - Is it secure from runoff?	Yes	

Other Comments _____

Recommendations

Well needs to be redeveloped		No
Well needs to be re-surveyed.		No
Well needs to be repaired.		No
Well needs to be replaced.		No
Well needs to be properly abandoned.		No
No action necessary.	Yes	

Comments

Needs lock

Inspected by: S. Martinelli

Date of Inspection: 10/26/2009

Reviewed by: _____ **(Print)**

_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: 25-53648
Well Tag ID: MW-103S
Well Installation date: 1/13/99

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	623310.71	
Easting (State Plane)	469353.02	

Cross streets (if applicable): _____ on Louise Drive

GPS Instrument used: _____
Datum: _____
Accuracy/Precision: _____

Well Construction Details

Type of well (Circle one)	Flush Mount	
Well lock\security type:	Plug w/lock	
Elevation (top of inner casing):	49.74'	
Surface casing material:	Steel	
Well casing material:	Stainless Steel	
Surface Casing diameter:	8	*inches*
Well Diameter:	4	*inches*
Well Depth (as installed):	33.5	*ftbgs*
Well Depth (as measured):	32.4	*fttic*
Screened interval:	17.4-32.4	*ft*
Open hole interval:	NA	*ft*
Depth to water (10/19/09):	20.45	*ftbtic*

Date: 10/26/2009 *Time: 10:35*

* If multilevel well please see attached worksheet.

EPA Region 2 Superfund Well Assessment Checklist

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable) 0 *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL:	NA	*% LEL*
O_2:	NA	*40% Vol.*
CO:	NA	*ppm*
H_2S:	NA	*ppm*

Do readings indicate unsafe conditions exist? No

Well Condition

Is the concrete pad in good condition?	Yes	
Is the well surface casing in good condition?	Yes	
Is the surface casing vertical?		No
Is there an internal well seal?	Yes	
Has there been physical damage to the well?		No
Does sounding depth match completed depth?	Yes	
Is measuring point marked?		No
Is the well clearly labeled?	Yes	
Flush mount - Is it secure from runoff?	Yes	

Other Comments _____

Recommendations

Well needs to be redeveloped		No
Well needs to be re-surveyed.		No
Well needs to be repaired.		No
Well needs to be replaced.		No
Well needs to be properly abandoned.		No
No action necessary.	Yes	

Comments

Inspected by: Sean O'Hare

Date of Inspection: 10/26/09

Reviewed by: _____ **(Print)**

_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: 2500068858
Well Tag ID: MW-104RS
Well Installation date: 7/11/07

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	623712	
Easting (State Plane)	469239	

Cross streets (if applicable): _____ NA

GPS Instrument used: _____
Datum: _____
Accuracy/Precision: _____

Well Construction Details

Type of well (Circle one)	Flush Mount	
Well lock\security type:	Internal plug w/out lock	
Elevation (top of inner casing):	47.75'	
Surface casing material:	Steel	
Well casing material:	Stainless Steel	
Surface Casing diameter:	8	*inches*
Well Diameter:	4	*inches*
Well Depth (as installed):	31.5	*ftbgs*
Well Depth (as measured):	30.55	*fttic*
Screened interval:	15.5-30.5	*ft*
Open hole interval:	NA	*ft*
Depth to water (10/19/09):	18.05	*ftbtic*

Date: 10/29/2009 *Time: 12:40*

* If multilevel well please see attached worksheet.

EPA Region 2 Superfund Well Assessment Checklist

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable): _____ *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL: _____ *% LEL*
O_2: _____ *40% Vol.*
CO: _____ *ppm*
H_2S: _____ *ppm*

Do readings indicate unsafe conditions exist? Yes No

Well Condition

Is the concrete pad in good condition?	Yes	
Is the well surface casing in good condition?	Yes	
Is the surface casing vertical?		No
Is there an internal well seal?	Yes	
Has there been physical damage to the well?		No
Does sounding depth match completed depth?	Yes	
Is measuring point marked?		No
Is the well clearly labeled?	Yes	
Flush mount - Is it secure from runoff?	Yes	

Other Comments _____

_____

Recommendations

Well needs to be redeveloped		No
Well needs to be re-surveyed.		No
Well needs to be repaired.		No
Well needs to be replaced.		No
Well needs to be properly abandoned.		No
No action necessary.	Yes	

Comments

Inspected by: Sean O'Hare
Date of Inspection: 10/29/2009
Reviewed by: _____ **(Print)**
_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: 25-53654
Well Tag ID: MW-105S
Well Installation date: 2/3/99

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	623848.42	
Easting (State Plane)	469586.31	

Cross streets (if applicable): _____

GPS Instrument used: _____
Datum: _____
Accuracy/Precision: _____

Well Construction Details

Type of well (Circle one) Flush Mount
Well lock\security type: _____
Elevation (top of inner casing): 46.64
Surface casing material: Steel
Well casing material: Stainless Steel
Surface Casing diameter: 8 *inches*
Well Diameter: 4 *inches*
Well Depth (as installed): 33 *ftbgs*
Well Depth (as measured): _____ *fttic*
Screened interval: 14.5-31.3 *ft*
Open hole interval: _____ *ft*
Depth to water: NA *ftbtic*
Date: 10/30/2009 *Time: 13:00*

* If multilevel well please see attached worksheet.

EPA Region 2 Superfund Well Assessment Checklist

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable): _____ *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL: _____ *% LEL*
O_2: _____ *40% Vol.*
CO: _____ *ppm*
H_2S: _____ *ppm*

Do readings indicate unsafe conditions exist? Yes No

Well Condition

Is the concrete pad in good condition?	NA
Is the well surface casing in good condition?	NA
Is the surface casing vertical?	NA
Is there an internal well seal?	NA
Has there been physical damage to the well?	YES
Does sounding depth match completed depth?	NA
Is measuring point marked?	NA
Is the well clearly labeled?	NA
Flush mount - Is it secure from runoff?	NA

Other Comments _____
_____

Recommendations

Well needs to be redeveloped	
Well needs to be re-surveyed.	
Well needs to be repaired.	
Well needs to be replaced.	
Well needs to be properly abandoned.	Yes
No action necessary.	

Comments

Well needs to be uncovered
Well was covered with stone/debris

Inspected by: Ed Kulkusky
Date of Inspection: 10/30/09
Reviewed by: _____ **(Print)**
_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: 25-53789
Well Tag ID: MW-105I
Well Installation date: 6/16/99

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	623844.98	
Easting (State Plane)	469567.56	

Cross streets (if applicable): _____

GPS Instrument used: _____
Datum: _____
Accuracy/Precision: _____

Well Construction Details

Type of well (Circle one)	Flush Mount	
Well lock\security type:		
Elevation (top of inner casing):	46.27	
Surface casing material:	Steel	
Well casing material:	Stainless Steel	
Surface Casing diameter:	4	*inches*
Well Diameter:	8	*inches*
Well Depth (as installed):	73	*ftbgs*
Well Depth (as measured):		*fttic*
Screened interval:	62-72	*ft*
Open hole interval:	NA	*ft*
Depth to water:	NA	*ftbtic*

Date: 10/30/2009 *Time:* *12:55*

* If multilevel well please see attached worksheet.

EPA Region 2 Superfund Well Assessment Checklist

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable): _____ *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL: _____ *% LEL*
O_2: _____ *40% Vol.*
CO: _____ *ppm*
H_2S: _____ *ppm*

Do readings indicate unsafe conditions exist? Yes No

Well Condition

Is the concrete pad in good condition?	NA
Is the well surface casing in good condition?	NA
Is the surface casing vertical?	NA
Is there an internal well seal?	NA
Has there been physical damage to the well?	YES
Does sounding depth match completed depth?	NA
Is measuring point marked?	NA
Is the well clearly labeled?	NA
Flush mount - Is it secure from runoff?	NA

Other Comments _____

_____

Recommendations

Well needs to be redeveloped	
Well needs to be re-surveyed.	
Well needs to be repaired.	
Well needs to be replaced.	
Well needs to be properly abandoned.	Yes
No action necessary.	

Comments

Well needs to be uncovered
Well was covered with stone/debris

Inspected by: Sean O'Hare
Date of Inspection: 10/30/09
Reviewed by: _____ **(Print)**
_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: 25-53790
Well Tag ID:MW-105D
Well Installation date: 6/16/99

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	623852.91	
Easting (State Plane)	469598.54	

Cross streets (if applicable): _____

GPS Instrument used: _____
Datum: _____
Accuracy/Precision: _____

Well Construction Details

Type of well (Circle one)	Flush Mount	
Well lock\security type:		
Elevation (top of inner casing):	46.36'	
Surface casing material:	Steel	
Well casing material:	Stainless Steel	
Surface Casing diameter:	8	*inches*
Well Diameter:	4	*inches*
Well Depth (as installed):	200	*ftbgs*
Well Depth (as measured):		*fttic*
Screened interval:	147.8-157.8	*ft*
Open hole interval:	NA	*ft*
Depth to water:	NA	*ftbtic*

Date: 10/30/2009 *Time: 12:50*

* If multilevel well please see attached worksheet.

EPA Region 2 Superfund Well Assessment Checklist

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable): _____ *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL: _____ *% LEL*
O_2: _____ *40% Vol.*
CO: _____ *ppm*
H_2S: _____ *ppm*

Do readings indicate unsafe conditions exist? Yes No

Well Condition

Is the concrete pad in good condition?	NA
Is the well surface casing in good condition?	NA
Is the surface casing vertical?	NA
Is there an internal well seal?	NA
Has there been physical damage to the well?	YES
Does sounding depth match completed depth?	NA
Is measuring point marked?	NA
Is the well clearly labeled?	NA
Flush mount - Is it secure from runoff?	NA

Other Comments _____

_____

Recommendations

Well needs to be redeveloped	
Well needs to be re-surveyed.	
Well needs to be repaired.	
Well needs to be replaced.	
Well needs to be properly abandoned.	Yes
No action necessary.	

Comments

Well was covered w/ debris
Well needs to be uncovered

Inspected by: Ed Kulkusky
Date of Inspection: 10/30/09
Reviewed by: _____ **(Print)**
_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: 25-53695
Well Tag ID: MW-106S
Well Installation date: 1/26/99

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	623420.62	
Easting (State Plane)	469732.66	

Cross streets (if applicable): Near corner of Louise Drive and East Camplain Road

GPS Instrument used: _____
Datum: _____
Accuracy/Precision: _____

Well Construction Details

Type of well (Circle one)	Flush Mount	
Well lock\security type:	Lock on cap	
Elevation (top of inner casing):	46.97'	
Surface casing material:	Steel	
Well casing material:	Stainless Steel	
Surface Casing diameter:	8	*inches*
Well Diameter:	4	*inches*
Well Depth (as installed):	31.5	*ftbgs*
Well Depth (as measured):	29.96	*fttic*
Screened interval:	14.9-29.9	*ft*
Open hole interval:	NA	*ft*
Depth to water (10/19/09):	17.93	*ftbtic*

Date: 10/30/2009 *Time: 12:00*

* If multilevel well please see attached worksheet.

