

**Limited Groundwater Investigation Report
for the Former Carter Carburetor Site
St. Louis, Missouri**

Prepared for:
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List of Abbreviations and Acronyms

ACF	American Car and Foundry, Inc.
AST	aboveground storage tank
bgs	below ground surface
CBI	Carter Building, Inc.
DPT	Direct Push Technology
DQOs	data quality objectives
E&E	Ecology and Environment
ID	identification
LRA	Land Reutilization Authority
mg/kg	milligrams per kilogram
OD	outside diameter
PCBs	polychlorinated biphenyls
PID	photoionization detector
ppm	parts per million
RPD	relative percent difference
SOW	Statement of Work
TPH	total petroleum hydrocarbons
USEPA	U.S. Environmental Protection Agency
UST	underground storage tank

1.0 Introduction

This Limited Groundwater Investigation for the Former Carter Carburetor Site presents the results of groundwater sampling