EPA Region 2 Superfund Well Assessment Checklist

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable) 0 *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL: _____ *% LEL*
O_2: _____ *40% Vol.*
CO: _____ *ppm*
H_2S: _____ *ppm*

Do readings indicate unsafe conditions exist? No

Well Condition

Is the concrete pad in good condition?	Yes	
Is the well surface casing in good condition?	Yes	
Is the surface casing vertical?		No
Is there an internal well seal?	Yes	
Has there been physical damage to the well?		No
Does sounding depth match completed depth?	Yes	
Is measuring point marked?	Yes	
Is the well clearly labeled?	Yes	
Flush mount - Is it secure from runoff?	Yes	

Other Comments _____

Recommendations

Well needs to be redeveloped		No
Well needs to be re-surveyed.		No
Well needs to be repaired.		No
Well needs to be replaced.		No
Well needs to be properly abandoned.		No
No action necessary.	Yes	

Comments

Inspected by: S. Martinelli
Date of Inspection: 10/30/09
Reviewed by: MW-106S **(Print)**
_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: 25-53655
Well Tag ID: MW-107S
Well Installation date: 2/9/99

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	624046.57	
Easting (State Plane)	470250.56	

Cross streets (if applicable): NA

GPS Instrument used: _____
Datum: _____
Accuracy/Precision: _____

Well Construction Details

Type of well (Circle one)	Flush Mount	
Well lock\security type:	No lock on cap	
Elevation (top of inner casing):	52.97'	
Surface casing material:	Steel	
Well casing material:	Stainless Steel	
Surface Casing diameter:	8	*inches*
Well Diameter:	4	*inches*
Well Depth (as installed):	37.5	*ftbgs*
Well Depth (as measured):	36.91	*fttic*
Screened interval:	21.3-36.3	*ft*
Open hole interval:	NA	*ft*
Depth to water (10/19/09):	23.87	*ftbtic*

Date: 10/30/2009 *Time: 12:40*

* If multilevel well please see attached worksheet.

EPA Region 2 Superfund Well Assessment Checklist

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable) 0 *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL: _____ *% LEL*
O_2: _____ *40% Vol.*
CO: _____ *ppm*
H_2S: _____ *ppm*

Do readings indicate unsafe conditions exist? No

Well Condition

Is the concrete pad in good condition?	Yes	
Is the well surface casing in good condition?	Yes	
Is the surface casing vertical?	N/A	
Is there an internal well seal?	Yes	
Has there been physical damage to the well?		No
Does sounding depth match completed depth?	Yes	
Is measuring point marked?	Yes	
Is the well clearly labeled?	Yes	
Flush mount - Is it secure from runoff?	Yes	

Other Comments _____

_____

Recommendations

Well needs to be redeveloped		No
Well needs to be re-surveyed.		No
Well needs to be repaired.		No
Well needs to be replaced.		No
Well needs to be properly abandoned.		No
No action necessary.	Yes	

Comments

Inspected by: S. Martinelli
Date of Inspection: 10/30/09
Reviewed by: _____ **(Print)**
_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: 25-53656
Well Tag ID: MW-108S
Well Installation date: 2/4/99

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	623558.13	
Easting (State Plane)	470179.06	

Cross streets (if applicable): _____ NA

GPS Instrument used: _____
Datum: _____
Accuracy/Precision: _____

Well Construction Details

Type of well (Circle one)	Flush Mount	
Well lock\security type: _____	Lock on cap	
Elevation (top of inner casing): ____	40.90'	
Surface casing material: _____	Steel	
Well casing material: _____	Stainless Steel	
Surface Casing diameter: _____	8	*inches*
Well Diameter: _____	4	*inches*
Well Depth (as installed): _____	25.5	*ftbgs*
Well Depth (as measured): _____	24.86	*fttic*
Screened interval: _____	13.9-23.9	*ft*
Open hole interval: _____	NA	*ft*
Depth to water (10/19/09): _____	12.05	*ftbtic*

Date: 10/30/2009 *Time: 10:05*

* If multilevel well please see attached worksheet.

EPA Region 2 Superfund Well Assessment Checklist

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable) 0 *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL: _____ *% LEL*
O_2: _____ *40% Vol.*
CO: _____ *ppm*
H_2S: _____ *ppm*

Do readings indicate unsafe conditions exist? No

Well Condition

Is the concrete pad in good condition?	Yes	
Is the well surface casing in good condition?	Yes	
Is the surface casing vertical?	Yes	
Is there an internal well seal?	Yes	
Has there been physical damage to the well?		No
Does sounding depth match completed depth?	Yes	
Is measuring point marked?	Yes	
Is the well clearly labeled?	Yes	
Flush mount - Is it secure from runoff?	Yes	

Other Comments _____

_____

Recommendations

Well needs to be redeveloped		No
Well needs to be re-surveyed.		No
Well needs to be repaired.		No
Well needs to be replaced.		No
Well needs to be properly abandoned.		No
No action necessary.	Yes	

Comments

Inspected by: S. Martinelli
Date of Inspection: 10/30/2009
Reviewed by: _____ **(Print)**
_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: 25-53646
Well Tag ID: MW-109S
Well Installation date: 1/20/99

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	622667.03	
Easting (State Plane)	469203.71	

Cross streets (if applicable): _____ Along East Camplain East of Louise Drive

GPS Instrument used: _____
Datum: _____
Accuracy/Precision: _____

Well Construction Details

Type of well (Circle one)	Flush Mount	
Well lock\security type: _____	Lock on cap	
Elevation (top of inner casing): ____	49.01'	
Surface casing material: _____	Steel	
Well casing material: _____	Stainless Steel	
Surface Casing diameter: _____	8	*inches*
Well Diameter: _____	4	*inches*
Well Depth (as installed): _____	33	*ftbgs*
Well Depth (as measured): _____	32.78	*fttic*
Screened interval: _____	14.5-32.5	*ft*
Open hole interval: _____	NA	*ft*
Depth to water (10/19/09): _____	20.45	*ftbtic*
Date:	10/30/2009	*Time: 10:10*

* If multilevel well please see attached worksheet.

EPA Region 2 Superfund Well Assessment Checklist

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable) 0 *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL: _____ *% LEL*
O_2: _____ *40% Vol.*
CO: _____ *ppm*
H_2S: _____ *ppm*

Do readings indicate unsafe conditions exist? No

Well Condition

Is the concrete pad in good condition?	Yes	
Is the well surface casing in good condition?	Yes	
Is the surface casing vertical?	N/A	
Is there an internal well seal?	Yes	
Has there been physical damage to the well?		No
Does sounding depth match completed depth?	Yes	
Is measuring point marked?	Yes	
Is the well clearly labeled?	Yes	
Flush mount - Is it secure from runoff?	Yes	

Other Comments _____

_____

Recommendations

Well needs to be redeveloped		No
Well needs to be re-surveyed.		No
Well needs to be repaired.		No
Well needs to be replaced.		No
Well needs to be properly abandoned.		No
No action necessary.	Yes	

Comments

Inspected by: S. Martinelli
Date of Inspection: 10/30/2009
Reviewed by: _____ **(Print)**
_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: 25-53647
Well Tag ID: MW-110S
Well Installation date: 1/21/99

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	622980.82	
Easting (State Plane)	469215.72	

Cross streets (if applicable): _____ Florence Court (culdesac)

GPS Instrument used: _____
Datum: _____
Accuracy/Precision: _____

Well Construction Details

Type of well (Circle one)	Flush Mount	
Well lock\security type: _____	Plug w/lock	
Elevation (top of inner casing): ____	49.16	
Surface casing material: _____	Steel	
Well casing material: _____	Stainless Steel	
Surface Casing diameter: _____	8	*inches*
Well Diameter: _____	4	*inches*
Well Depth (as installed): _____	33	*ftbgs*
Well Depth (as measured): _____	30.98	*fttic*
Screened interval: _____	16.7-31.7	*ft*
Open hole interval: _____		*ft*
Depth to water (10/19/09): _____	19.98	*ftbtic*
Date:	10/28/2009	*Time: 10:15*

* If multilevel well please see attached worksheet.

EPA Region 2 Superfund Well Assessment Checklist

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable) 0 *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL:	NA	*% LEL*
O_2:	NA	*40% Vol.*
CO:	NA	*ppm*
H_2S:	NA	*ppm*

Do readings indicate unsafe conditions exist? No

Well Condition

Is the concrete pad in good condition?	Yes	
Is the well surface casing in good condition?	Yes	
Is the surface casing vertical?		No
Is there an internal well seal?	Yes	
Has there been physical damage to the well?		No
Does sounding depth match completed depth?		No
Is measuring point marked?		No
Is the well clearly labeled?	Yes	
Flush mount - Is it secure from runoff?	Yes	

Other Comments _____

_____

Recommendations

Well needs to be redeveloped		No
Well needs to be re-surveyed.		No
Well needs to be repaired.		No
Well needs to be replaced.		No
Well needs to be properly abandoned.		No
No action necessary.	Yes	

Comments

Inspected by: Sean O'Hare

Date of Inspection: 10/28/09

Reviewed by: _____ **(Print)**

_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: 2500068854
Well Tag ID: MW-110I
Well Installation date: 8/27/07

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	622984	
Easting (State Plane)	469198	

Cross streets (if applicable): _____ Florence Court (culdesac)

GPS Instrument used: _____
Datum: _____
Accuracy/Precision: _____

Well Construction Details

Type of well (Circle one)	Flush Mount	
Well lock\security type:	Masterlock on well cap	
Elevation (top of inner casing):	49.28'	
Surface casing material:	Steel	
Well casing material:	Stainless Steel	
Surface Casing diameter:	8	*inches*
Well Diameter:	4	*inches*
Well Depth (as installed):	75	*ftbgs*
Well Depth (as measured):	69.7	*fttic*
Screened interval:	60-70	*ftbgs*
Open hole interval:	NA	*ft*
Depth to water (10/19/09):	20.32	*ftbtic*

Date: 10/28/2009 *Time:* *09:35*

* If multilevel well please see attached worksheet.

EPA Region 2 Superfund Well Assessment Checklist

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable) 0 *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL: _____ *% LEL*
O_2: _____ *40% Vol.*
CO: _____ *ppm*
H_2S: _____ *ppm*

Do readings indicate unsafe conditions exist? Yes No

Well Condition

Is the concrete pad in good condition?	Yes	
Is the well surface casing in good condition?	Yes	
Is the surface casing vertical?	NA	
Is there an internal well seal?	Yes	
Has there been physical damage to the well?		No
Does sounding depth match completed depth?	Yes	
Is measuring point marked?		No
Is the well clearly labeled?	Yes	
Flush mount - Is it secure from runoff?	Yes	

Other Comments _____

_____

Recommendations

Well needs to be redeveloped		No
Well needs to be re-surveyed.		No
Well needs to be repaired.		No
Well needs to be replaced.		No
Well needs to be properly abandoned.		No
No action necessary.	Yes	

Comments

Inspected by: S. Martinelli
Date of Inspection: 10/28/09
Reviewed by: _____ **(Print)**
_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: 2500068855
Well Tag ID: MW-110D
Well Installation date: 8/28/07

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	622982	
Easting (State Plane)	469227	

Cross streets (if applicable): _____ Florence at culdesac

GPS Instrument used: _____
Datum: _____
Accuracy/Precision: _____

Well Construction Details

Type of well (Circle one)	Flush Mount	
Well lock\security type: _____	Pad lock	
Elevation (top of inner casing): ____	48.98'	
Surface casing material: _____	Steel	
Well casing material: _____	Stainless Steel	
Surface Casing diameter: _____	8	*inches*
Well Diameter: _____	4	*inches*
Well Depth (as installed): _____	199	*ftbgs*
Well Depth (as measured): _____	198.6	*fttic*
Screened interval: _____	180-190	*ft*
Open hole interval: _____	NA	*ft*
Depth to water (10/19/09): _____	19.39	*ftbtic*

Date: 10/20/2009 *Time: 11:45*

* If multilevel well please see attached worksheet.

EPA Region 2 Superfund Well Assessment Checklist

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable) 0 *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL:	0	*% LEL*
O_2:	20.9	*40% Vol.*
CO:	0	*ppm*
H_2S:	0	*ppm*

Do readings indicate unsafe conditions exist? Yes No

Well Condition

Is the concrete pad in good condition?	Yes	
Is the well surface casing in good condition?	Yes	
Is the surface casing vertical?		No
Is there an internal well seal?	Yes	
Has there been physical damage to the well?		No
Does sounding depth match completed depth?	Yes	
Is measuring point marked?	Yes	
Is the well clearly labeled?	Yes	
Flush mount - Is it secure from runoff?	Yes	

Other Comments _____

_____

Recommendations

Well needs to be redeveloped		No
Well needs to be re-surveyed.		No
Well needs to be repaired.		No
Well needs to be replaced.		No
Well needs to be properly abandoned.		No
No action necessary.	Yes	

Comments

Inspected by: Tom Horn

Date of Inspection: 10/28/2009

Reviewed by: _____ **(Print)**

_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: 25-53779
Well Tag ID: MW-111S
Well Installation date: 2/24/99

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	622258.08	
Easting (State Plane)	468239.22	

Cross streets (if applicable): _____

GPS Instrument used: _____
Datum: _____
Accuracy/Precision: _____

Well Construction Details

Type of well (Circle one)	Flush Mount	
Well lock\security type:	Master lock on well cap	
Elevation (top of inner casing):	53.44'	
Surface casing material:	Steel	
Well casing material:	Metal	
Surface Casing diameter:	8	*inches*
Well Diameter:	4	*inches*
Well Depth (as installed):	37	*ftbgs*
Well Depth (as measured):	35	*fttic*
Screened interval:	31.8-36.8	*ft*
Open hole interval:	NA	*ft*
Depth to water (10/19/09):	24	*ftbtic*

Date: 10/22/2009 *Time: 10:05*

* If multilevel well please see attached worksheet.

EPA Region 2 Superfund Well Assessment Checklist

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable) 0 *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL:	NA	*% LEL*
O_2:	NA	*40% Vol.*
CO:	NA	*ppm*
H_2S:	NA	*ppm*

Do readings indicate unsafe conditions exist? No

Well Condition

Is the concrete pad in good condition?	Yes	
Is the well surface casing in good condition?	Yes	
Is the surface casing vertical?	NA	
Is there an internal well seal?	Yes	
Has there been physical damage to the well?		No
Does sounding depth match completed depth?		No
Is measuring point marked?	Yes	
Is the well clearly labeled?	Yes	
Flush mount - Is it secure from runoff?	Yes	

Other Comments _____

_____

Recommendations

Well needs to be redeveloped		No
Well needs to be re-surveyed.		No
Well needs to be repaired.		No
Well needs to be replaced.		No
Well needs to be properly abandoned.		No
No action necessary.	Yes	

Comments

Inspected by: S. Martinelli

Date of Inspection: 10/22/09

Reviewed by: _____ **(Print)**

_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: 25-53777
Well Tag ID: MW-111I
Well Installation date: 6/14/99

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	622235.09	
Easting (State Plane)	468252.9	

Cross streets (if applicable): _____

GPS Instrument used: _____
Datum: _____
Accuracy/Precision: _____

Well Construction Details

Type of well (Circle one)	Flush Mount	
Well lock\security type:	J-plug w/lock	
Elevation (top of inner casing):	53.74'	
Surface casing material:	Steel	
Well casing material:	Stainless Steel	
Surface Casing diameter:	8	*inches*
Well Diameter:	4	*inches*
Well Depth (as installed):	66	*ftbgs*
Well Depth (as measured):	65.2	*fttic*
Screened interval:	55-65	*ft*
Open hole interval:	NA	*ft*
Depth to water (10/19/09):	24.2	*ftbtic*

Date: 10/22/2009 *Time: 10:05*

* If multilevel well please see attached worksheet.

EPA Region 2 Superfund Well Assessment Checklist

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable) 0 *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL:	0	*% LEL*
O_2:	20.9	*40% Vol.*
CO:	0	*ppm*
H_2S:	0	*ppm*

Do readings indicate unsafe conditions exist? No

Well Condition

Is the concrete pad in good condition?	Yes	
Is the well surface casing in good condition?	Yes	
Is the surface casing vertical?	Yes	
Is there an internal well seal?	Yes	
Has there been physical damage to the well?		No
Does sounding depth match completed depth?	Yes	
Is measuring point marked?		No
Is the well clearly labeled?	Yes	No
Flush mount - Is it secure from runoff?	Yes	No

Other Comments _____

_____

Recommendations

Well needs to be redeveloped		No
Well needs to be re-surveyed.		No
Well needs to be repaired.		No
Well needs to be replaced.		No
Well needs to be properly abandoned.		No
No action necessary.	Yes	

Comments

Inspected by: Sean O'Hare

Date of Inspection: _____

Reviewed by: _____ **(Print)**

_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: 25-53778
Well Tag ID: MW-111D
Well Installation date: 6/10/99

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	622289.52	
Easting (State Plane)	468234.5	

Cross streets (if applicable): _____

GPS Instrument used: _____
Datum: _____
Accuracy/Precision: _____

Well Construction Details

Type of well (Circle one)	Flush Mount	
Well lock\security type:	Missing well cap/lock	
Elevation (top of inner casing):	53.07'	
Surface casing material:	PVC	
Well casing material:	PVC	
Surface Casing diameter:	8	*inches*
Well Diameter:	4	*inches*
Well Depth (as installed):	200	*ftbgs*
Well Depth (as measured):	194.3	*fttic*
Screened interval:	182-192	*ft*
Open hole interval:	NA	*ft*
Depth to water (10/19/09):	23.8	*ftbtic*

Date: 10/22/2009 *Time: 12:10*

* If multilevel well please see attached worksheet.

EPA Region 2 Superfund Well Assessment Checklist

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable) 0 *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL:	0	*% LEL*
O_2:	20.9	*40% Vol.*
CO:	0	*ppm*
H_2S:	0	*ppm*

Do readings indicate unsafe conditions exist? Yes No

Well Condition

Is the concrete pad in good condition?	Yes	
Is the well surface casing in good condition?	Yes	
Is the surface casing vertical?	Yes	
Is there an internal well seal?		No
Has there been physical damage to the well?		No
Does sounding depth match completed depth?	Yes	
Is measuring point marked?		No
Is the well clearly labeled?		No
Flush mount - Is it secure from runoff?	Yes	

Other Comments _____

_____

Recommendations

Well needs to be redeveloped	No
Well needs to be re-surveyed.	No
Well needs to be repaired.	No
Well needs to be replaced.	No
Well needs to be properly abandoned.	No
No action necessary.	No

Comments

Needs an internal plug w/lock

Inspected by: Sean O'Hare

Date of Inspection: 10/22/2009

Reviewed by: _____ **(Print)**

_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: 25-53782
Well Tag ID: MW-112S
Well Installation date: _2/22/99

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	622215.96	
Easting (State Plane)	470472.18	

Cross streets (if applicable): _____

GPS Instrument used: _____
Datum: _____
Accuracy/Precision: _____

Well Construction Details

Type of well (Circle one)	Flush Mount	
Well lock\security type:	Plug w/lock	
Elevation (top of inner casing):	41.92'	
Surface casing material:	Steel	
Well casing material:	Stainless Steel	
Surface Casing diameter: _____	8	*inches*
Well Diameter: _____	4	*inches*
Well Depth (as installed): _____	25.5	*ftbgs*
Well Depth (as measured): _____	25	*fttic*
Screened interval: _____	9.9-24.9	*ft*
Open hole interval: _____	NA	*ft*
Depth to water (10/19/09): _____	17.14	*ftbtic*
Date:	10/30/2009	*Time: 10:38*

* If multilevel well please see attached worksheet.

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable) 0 *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL:	NA	*% LEL*
O_2:	NA	*40% Vol.*
CO:	NA	*ppm*
H_2S:	NA	*ppm*

Do readings indicate unsafe conditions exist? No

Well Condition

Is the concrete pad in good condition?	Yes	
Is the well surface casing in good condition?	Yes	
Is the surface casing vertical?		No
Is there an internal well seal?	Yes	
Has there been physical damage to the well?		No
Does sounding depth match completed depth?	Yes	
Is measuring point marked?	Yes	
Is the well clearly labeled?	Yes	
Flush mount - Is it secure from runoff?	Yes	

Other Comments _____

_____

Recommendations

Well needs to be redeveloped		No
Well needs to be re-surveyed.		No
Well needs to be repaired.		No
Well needs to be replaced.		No
Well needs to be properly abandoned.		No
No action necessary.	Yes	

Comments

Inspected by: Sean O'Hare

Date of Inspection: 10/30/2009

Reviewed by: _____ **(Print)**

_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: 25-53780
Well Tag ID: MW-112I
Well Installation date: 6/22/09

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	622208.72	
Easting (State Plane)	470455.36	

Cross streets (if applicable): _____

GPS Instrument used: _____
Datum: _____
Accuracy/Precision: _____

Well Construction Details

Type of well (Circle one)	Flush Mount	
Well lock\security type: _____	Plug w/lock	
Elevation (top of inner casing):	41.76'	
Surface casing material: _____	Steel	
Well casing material: _____	Steel	
Surface Casing diameter: _____	8	*inches*
Well Diameter: _____	4	*inches*
Well Depth (as installed): _____	71	*ftbgs*
Well Depth (as measured): _____	71	*fttic*
Screened interval: _____	60-70	*ft*
Open hole interval: _____	NA	*ft*
Depth to water (10/19/09): _____	16.72	*ftbtic*

Date:10/30/09 _____ *Time: 10:35* _____

* If multilevel well please see attached worksheet.

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable) 0 *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL: _____ *% LEL*
O_2: _____ *40% Vol.*
CO: _____ *ppm*
H_2S: _____ *ppm*

Do readings indicate unsafe conditions exist? Yes No

Well Condition

Is the concrete pad in good condition?	Yes	
Is the well surface casing in good condition?	Yes	
Is the surface casing vertical?		No
Is there an internal well seal?	Yes	
Has there been physical damage to the well?		No
Does sounding depth match completed depth?	Yes	
Is measuring point marked?	Yes	
Is the well clearly labeled?	Yes	
Flush mount - Is it secure from runoff?	Yes	

Other Comments _____
_____

Recommendations

Well needs to be redeveloped		No
Well needs to be re-surveyed.		No
Well needs to be repaired.		No
Well needs to be replaced.		No
Well needs to be properly abandoned.		No
No action necessary.	Yes	

Comments

Inspected by: _____
Date of Inspection: _____
Reviewed by: _____ **(Print)**
_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: 25-53781
Well Tag ID: MW-112D
Well Installation date: 6/10/99

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	622220.13	
Easting (State Plane)	470487.41	

Cross streets (if applicable): _____

GPS Instrument used: _____
Datum: _____
Accuracy/Precision: _____

Well Construction Details

Type of well (Circle one)	Flush Mount	
Well lock\security type:	Plug w/lock	
Elevation (top of inner casing):	41.71'	
Surface casing material:	Steel	
Well casing material:	Stainless Steel	
Surface Casing diameter:	8	*inches*
Well Diameter:	4	*inches*
Well Depth (as installed):	200	*ftbgs*
Well Depth (as measured):	199	*fttic*
Screened interval:	184-194	*ft*
Open hole interval:		*ft*
Depth to water (10/19/09):	16.31	*ftbtic*

Date: 10/30/2009 *Time: 10:30* _____

* If multilevel well please see attached worksheet.

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable) 0 *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL:	NA	*% LEL*
O_2:	NA	*40% Vol.*
CO:	NA	*ppm*
H_2S:	NA	*ppm*

Do readings indicate unsafe conditions exist? No

Well Condition

Is the concrete pad in good condition?	Yes	
Is the well surface casing in good condition?	Yes	
Is the surface casing vertical?		No
Is there an internal well seal?	Yes	
Has there been physical damage to the well?		No
Does sounding depth match completed depth?	Yes	
Is measuring point marked?	Yes	
Is the well clearly labeled?	Yes	
Flush mount - Is it secure from runoff?	Yes	

Other Comments _____

_____

Recommendations

Well needs to be redeveloped		No
Well needs to be re-surveyed.		No
Well needs to be repaired.		No
Well needs to be replaced.		No
Well needs to be properly abandoned.		No
No action necessary.	Yes	

Comments

Inspected by: Sean O'Hare

Date of Inspection: 10/30/2009

Reviewed by: _____ **(Print)**

_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: 25-53785
Well Tag ID: MW-113S
Well Installation date: 2/23/99

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	623563.27	
Easting (State Plane)	471477.71	

Cross streets (if applicable): NA

GPS Instrument used:
Datum:
Accuracy/Precision:

Well Construction Details

Type of well (Circle one)	Flush Mount	
Well lock\security type:	Lock on cap	
Elevation (top of inner casing):	40.58'	
Surface casing material:	Steel	
Well casing material:	Stainless Steel	
Surface Casing diameter:	8	*inches*
Well Diameter:	4	*inches*
Well Depth (as installed):	25.5	*ftbgs*
Well Depth (as measured):	24.95	*fttic*
Screened interval:	8.3-23.3	*ft*
Open hole interval:	NA	*ft*
Depth to water (10/19/09):	13.66	*ftbtic*

Date: 10/30/2009 *Time:* *11:55*

* If multilevel well please see attached worksheet.

EPA Region 2 Superfund Well Assessment Checklist

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable) 0 *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL:	NA	*% LEL*
O_2:	NA	*40% Vol.*
CO:	NA	*ppm*
H_2S:	NA	*ppm*

Do readings indicate unsafe conditions exist? No

Well Condition

Is the concrete pad in good condition?	Yes	
Is the well surface casing in good condition?	Yes	
Is the surface casing vertical?		No
Is there an internal well seal?	Yes	
Has there been physical damage to the well?		No
Does sounding depth match completed depth?	Yes	
Is measuring point marked?	Yes	
Is the well clearly labeled?	Yes	
Flush mount - Is it secure from runoff?	Yes	

Other Comments _____

_____

Recommendations

Well needs to be redeveloped		No
Well needs to be re-surveyed.		No
Well needs to be repaired.		No
Well needs to be replaced.		No
Well needs to be properly abandoned.		No
No action necessary.	Yes	

Comments

Inspected by: Sean O'Hare

Date of Inspection: 10/30/2009

Reviewed by: _____ **(Print)**

_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: 25-53783
Well Tag ID: MW-113I
Well Installation date: 6/22/99

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	623549.63	
Easting (State Plane)	471474.8	

Cross streets (if applicable): _____

GPS Instrument used: _____
Datum: _____
Accuracy/Precision: _____

Well Construction Details

Type of well (Circle one)	Flush Mount	
Well lock\security type:	Lock on cap	
Elevation (top of inner casing):	40.13'	
Surface casing material:	Steel	
Well casing material:	Stainless Steel	
Surface Casing diameter:	8	*inches*
Well Diameter:	4	*inches*
Well Depth (as installed):	131	*ftbgs*
Well Depth (as measured):	130.84	*fttic*
Screened interval:	120-130	*ft*
Open hole interval:	NA	*ft*
Depth to water (10/19/09):	12.9	*ftbtic*

Date: 10/30/2009 *Time: 11:50*

* If multilevel well please see attached worksheet.

EPA Region 2 Superfund Well Assessment Checklist

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable) 0 *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL: _____ *% LEL*
O_2: _____ *40% Vol.*
CO: _____ *ppm*
H_2S: _____ *ppm*

Do readings indicate unsafe conditions exist? No

Well Condition

Is the concrete pad in good condition?	Yes	
Is the well surface casing in good condition?	Yes	
Is the surface casing vertical?		No
Is there an internal well seal?	Yes	
Has there been physical damage to the well?		No
Does sounding depth match completed depth?	Yes	
Is measuring point marked?		No
Is the well clearly labeled?	Yes	
Flush mount - Is it secure from runoff?	Yes	

Other Comments _____

_____

Recommendations

Well needs to be redeveloped		No
Well needs to be re-surveyed.		No
Well needs to be repaired.		No
Well needs to be replaced.		No
Well needs to be properly abandoned.		No
No action necessary.	Yes	

Comments

Inspected by: S. Martinelli _____
Date of Inspection:10/30/09 _____
Reviewed by: _____ **(Print)**
_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: 25-53784
Well Tag ID: MW-113D
Well Installation date: 6/3/99

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	623575.74	
Easting (State Plane)	471480.6	

Cross streets (if applicable): NA

GPS Instrument used: _____
Datum: _____
Accuracy/Precision: _____

Well Construction Details

Type of well (Circle one)	Flush Mount	
Well lock\security type:	No lock	
Elevation (top of inner casing):	40.83'	
Surface casing material:	Steel	
Well casing material:	Stainless Steel	
Surface Casing diameter:	8	*inches*
Well Diameter:	4	*inches*
Well Depth (as installed):	200	*ftbgs*
Well Depth (as measured):	199.73	*fttic*
Screened interval:	150-160	*ft*
Open hole interval:	NA	*ft*
Depth to water (10/19/09):	13.54	*ftbtic*
Date:	10/30/2009	*Time: 11:45*

* If multilevel well please see attached worksheet.

EPA Region 2 Superfund Well Assessment Checklist

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable) 0 *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL: _____ *% LEL*
O_2: _____ *40% Vol.*
CO: _____ *ppm*
H_2S: _____ *ppm*

Do readings indicate unsafe conditions exist? No

Well Condition

Is the concrete pad in good condition?	Yes	
Is the well surface casing in good condition?	Yes	
Is the surface casing vertical?	Yes	
Is there an internal well seal?	Yes	
Has there been physical damage to the well?		No
Does sounding depth match completed depth?	Yes	
Is measuring point marked?		No
Is the well clearly labeled?		No
Flush mount - Is it secure from runoff?	Yes	

Other Comments _____

_____

Recommendations

Well needs to be redeveloped		No
Well needs to be re-surveyed.		No
Well needs to be repaired.		No
Well needs to be replaced.		No
Well needs to be properly abandoned.		No
No action necessary.	Yes	

Comments

Inspected by: S. Martinelli
Date of Inspection: 10/30/09
Reviewed by: _____ **(Print)**
_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: _25-53788
Well Tag ID: _MW-114S
Well Installation date: _2/16/99

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	623049.15	
Easting (State Plane)	470022.62	

Cross streets (if applicable): _____

GPS Instrument used: _____
Datum: _____
Accuracy/Precision: _____

Well Construction Details

Type of well (Circle one)		Stick up
Well lock\security type:	Plug w/lock	
Elevation (top of inner casing):	40.79	
Surface casing material:	Steel	
Well casing material:	Stainless Steel	
Surface Casing diameter: _____	8	*inches*
Well Diameter: _____	4	*inches*
Well Depth (as installed): _	21	*ftbgs*
Well Depth (as measured): _____	20.5	*fttic*
Screened interval: _____	8.6-19.6	*ft*
Open hole interval: _____		*ft*
Depth to water (10/19/09): _____	12.76	*ftbtoc*
Date:10/30/09	_____	*Time: __11:00_____*

* If multilevel well please see attached worksheet.

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable) 0 *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL:	NA	*% LEL*
O_2:	NA	*40% Vol.*
CO:	NA	*ppm*
H_2S:	NA	*ppm*

Do readings indicate unsafe conditions exist? No

Well Condition

Is the concrete pad in good condition?	Yes	
Is the well surface casing in good condition?	Yes	
Is the surface casing vertical?	Yes	
Is there an internal well seal?	Yes	
Has there been physical damage to the well?		No
Does sounding depth match completed depth?	Yes	
Is measuring point marked?	Yes	
Is the well clearly labeled?	Yes	
Flush mount - Is it secure from runoff?	Yes	

Other Comments _____

_____

Recommendations

Well needs to be redeveloped		No
Well needs to be re-surveyed.		No
Well needs to be repaired.		No
Well needs to be replaced.		No
Well needs to be properly abandoned.		No
No action necessary.	Yes	

Comments

Inspected by: Sean O'Hare

Date of Inspection:10/30/09

Reviewed by: _____ **(Print)**

_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: 25-53786
Well Tag ID: MW-114I
Well Installation date: 6/24/99

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	623039.46	
Easting (State Plane)	470010.15	

Cross streets (if applicable): _____

GPS Instrument used: _____
Datum: _____
Accuracy/Precision: _____

Well Construction Details

Type of well (Circle one)		Stick up
Well lock\security type:	Plug w/lock	
Elevation (top of inner casing):	40.74	
Surface casing material:	Steel	
Well casing material:	Stainless Steel	
Surface Casing diameter: _____	8	*inches*
Well Diameter: _____	4	*inches*
Well Depth (as installed): _____	71	*ftbgs*
Well Depth (as measured): _____	70.7	*fttic*
Screened interval: _____	60-70	*ft*
Open hole interval: _____	NA	*ft*
Depth to water (10/19/09): _____	13.18	*ftbtic*

Date: 10/30/2009 *Time: 10:50*

* If multilevel well please see attached worksheet.

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable) 0 *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL:	NA	*% LEL*
O_2:	NA	*40% Vol.*
CO:	NA	*ppm*
H_2S:	NA	*ppm*

Do readings indicate unsafe conditions exist? No

Well Condition

Is the concrete pad in good condition?	Yes	
Is the well surface casing in good condition?	Yes	
Is the surface casing vertical?	Yes	
Is there an internal well seal?	Yes	
Has there been physical damage to the well?		No
Does sounding depth match completed depth?	Yes	
Is measuring point marked?	Yes	
Is the well clearly labeled?	Yes	
Flush mount - Is it secure from runoff?	Yes	

Other Comments _____

_____

Recommendations

Well needs to be redeveloped		No
Well needs to be re-surveyed.		No
Well needs to be repaired.		No
Well needs to be replaced.		No
Well needs to be properly abandoned.		No
No action necessary.	Yes	

Comments

Inspected by: Sean O'Hare

Date of Inspection: 10/30/2009

Reviewed by: _____ **(Print)**

_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: _25-53787
Well Tag ID: _MW-114D
Well Installation date: _6/11/99

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	623056.65	
Easting (State Plane)	470031.72	

Cross streets (if applicable): _____

GPS Instrument used: _____
Datum: _____
Accuracy/Precision: _____

Well Construction Details

Type of well (Circle one)		Stick up
Well lock\security type:	Plug w/cap	
Elevation (top of inner casing):	40.62'	
Surface casing material:	Steel	
Well casing material:	Stainless Steel	
Surface Casing diameter:	8	*inches*
Well Diameter:	4	*inches*
Well Depth (as installed):	200	*ftbgs*
Well Depth (as measured):	199	*fttic*
Screened interval:	168-178	*ft*
Open hole interval:	NA	*ft*
Depth to water (10/19/09):	12.45	*ftbtic*

Date:10/30/09 _____ *Time: 10:40*_____

* If multilevel well please see attached worksheet.

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable) 0 *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL:	NA	*% LEL*
O_2:	NA	*40% Vol.*
CO:	NA	*ppm*
H_2S:	NA	*ppm*

Do readings indicate unsafe conditions exist? No

Well Condition

Is the concrete pad in good condition?	Yes	
Is the well surface casing in good condition?	Yes	
Is the surface casing vertical?	Yes	
Is there an internal well seal?	Yes	
Has there been physical damage to the well?		No
Does sounding depth match completed depth?	Yes	
Is measuring point marked?	Yes	
Is the well clearly labeled?	Yes	
Flush mount - Is it secure from runoff?	Yes	

Other Comments _____

_____

Recommendations

Well needs to be redeveloped		No
Well needs to be re-surveyed.		No
Well needs to be repaired.		No
Well needs to be replaced.		No
Well needs to be properly abandoned.		No
No action necessary.	Yes	

Comments

Inspected by: Sean O'Hare

Date of Inspection: 10/30/2009

Reviewed by: _____ **(Print)**

_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: 25-53793
Well Tag ID: MW-115S
Well Installation date: 3/11/99

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	624881.95	
Easting (State Plane)	470909.34	

Cross streets (if applicable): _____

GPS Instrument used: _____
Datum: _____
Accuracy/Precision: _____

Well Construction Details

Type of well (Circle one)		Stick up
Well lock\security type:	No lock or plug	
Elevation (top of inner casing):	48.92'	
Surface casing material:	Steel	
Well casing material:	Stainless Steel	
Surface Casing diameter: _____	8	*inches*
Well Diameter: _____	4	*inches*
Well Depth (as installed): _____	31.9	*ftbgs*
Well Depth (as measured): _____	31.3	*fttic*
Screened interval: _____	15.6-30.6	*ft*
Open hole interval: _____		*ft*
Depth to water (10/19/09): _____	20.24	*ftbtic*
Date:	10/31/2009	*Time: 10:10*

* If multilevel well please see attached worksheet.

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable) 0 *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL:	NA	*% LEL*
O_2:	NA	*40% Vol.*
CO:	NA	*ppm*
H_2S:	NA	*ppm*

Do readings indicate unsafe conditions exist? Yes No

Well Condition

Is the concrete pad in good condition?	Yes	
Is the well surface casing in good condition?	Yes	
Is the surface casing vertical?		No
Is there an internal well seal?		No
Has there been physical damage to the well?		No
Does sounding depth match completed depth?	Yes	
Is measuring point marked?		No
Is the well clearly labeled?	Yes	
Flush mount - Is it secure from runoff?	Yes	

Other Comments _____

_____

Recommendations

Well needs to be redeveloped	No
Well needs to be re-surveyed.	No
Well needs to be repaired.	No
Well needs to be replaced.	No
Well needs to be properly abandoned.	No
No action necessary.	No

Comments

Needs an internal seal

Inspected by: Sean O'Hare

Date of Inspection: 10/30/2009

Reviewed by: _____ **(Print)**

_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: 25-53791
Well Tag ID: MW-115I
Well Installation date: 6/23/99

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	624876.69	
Easting (State Plane)	470894.19	

Cross streets (if applicable): _____

GPS Instrument used: _____
Datum: _____
Accuracy/Precision: _____

Well Construction Details

Type of well (Circle one) Stick up
Well lock\security type: No internal plug or lock

Elevation (top of inner casing):	48.45'	
Surface casing material:	Steel	
Well casing material:	Stainless Steel	
Surface Casing diameter:	8	*inches*
Well Diameter:	4	*inches*
Well Depth (as installed):	93	*ftbgs*
Well Depth (as measured):	92.3	*fttic*
Screened interval:	82-92	*ft*
Open hole interval:	NA	*ft*
Depth to water (10/19/09):	21.41	*ftbtic*

Date:10/30/09 _____ *Time: 10:02*

* If multilevel well please see attached worksheet.

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable) 0 *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL:	NA	*% LEL*
O_2:	NA	*40% Vol.*
CO:	NA	*ppm*
H_2S:	NA	*ppm*

Do readings indicate unsafe conditions exist? No

Well Condition

Is the concrete pad in good condition?	Yes	
Is the well surface casing in good condition?	Yes	
Is the surface casing vertical?		No
Is there an internal well seal?		No
Has there been physical damage to the well?		No
Does sounding depth match completed depth?	Yes	
Is measuring point marked?	Yes	
Is the well clearly labeled?	Yes	
Flush mount - Is it secure from runoff?	Yes	

Other Comments _____

_____

Recommendations

Well needs to be redeveloped	No
Well needs to be re-surveyed.	No
Well needs to be repaired.	No
Well needs to be replaced.	No
Well needs to be properly abandoned.	No
No action necessary.	No

Comments

Need an internal plug

Inspected by:Sean O'Hare

Date of Inspection:10/30/09

Reviewed by: _____ **(Print)**

_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: 25-53792
Well Tag ID: MW-115D
Well Installation date: 6/4/99

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	624885.22	
Easting (State Plane)	470924.78	

Cross streets (if applicable): _____

GPS Instrument used: _____
Datum: _____
Accuracy/Precision: _____

Well Construction Details

Type of well (Circle one) Stick up
Well lock\security type: Missing plug and lock

Elevation (top of inner casing):	47.35'	
Surface casing material:	Steel	
Well casing material:	Stainless Steel	
Surface Casing diameter: _____	8	*inches*
Well Diameter: _____	4	*inches*
Well Depth (as installed): _____	200	*ftbgs*
Well Depth (as measured): _____	199.1	*fttic*
Screened interval: _____	112-122	*ft*
Open hole interval: _____		*ft*
Depth to water (10/19/09): _____	20.76	*ftbtic*

Date: 10/30/2009 *Time: 10:15*

* If multilevel well please see attached worksheet.

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable) 0 *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL:	NA	*% LEL*
O_2:	NA	*40% Vol.*
CO:	NA	*ppm*
H_2S:	NA	*ppm*

Do readings indicate unsafe conditions exist? No

Well Condition

Is the concrete pad in good condition?	Yes	
Is the well surface casing in good condition?	Yes	
Is the surface casing vertical?		No
Is there an internal well seal?		No
Has there been physical damage to the well?		No
Does sounding depth match completed depth?	Yes	
Is measuring point marked?		No
Is the well clearly labeled?	Yes	
Flush mount - Is it secure from runoff?	Yes	

Other Comments _____

Recommendations

Well needs to be redeveloped	No
Well needs to be re-surveyed.	No
Well needs to be repaired.	No
Well needs to be replaced.	No
Well needs to be properly abandoned.	No
No action necessary.	No

Comments

Needs an internal plug

Inspected by: Sean O'Hare

Date of Inspection: 10/30/2009

Reviewed by: _____ **(Print)**

_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: 25-53794
Well Tag ID: MW-116I
Well Installation date: 3/18/99

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	623689.65	
Easting (State Plane)	468690.61	

Cross streets (if applicable): _____ NA

GPS Instrument used: _____
Datum: _____
Accuracy/Precision: _____

Well Construction Details

Type of well (Circle one)	Flush Mount	
Well lock\security type: _____	Pad lock	
Elevation (top of inner casing): ____	50.54'	
Surface casing material: _____	Steel	
Well casing material: _____	Stainless Steel	
Surface Casing diameter: _____	8	*inches*
Well Diameter: _____	4	*inches*
Well Depth (as installed): _____	71.5	*ftbgs*
Well Depth (as measured): _____	70.88	*fttic*
Screened interval: _____	61.3-71.3	*ft*
Open hole interval: _____	NA	*ft*
Depth to water (10/19/09): _____	20.39	*ftbtic*

Date: 10/26/2009 *Time: 10:00*

* If multilevel well please see attached worksheet.

EPA Region 2 Superfund Well Assessment Checklist

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable) 0 *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL:	0	*% LEL*
O_2:	20.9	*40% Vol.*
CO:	0	*ppm*
H_2S:	0	*ppm*

Do readings indicate unsafe conditions exist? No

Well Condition

Is the concrete pad in good condition?	Yes	
Is the well surface casing in good condition?	Yes	
Is the surface casing vertical?		No
Is there an internal well seal?	Yes	
Has there been physical damage to the well?		No
Does sounding depth match completed depth?	Yes	
Is measuring point marked?	Yes	
Is the well clearly labeled?		No
Flush mount - Is it secure from runoff?		No

Other Comments _____

_____

Recommendations

Well needs to be redeveloped		No
Well needs to be re-surveyed.		No
Well needs to be repaired.		No
Well needs to be replaced.		No
Well needs to be properly abandoned.		No
No action necessary.	Yes	

Comments

Inspected by: Tom Horn

Date of Inspection: 10/28/09

Reviewed by: _____ **(Print)**

_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: 25-53801
Well Tag ID: MW-117S
Well Installation date: 3/10/99

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	623769.97	
Easting (State Plane)	468101.97	

Cross streets (if applicable): corner of Main Street and Brockes Blvd.

GPS Instrument used: _____
Datum: _____
Accuracy/Precision: _____

Well Construction Details

Type of well (Circle one)	Flush Mount	
Well lock\security type:	Lock on cap	
Elevation (top of inner casing):	48.07'	
Surface casing material:	Steel	
Well casing material:	Stainless Steel	
Surface Casing diameter:	8	*inches*
Well Diameter:	4	*inches*
Well Depth (as installed):	33	*ftbgs*
Well Depth (as measured):	32.68	*fttic*
Screened interval:	17.4-32.4	*ft*
Open hole interval:	NA	*ft*
Depth to water (10/19/09):	16.76	*ftbtic*

Date: 10/30/2009 *Time: 11:20*

* If multilevel well please see attached worksheet.

EPA Region 2 Superfund Well Assessment Checklist

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable) 0 *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL: _____ *% LEL*
O_2: _____ *40% Vol.*
CO: _____ *ppm*
H_2S: _____ *ppm*

Do readings indicate unsafe conditions exist? No

Well Condition

Is the concrete pad in good condition?	Yes	
Is the well surface casing in good condition?	Yes	
Is the surface casing vertical?	Yes	
Is there an internal well seal?	Yes	
Has there been physical damage to the well?		No
Does sounding depth match completed depth?	Yes	
Is measuring point marked?		No
Is the well clearly labeled?	Yes	
Flush mount - Is it secure from runoff?	Yes	

Other Comments _____

_____

Recommendations

Well needs to be redeveloped		No
Well needs to be re-surveyed.		No
Well needs to be repaired.		No
Well needs to be replaced.		No
Well needs to be properly abandoned.		No
No action necessary.	Yes	

Comments

Inspected by: S. Martinelli
Date of Inspection: 10/30/09
Reviewed by: _____ **(Print)**
_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: 25-53798
Well Tag ID: MW-117I
Well Installation date: 6/24/99

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	623758.03	
Easting (State Plane)	468105.35	

Cross streets (if applicable): _____ Corner of Main Street and Brooks Blvd.

GPS Instrument used: _____
Datum: _____
Accuracy/Precision: _____

Well Construction Details

Type of well (Circle one)	Flush Mount	
Well lock\security type: _____	No lock	
Elevation (top of inner casing): ____	48.20'	
Surface casing material: _____	Steel	
Well casing material: _____	Stainless Steel	
Surface Casing diameter: _____	8	*inches*
Well Diameter: _____	4	*inches*
Well Depth (as installed): _____	70.1	*ftbgs*
Well Depth (as measured): _____	69	*fttic*
Screened interval: _____	60-70	*ft*
Open hole interval: _____	NA	*ft*
Depth to water (10/19/09): _____	17.5	*ftbtic*

Date: 10/30/2009 *Time: 11:15*

* If multilevel well please see attached worksheet.

EPA Region 2 Superfund Well Assessment Checklist

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable) 0 *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL: _____ *% LEL*
O_2: _____ *40% Vol.*
CO: _____ *ppm*
H_2S: _____ *ppm*

Do readings indicate unsafe conditions exist? No

Well Condition

Is the concrete pad in good condition?	Yes	
Is the well surface casing in good condition?	Yes	
Is the surface casing vertical?	NA	
Is there an internal well seal?	Yes	
Has there been physical damage to the well?		No
Does sounding depth match completed depth?	Yes	
Is measuring point marked?		No
Is the well clearly labeled?		No
Flush mount - Is it secure from runoff?	Yes	

Other Comments _____

Recommendations

Well needs to be redeveloped		No
Well needs to be re-surveyed.		No
Well needs to be repaired.		No
Well needs to be replaced.		No
Well needs to be properly abandoned.		No
No action necessary.	Yes	

Comments

Inspected by: S. Martinelli
Date of Inspection: 10/30/2009
Reviewed by: _____ **(Print)**
_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: 25-53798
Well Tag ID: MW-117D
Well Installation date: 6/24/99

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	623782.98	
Easting (State Plane)	468098.4	

Cross streets (if applicable): _____ Corner of Brocks Blvd and Main Street

GPS Instrument used: _____
Datum: _____
Accuracy/Precision: _____

Well Construction Details

Type of well (Circle one)	Flush Mount	
Well lock\security type: _____	Lock on cap	
Elevation (top of inner casing): ____	47.79'	
Surface casing material: _____	Steel	
Well casing material: _____	Stainless Steel	
Surface Casing diameter: _____	8	*inches*
Well Diameter: _____	4	*inches*
Well Depth (as installed): _____	200	*ftbgs*
Well Depth (as measured): _____	199.62	*fttic*
Screened interval: _____	116-126	*ft*
Open hole interval: _____	NA	*ft*
Depth to water (10/19/09): _____	16	*ftbtic*

Date: 10/30/2009 *Time:* *10:55*

* If multilevel well please see attached worksheet.

EPA Region 2 Superfund Well Assessment Checklist

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable) 0 *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL: _____ *% LEL*
O_2: _____ *40% Vol.*
CO: _____ *ppm*
H_2S: _____ *ppm*

Do readings indicate unsafe conditions exist? No

Well Condition

Is the concrete pad in good condition?	Yes	
Is the well surface casing in good condition?	Yes	
Is the surface casing vertical?		No
Is there an internal well seal?	Yes	
Has there been physical damage to the well?	Yes	
Does sounding depth match completed depth?	Yes	
Is measuring point marked?	Yes	
Is the well clearly labeled?		No
Flush mount - Is it secure from runoff?	Yes	

Other Comments _____

_____

Recommendations

Well needs to be redeveloped		No
Well needs to be re-surveyed.		No
Well needs to be repaired.		No
Well needs to be replaced.		No
Well needs to be properly abandoned.		No
No action necessary.	Yes	

Comments

Inspected by: S. Martinelli
Date of Inspection: 10/30/09
Reviewed by: _____ **(Print)**
_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: 25-53802
Well Tag ID: MW-118S
Well Installation date: 3/9/99

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	624364.84	
Easting (State Plane)	468162.77	

Cross streets (if applicable): Main St. and Knopf St.

GPS Instrument used: _____
Datum: _____
Accuracy/Precision: _____

Well Construction Details

Type of well (Circle one)	Flush Mount	
Well lock\security type: _	Plug w/lock	
Elevation (top of inner casing):	49.49'	
Surface casing material:	Steel	
Well casing material:	Stainless Steel	
Surface Casing diameter: _____	8	*inches*
Well Diameter: _____	4	*inches*
Well Depth (as installed): _____	32.7	*ftbgs*
Well Depth (as measured): _____	32.5	*fttic*
Screened interval: _____	16.4-31.4	*ft*
Open hole interval: _____	NA	*ft*
Depth to water (10/19/09): _____	18.87	*ftbtic*

Date: 10/30/1999 *Time:* *11:10*

* If multilevel well please see attached worksheet.

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable) 0 *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL:	NA	*% LEL*
O_2:	NA	*40% Vol.*
CO:	NA	*ppm*
H_2S:	NA	*ppm*

Do readings indicate unsafe conditions exist? No

Well Condition

Is the concrete pad in good condition?	Yes	
Is the well surface casing in good condition?	Yes	
Is the surface casing vertical?		No
Is there an internal well seal?	Yes	
Has there been physical damage to the well?		No
Does sounding depth match completed depth?	Yes	
Is measuring point marked?	Yes	
Is the well clearly labeled?	Yes	
Flush mount - Is it secure from runoff?	Yes	

Other Comments _____

_____

Recommendations

Well needs to be redeveloped		No
Well needs to be re-surveyed.		No
Well needs to be repaired.		No
Well needs to be replaced.		No
Well needs to be properly abandoned.		No
No action necessary.	Yes	

Comments

Inspected by: Sean O'Hare

Date of Inspection: 10/30/2009

Reviewed by: _____ **(Print)**

_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: _25-53799
Well Tag ID: _MW-118I
Well Installation date: _6/21/99

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	624350.37	
Easting (State Plane)	468156.72	

Cross streets (if applicable): Main St. and Knopf St.

GPS Instrument used: _____
Datum: _____
Accuracy/Precision: _____

Well Construction Details

Type of well (Circle one)	Flush Mount	
Well lock\security type:	Plug w/lock	
Elevation (top of inner casing): ____	46.65'	
Surface casing material:	Steel	
Well casing material:	Stainless Steel	
Surface Casing diameter: _____	8	*inches*
Well Diameter: _____	4	*inches*
Well Depth (as installed): _____	81	*ftbgs*
Well Depth (as measured): _____	80.8	*fttic*
Screened interval: _____	70-80	*ft*
Open hole interval: _____	NA	*ft*
Depth to water (10/19/09): _____	19	*ftbtic*

Date: 10/30/2009 *Time:* *11:05*

* If multilevel well please see attached worksheet.

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable) 0 *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL:	NA	*% LEL*
O_2:	NA	*40% Vol.*
CO:	NA	*ppm*
H_2S:	NA	*ppm*

Do readings indicate unsafe conditions exist? No

Well Condition

Is the concrete pad in good condition?	Yes	
Is the well surface casing in good condition?	Yes	
Is the surface casing vertical?		No
Is there an internal well seal?	Yes	
Has there been physical damage to the well?		No
Does sounding depth match completed depth?	Yes	
Is measuring point marked?	Yes	
Is the well clearly labeled?	Yes	
Flush mount - Is it secure from runoff?	Yes	

Other Comments _____

_____

Recommendations

Well needs to be redeveloped		No
Well needs to be re-surveyed.		No
Well needs to be repaired.		No
Well needs to be replaced.		No
Well needs to be properly abandoned.		No
No action necessary.	Yes	

Comments

Inspected by: Sean O'Hare

Date of Inspection: 10/30/2009

Reviewed by: _____ **(Print)**

_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: 25-53800
Well Tag ID: MW-118D
Well Installation date: 6/21/99

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	624371.99	
Easting (State Plane)	468176.74	

Cross streets (if applicable): Main St. and Knopf St.

GPS Instrument used: _____
Datum: _____
Accuracy/Precision: _____

Well Construction Details

Type of well (Circle one)	Flush Mount	
Well lock\security type:	Plug w/lock	
Elevation (top of inner casing):	49.17'	
Surface casing material:	Steel	
Well casing material:	Stainless Steel	
Surface Casing diameter:	8	*inches*
Well Diameter:	4	*inches*
Well Depth (as installed):	300	*ftbgs*
Well Depth (as measured):	278	*fttic*
Screened interval:	224.8-234.8	*ft*
Open hole interval:	NA	*ft*
Depth to water (10/19/09):	18.4	*ftbtic*

Date: 10/30/2009 *Time:* *12:05*

* If multilevel well please see attached worksheet.

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable) 0 *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL:	NA	*% LEL*
O_2:	NA	*40% Vol.*
CO:	NA	*ppm*
H_2S:	NA	*ppm*

Do readings indicate unsafe conditions exist? No

Well Condition

Is the concrete pad in good condition?	Yes	
Is the well surface casing in good condition?	Yes	
Is the surface casing vertical?	Yes	
Is there an internal well seal?	Yes	
Has there been physical damage to the well?		No
Does sounding depth match completed depth?	Yes	
Is measuring point marked?	Yes	
Is the well clearly labeled?	Yes	
Flush mount - Is it secure from runoff?	Yes	

Other Comments _____

_____

Recommendations

Well needs to be redeveloped		No
Well needs to be re-surveyed.		No
Well needs to be repaired.		No
Well needs to be replaced.		No
Well needs to be properly abandoned.		No
No action necessary.	Yes	

Comments

Inspected by: Sean O'Hare

Date of Inspection: 10/30/2009

Reviewed by: _____ **(Print)**

_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: 25-54916
Well Tag ID: MW-119S
Well Installation date: 8/31/99

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	623165.44	
Easting (State Plane)	468145.34	

Cross streets (if applicable): NA

GPS Instrument used:
Datum:
Accuracy/Precision:

Well Construction Details

Type of well (Circle one)	Flush Mount	
Well lock\security type:	No lock	
Elevation (top of inner casing):	51.07	
Surface casing material:	Steel	
Well casing material:	Stainless Steel	
Surface Casing diameter:	8	*inches*
Well Diameter:	4	*inches*
Well Depth (as installed):	35	*ftbgs*
Well Depth (as measured):	34.73	*fttic*
Screened interval:	19.2-34.2	*ft*
Open hole interval:	NA	*ft*
Depth to water (10/19/09):	19.75	*ftbtic*

Date: 10/30/2009 *Time: 11:30*

* If multilevel well please see attached worksheet.

EPA Region 2 Superfund Well Assessment Checklist

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable) 0 *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL: _____ *% LEL*
O_2: _____ *40% Vol.*
CO: _____ *ppm*
H_2S: _____ *ppm*

Do readings indicate unsafe conditions exist? No

Well Condition

Is the concrete pad in good condition?	Yes	
Is the well surface casing in good condition?	Yes	
Is the surface casing vertical?		No
Is there an internal well seal?	Yes	
Has there been physical damage to the well?		No
Does sounding depth match completed depth?	Yes	
Is measuring point marked?	Yes	
Is the well clearly labeled?		No
Flush mount - Is it secure from runoff?	Yes	

Other Comments _____

_____

Recommendations

Well needs to be redeveloped		No
Well needs to be re-surveyed.		No
Well needs to be repaired.		No
Well needs to be replaced.		No
Well needs to be properly abandoned.		No
No action necessary.	Yes	

Comments

Inspected by: S. Martinelli
Date of Inspection: 10/30/09
Reviewed by: _____ **(Print)**
_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: 25-54912
Well Tag ID: MW-121S
Well Installation date: 8/30/99

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	622672.98	
Easting (State Plane)	468704.12	

Cross streets (if applicable): _____

GPS Instrument used: _____
Datum: _____
Accuracy/Precision: _____

Well Construction Details

Type of well (Circle one)	Flush Mount	
Well lock\security type:	merican lock on well cap	
Elevation (top of inner casing):	52.05'	
Surface casing material:	Cement	
Well casing material:	PVC	
Surface Casing diameter:	8	*inches*
Well Diameter:	4	*inches*
Well Depth (as installed):	36	*ftbgs*
Well Depth (as measured):	33.1	*fttic*
Screened interval:	19.6-34.6	*ft*
Open hole interval:	NA	*ft*
Depth to water (10/19/09):	21.17	*ftbtic*

Date: 10/30/2009 *Time: 12:05*

* If multilevel well please see attached worksheet.

EPA Region 2 Superfund Well Assessment Checklist

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable) 0 *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL:	NA	*% LEL*
O_2:	NA	*40% Vol.*
CO:	NA	*ppm*
H_2S:	NA	*ppm*

Do readings indicate unsafe conditions exist? No

Well Condition

Is the concrete pad in good condition?	Yes	
Is the well surface casing in good condition?	Yes	
Is the surface casing vertical?	Yes	
Is there an internal well seal?	Yes	
Has there been physical damage to the well?		No
Does sounding depth match completed depth?		No
Is measuring point marked?	Yes	
Is the well clearly labeled?	Yes	
Flush mount - Is it secure from runoff?	Yes	

Other Comments _____

Recommendations

Well needs to be redeveloped		No
Well needs to be re-surveyed.		No
Well needs to be repaired.		No
Well needs to be replaced.		No
Well needs to be properly abandoned.		No
No action necessary.	Yes	

Comments

Inspected by: Sean O'Hare

Date of Inspection: 10/30/2009

Reviewed by: _____ **(Print)**

_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: 25-54913
Well Tag ID: MW-122S
Well Installation date: 8/29/99

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	622234.16	
Easting (State Plane)	462998.29	

Cross streets (if applicable): _____ NA

GPS Instrument used: _____
Datum: _____
Accuracy/Precision: _____

Well Construction Details

Type of well (Circle one)	Flush Mount	
Well lock\security type: _____	No lock/well cap	
Elevation (top of inner casing): ____	53.46'	
Surface casing material: _____	Steel	
Well casing material: _____	Stainless Steel	
Surface Casing diameter: _____	8	*inches*
Well Diameter: _____	4	*inches*
Well Depth (as installed): _____	34.8	*ftbgs*
Well Depth (as measured): _____	34.23	*fttic*
Screened interval: _____	19.2-34.2	*ft*
Open hole interval: _____	NA	*ft*
Depth to water (10/19/09): _____	23.75	*ftbtic*

Date: 10/30/2009 *Time: 12:15*

* If multilevel well please see attached worksheet.

EPA Region 2 Superfund Well Assessment Checklist

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable) 0 *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL: _____ *% LEL*
O_2: _____ *40% Vol.*
CO: _____ *ppm*
H_2S: _____ *ppm*

Do readings indicate unsafe conditions exist? No

Well Condition

Is the concrete pad in good condition?	Yes	
Is the well surface casing in good condition?	Yes	
Is the surface casing vertical?	N/A	
Is there an internal well seal?	Yes	
Has there been physical damage to the well?		No
Does sounding depth match completed depth?	Yes	
Is measuring point marked?	Yes	
Is the well clearly labeled?		No
Flush mount - Is it secure from runoff?	Yes	

Other Comments _____

Recommendations

Well needs to be redeveloped		No
Well needs to be re-surveyed.		No
Well needs to be repaired.		No
Well needs to be replaced.		No
Well needs to be properly abandoned.		No
No action necessary.	Yes	

Comments

Inspected by: S. Martinelli
Date of Inspection: 10/30/2009
Reviewed by: _____ **(Print)**
_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: 2500068843
Well Tag ID: MW-123S
Well Installation date: 7/9/07

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	624358	
Easting (State Plane)	469388	

Cross streets (if applicable): _____

GPS Instrument used: _____
Datum: _____
Accuracy/Precision: _____

Well Construction Details

Type of well (Circle one)	Flush Mount	
Well lock\security type:	Padlock	
Elevation (top of inner casing):	49'	
Surface casing material:	Steel	
Well casing material:	Stainless Steel	
Surface Casing diameter:	8	*inches*
Well Diameter:	4	*inches*
Well Depth (as installed):	33	*ftbgs*
Well Depth (as measured):	31.9	*ft tic*
Screened interval:	17 - 32	*ft*
Open hole interval:	-	*ft*
Depth to water (10/19/09):	19.59	*ft tic*

Date: 10/23/2009 *Time:* 09:45

* If multilevel well please see attached worksheet.

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable) 0.0 *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL:	0	*% LEL*
O_2:	20.9	*40% Vol.*
CO:	0	*ppm*
H_2S:	0	*ppm*

Do readings indicate unsafe conditions exist? No

Well Condition

Is the concrete pad in good condition?	Yes	
Is the well surface casing in good condition?	Yes	
Is the surface casing vertical?	Yes	
Is there an internal well seal?	Yes	
Has there been physical damage to the well?		No
Does sounding depth match completed depth?	Yes	
Is measuring point marked?	Yes	
Is the well clearly labeled?		No
Flush mount - Is it secure from runoff?	Yes	

Other Comments _____

Recommendations

Well needs to be redeveloped		No
Well needs to be re-surveyed.		No
Well needs to be repaired.		No
Well needs to be replaced.		No
Well needs to be properly abandoned.		No
No action necessary.	Yes	

Comments

Inspected by: Tom Horn

Date of Inspection: 10/23/2009

Reviewed by: _____ **(Print)**

_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: 2500068844
Well Tag ID: MW-123I
Well Installation date: 8/20/07

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	624382	
Easting (State Plane)	469379	

Cross streets (if applicable):

GPS Instrument used:
Datum:
Accuracy/Precision:

Well Construction Details

Type of well (Circle one)	Flush Mount	
Well lock\security type: Master Lock	on well cap	
Elevation (top of inner casing):	49	
Surface casing material:	Steel	
Well casing material: Metal	Metal	
Surface Casing diameter:	8	*inches*
Well Diameter:	4	*inches*
Well Depth (as installed):	75	*bgs*
Well Depth (as measured):	59.7	*fttic*
Screened interval:	50-60	*ft*
Open hole interval:	NA	*ft*
Depth to water (10/19/09):	19.51	*ftbtic*

Date: 10/23/2009 *Time: 10:15*

* If multilevel well please see attached worksheet.

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable) 0 *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL:	NA	*% LEL*
O_2:	NA	*40% Vol.*
CO:	NA	*ppm*
H_2S:	NA	*ppm*

Do readings indicate unsafe conditions exist? Yes No

Well Condition

Is the concrete pad in good condition?	Yes	
Is the well surface casing in good condition?	Yes	
Is the surface casing vertical?	Yes	
Is there an internal well seal?	Yes	
Has there been physical damage to the well?		No
Does sounding depth match completed depth?		No
Is measuring point marked?	Yes	
Is the well clearly labeled?	Yes	
Flush mount - Is it secure from runoff?	Yes	

Other Comments _____

_____

Recommendations

Well needs to be redeveloped		No
Well needs to be re-surveyed.		No
Well needs to be repaired.		No
Well needs to be replaced.		No
Well needs to be properly abandoned.		No
No action necessary.	Yes	

Comments

Inspected by: S. Martinelli

Date of Inspection: _____

Reviewed by: _____ **(Print)**

_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: 2500068845
Well Tag ID: MW-123D
Well Installation date: 8/21/07

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	624378	
Easting (State Plane)	469368	

Cross streets (if applicable): _____

GPS Instrument used: _____
Datum: _____
Accuracy/Precision: _____

Well Construction Details

Type of well (Circle one)	Flush Mount	
Well lock\security type:	Plug w/lock	
Elevation (top of inner casing):	48.64'	
Surface casing material:	Steel	
Well casing material:	Stainless Steel	
Surface Casing diameter: _____	8	*inches*
Well Diameter: _____	4	*inches*
Well Depth (as installed): _____	200	*ftbgs*
Well Depth (as measured): _____		*fttic*
Screened interval: _____	188-198	*ft*
Open hole interval: _____	NA	*ft*
Depth to water (10/19/09): _____	19.67	*ftbtic*

Date: 10/30/2009 *Time: 11:20*

* If multilevel well please see attached worksheet.

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable) 0 *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL:	NA	*% LEL*
O_2:	NA	*40% Vol.*
CO:	NA	*ppm*
H_2S:	NA	*ppm*

Do readings indicate unsafe conditions exist? No

Well Condition

Is the concrete pad in good condition?	Yes	
Is the well surface casing in good condition?	Yes	
Is the surface casing vertical?		No
Is there an internal well seal?	Yes	
Has there been physical damage to the well?		No
Does sounding depth match completed depth?	Yes	
Is measuring point marked?	Yes	
Is the well clearly labeled?	Yes	
Flush mount - Is it secure from runoff?	Yes	

Other Comments _____

_____

Recommendations

Well needs to be redeveloped		No
Well needs to be re-surveyed.		No
Well needs to be repaired.		No
Well needs to be replaced.		No
Well needs to be properly abandoned.		No
No action necessary.	Yes	

Comments

Inspected by: Sean O'Hare

Date of Inspection: 10/30/09

Reviewed by: _____ **(Print)**

_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: 2500068846
Well Tag ID: MW-124S
Well Installation date: 8/3/07

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	623881	
Easting (State Plane)	468476	

Cross streets (if applicable): _____

GPS Instrument used: _____
Datum: _____
Accuracy/Precision: _____

Well Construction Details

Type of well (Circle one)	Flush Mount	
Well lock\security type:	nternal seal w/out lock	
Elevation (top of inner casing):	49.36'	
Surface casing material:	Steel	
Well casing material:	Stainless Steel	
Surface Casing diameter:	8	*inches*
Well Diameter:	4	*inches*
Well Depth (as installed):	33	*ftbgs*
Well Depth (as measured):	33.4	*fttic*
Screened interval:	18-33	*ft*
Open hole interval:		*ft*
Depth to water (10/19/09):	18.65	*ftbtic*

Date: 10/27/2009 *Time: 09:30*

* If multilevel well please see attached worksheet.

EPA Region 2 Superfund Well Assessment Checklist

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable) 0 *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL:	NA	*% LEL*
O_2:	NA	*40% Vol.*
CO:	NA	*ppm*
H_2S:	NA	*ppm*

Do readings indicate unsafe conditions exist? No

Well Condition

Is the concrete pad in good condition?	Yes	
Is the well surface casing in good condition?	Yes	
Is the surface casing vertical?		No
Is there an internal well seal?	Yes	
Has there been physical damage to the well?		No
Does sounding depth match completed depth?	Yes	
Is measuring point marked?		No
Is the well clearly labeled?	Yes	
Flush mount - Is it secure from runoff?	Yes	

Other Comments _____

Recommendations

Well needs to be redeveloped		No
Well needs to be re-surveyed.		No
Well needs to be repaired.		No
Well needs to be replaced.		No
Well needs to be properly abandoned.		No
No action necessary.	Yes	

Comments

Inspected by: Sean O'Hare

Date of Inspection: 10/27/09

Reviewed by: _____ **(Print)**

_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: 2500068847
Well Tag ID: MW-124I
Well Installation date: 8/13/07

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	623890	
Easting (State Plane)	468472	

Cross streets (if applicable): _____

GPS Instrument used: _____
Datum: _____
Accuracy/Precision: _____

Well Construction Details

Type of well (Circle one)	Flush Mount	
Well lock\security type:	No lock on well cover	
Elevation (top of inner casing):	49.40'	
Surface casing material:	Steel	
Well casing material:	Stainless Steel	
Surface Casing diameter:	8	*inches*
Well Diameter:	4	*inches*
Well Depth (as installed):	59.6	*fttic*
Well Depth (as measured):	58.6	*fttic*
Screened interval:	53.5'-63.5	*ft*
Open hole interval:		*ft*
Depth to water (10/19/09):	18.6	*ftbtic*

Date: 10/27/2009 *Time:* *10:00*

* If multilevel well please see attached worksheet.

EPA Region 2 Superfund Well Assessment Checklist

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable) 0 *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL:	NA	*% LEL*
O_2:	NA	*40% Vol.*
CO:	NA	*ppm*
H_2S:	NA	*ppm*

Do readings indicate unsafe conditions exist? No

Well Condition

Is the concrete pad in good condition?	Yes	
Is the well surface casing in good condition?	Yes	
Is the surface casing vertical?	NA	
Is there an internal well seal?	Yes	
Has there been physical damage to the well?		No
Does sounding depth match completed depth?	Yes	
Is measuring point marked?		No
Is the well clearly labeled?	Yes	
Flush mount - Is it secure from runoff?	Yes	

Other Comments _____

_____

Recommendations

Well needs to be redeveloped		No
Well needs to be re-surveyed.		No
Well needs to be repaired.		No
Well needs to be replaced.		No
Well needs to be properly abandoned.		No
No action necessary.	Yes	

Comments

Inspected by: S. Martinelli

Date of Inspection: 10/27/09

Reviewed by: _____ **(Print)**

_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID:2500068848
Well Tag ID: MW-124D
Well Installation date: 8/13/07

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	623903	
Easting (State Plane)	468468	

Cross streets (if applicable): _____

GPS Instrument used: _____
Datum: _____
Accuracy/Precision: _____

Well Construction Details

Type of well (Circle one)	Flush Mount	
Well lock\security type:	Lock on well cap	
Elevation (top of inner casing):	49.33'	
Surface casing material:	Steel	
Well casing material:	Stainless Steel	
Surface Casing diameter:	8	*inches*
Well Diameter:	4	*inches*
Well Depth (as installed):	200	*ftbgs*
Well Depth (as measured):	199.76	*fttic*
Screened interval:	185-195	*ft*
Open hole interval:	NA	*ft*
Depth to water (10/19/09):	18.68	*ftbtic*

Date: 10/30/2009 *Time: 12:30* _____

* If multilevel well please see attached worksheet.

EPA Region 2 Superfund Well Assessment Checklist

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable) 0 *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL: _____ *% LEL*
O_2: _____ *40% Vol.*
CO: _____ *ppm*
H_2S: _____ *ppm*

Do readings indicate unsafe conditions exist? No

Well Condition

Is the concrete pad in good condition?	Yes	
Is the well surface casing in good condition?	Yes	
Is the surface casing vertical?		No
Is there an internal well seal?	Yes	
Has there been physical damage to the well?		No
Does sounding depth match completed depth?	Yes	
Is measuring point marked?	Yes	
Is the well clearly labeled?		No
Flush mount - Is it secure from runoff?	Yes	

Other Comments _____

_____

Recommendations

Well needs to be redeveloped		No
Well needs to be re-surveyed.		No
Well needs to be repaired.		No
Well needs to be replaced.		No
Well needs to be properly abandoned.		No
No action necessary.	Yes	

Comments

Inspected by: S. Martinelli
Date of Inspection: 10/30/2009
Reviewed by: _____ **(Print)**
_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: 2500068851
Well Tag ID: MW-125S
Well Installation date: 7/24/07

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	622634	
Easting (State Plane)	470107	

Cross streets (if applicable): _____

GPS Instrument used: _____
Datum: _____
Accuracy/Precision: _____

Well Construction Details

Type of well (Circle one)	Flush Mount	
Well lock\security type:	Plug w/lock	
Elevation (top of inner casing):	39.22'	
Surface casing material:	Steel	
Well casing material:	Stainless Steel	
Surface Casing diameter:	8	*inches*
Well Diameter:	4	*inches*
Well Depth (as installed):	22	*ftbgs*
Well Depth (as measured):		*fttic*
Screened interval:	6-21	*ft*
Open hole interval:	NA	*ft*
Depth to water (10/19/09):	12.13	*ftbtic*

Date: 10/30/2009 *Time: 11:30*

* If multilevel well please see attached worksheet.

EPA Region 2 Superfund Well Assessment Checklist

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable) 0 *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL:	NA	*% LEL*
O_2:	NA	*40% Vol.*
CO:	NA	*ppm*
H_2S:	NA	*ppm*

Do readings indicate unsafe conditions exist? No

Well Condition

Is the concrete pad in good condition?	Yes	
Is the well surface casing in good condition?	Yes	
Is the surface casing vertical?		No
Is there an internal well seal?	Yes	
Has there been physical damage to the well?		No
Does sounding depth match completed depth?	Yes	
Is measuring point marked?	Yes	
Is the well clearly labeled?	Yes	
Flush mount - Is it secure from runoff?	Yes	

Other Comments _____

_____

Recommendations

Well needs to be redeveloped		No
Well needs to be re-surveyed.		No
Well needs to be repaired.		No
Well needs to be replaced.		No
Well needs to be properly abandoned.		No
No action necessary.	Yes	

Comments

Inspected by: Sean O'Hare

Date of Inspection: 10/30/09

Reviewed by: _____ **(Print)**

_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: 2500068852
Well Tag ID: MW-125I
Well Installation date: 8/24/07

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	622638	
Easting (State Plane)	470119	

Cross streets (if applicable): _____

GPS Instrument used: _____
Datum: _____
Accuracy/Precision: _____

Well Construction Details

Type of well (Circle one)	Flush Mount	
Well lock\security type:	Lock on cap	
Elevation (top of inner casing):	39.17'	
Surface casing material:	Steel	
Well casing material:	Stainless Steel	
Surface Casing diameter:	8	*inches*
Well Diameter:	4	*inches*
Well Depth (as installed):	75	*ftbgs*
Well Depth (as measured):	74.69	*fttic*
Screened interval:	48-58	*ft*
Open hole interval:	NA	*ft*
Depth to water (10/19/09):	12.53	*ftbtic*

Date: 10/30/2009 *Time: 12:20*

* If multilevel well please see attached worksheet.

EPA Region 2 Superfund Well Assessment Checklist

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable) 0 *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL: _____ *% LEL*
O_2: _____ *40% Vol.*
CO: _____ *ppm*
H_2S: _____ *ppm*

Do readings indicate unsafe conditions exist? No

Well Condition

Is the concrete pad in good condition?	Yes	
Is the well surface casing in good condition?	Yes	
Is the surface casing vertical?	Yes	
Is there an internal well seal?	Yes	
Has there been physical damage to the well?		No
Does sounding depth match completed depth?	Yes	
Is measuring point marked?		No
Is the well clearly labeled?		No
Flush mount - Is it secure from runoff?	Yes	

Other Comments _____

_____

Recommendations

Well needs to be redeveloped		No
Well needs to be re-surveyed.		No
Well needs to be repaired.		No
Well needs to be replaced.		No
Well needs to be properly abandoned.		No
No action necessary.	Yes	

Comments

Inspected by: S. Martinelli
Date of Inspection: 10/30/2009
Reviewed by: _____ **(Print)**
_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: 2500068849
Well Tag ID: MW-126S
Well Installation date: 7/20/07

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	622434	
Easting (State Plane)	469695	

Cross streets (if applicable): _____

GPS Instrument used: _____
Datum: _____
Accuracy/Precision: _____

Well Construction Details

Type of well (Circle one)	Flush Mount	
Well lock\security type:	Plug w/lock	
Elevation (top of inner casing):	37.55	
Surface casing material:	Steel	
Well casing material:	Stainless Steel	
Surface Casing diameter:	8	*inches*
Well Diameter:	4	*inches*
Well Depth (as installed):	30.5	*ftbgs*
Well Depth (as measured):	30.18	*fttic*
Screened interval:	13.5-28.5	*ft*
Open hole interval:	NA	*ft*
Depth to water (10/19/09):	10.31	*ftbtic*

Date: 10/30/2009 *Time: 11:20*

* If multilevel well please see attached worksheet.

EPA Region 2 Superfund Well Assessment Checklist

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable) 0 *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL:	NA	*% LEL*
O_2:	NA	*40% Vol.*
CO:	NA	*ppm*
H_2S:	NA	*ppm*

Do readings indicate unsafe conditions exist? No

Well Condition

Is the concrete pad in good condition?	Yes	
Is the well surface casing in good condition?	Yes	
Is the surface casing vertical?		No
Is there an internal well seal?	Yes	
Has there been physical damage to the well?		No
Does sounding depth match completed depth?	Yes	
Is measuring point marked?	Yes	
Is the well clearly labeled?	Yes	
Flush mount - Is it secure from runoff?	Yes	

Other Comments _____

_____

Recommendations

Well needs to be redeveloped		No
Well needs to be re-surveyed.		No
Well needs to be repaired.		No
Well needs to be replaced.		No
Well needs to be properly abandoned.		No
No action necessary.	Yes	

Comments

Inspected by: Sean O'Hare

Date of Inspection: 10/30/09

Reviewed by: _____ **(Print)**

_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: 2500068856
Well Tag ID: MW-127S
Well Installation date: 7/18/07

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	621829	
Easting (State Plane)	468405	

Cross streets (if applicable): _____ Weiss and Gladys

GPS Instrument used: _____
Datum: _____
Accuracy/Precision: _____

Well Construction Details

Type of well (Circle one)	Flush Mount	
Well lock\security type: _____	Padlock	
Elevation (top of inner casing): ____	53.62'	
Surface casing material: _____	Steel	
Well casing material: _____	Stainless Steel	
Surface Casing diameter: _____	8	*inches*
Well Diameter: _____	4	*inches*
Well Depth (as installed): _____	36.5	*ftbgs*
Well Depth (as measured): _____	34.91	*fttic*
Screened interval: _____	20.5-35.5	*ft*
Open hole interval: _____		*ft*
Depth to water (10/19/09): _____	25.55	*ftbtic*
Date:	10/22/2009	*Time: 10:15*

* If multilevel well please see attached worksheet.

EPA Region 2 Superfund Well Assessment Checklist

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable) 0 *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL:	0	*% LEL*
O_2:	20.9	*40% Vol.*
CO:	0	*ppm*
H_2S:	0	*ppm*

Do readings indicate unsafe conditions exist? No

Well Condition

Is the concrete pad in good condition?	Yes	
Is the well surface casing in good condition?	Yes	
Is the surface casing vertical?	Yes	
Is there an internal well seal?	Yes	
Has there been physical damage to the well?		No
Does sounding depth match completed depth?	Yes	
Is measuring point marked?	Yes	
Is the well clearly labeled?	Yes	
Flush mount - Is it secure from runoff?	Yes	

Other Comments _____

_____

Recommendations

Well needs to be redeveloped		No
Well needs to be re-surveyed.		No
Well needs to be repaired.		No
Well needs to be replaced.		No
Well needs to be properly abandoned.		No
No action necessary.	Yes	

Comments

Inspected by: Tom Horn

Date of Inspection: 10/22/09

Reviewed by: _____ **(Print)**

_____ **(Sign)**

EPA Region 2 Superfund Well Assessment Checklist

Facility Information

Site Name: Federal Creosote
Site Address: Manville
Site County: Somerset
Site State: New Jersey
EPA Site ID Number: NJ0001900281
Site Owner: EPA
EPA Project Manager: Rich Puvogel

Well Locational Information

State Well ID: 25-54570
Well Tag ID: T-1
Well Installation date: 7/8/99

	From Log	*By GPS*
Ground Surface Elevation		
Latitude		
Longitude		
Northing (State Plane)	622948.86	
Easting (State Plane)	469992.35	

Cross streets (if applicable): NA

GPS Instrument used:
Datum:
Accuracy/Precision:

Well Construction Details

Type of well (Circle one)		Stick up
Well lock\security type:	No lock	
Elevation (top of inner casing):	42.46	
Surface casing material:	Steel	
Well casing material:	Stainless Steel	
Surface Casing diameter:	14	*inches*
Well Diameter:	4	*inches*
Well Depth (as installed):	234	*ftbgs*
Well Depth (as measured):	233.71	*fttic*
Screened interval:	102.2-112.2	*ft*
Open hole interval:	NA	*ft*
Depth to water (10/19/09):	15.41	*ftbtic*
Date:	10/30/2009	*Time: 12:35*

* If multilevel well please see attached worksheet.

EPA Region 2 Superfund Well Assessment Checklist

Well Headspace Readings

PID/FID Reading taken inside top of casing (if applicable) 0 *ppm*

Multi-gas/CGI meter Readings taken (if applicable):

LEL: _____ *% LEL*
O_2: _____ *40% Vol.*
CO: _____ *ppm*
H_2S: _____ *ppm*

Do readings indicate unsafe conditions exist? No

Well Condition

Is the concrete pad in good condition?	Yes	
Is the well surface casing in good condition?	Yes	
Is the surface casing vertical?	Yes	
Is there an internal well seal?	Yes	
Has there been physical damage to the well?		No
Does sounding depth match completed depth?	Yes	
Is measuring point marked?		No
Is the well clearly labeled?		No
Flush mount - Is it secure from runoff?	Yes	

Other Comments _____

_____

Recommendations

Well needs to be redeveloped		No
Well needs to be re-surveyed.		No
Well needs to be repaired.		No
Well needs to be replaced.		No
Well needs to be properly abandoned.		No
No action necessary.	Yes	

Comments

Inspected by: S. Martinelli _____
Date of Inspection:10/30/09 _____
Reviewed by: _____ **(Print)**
_____ **(Sign)**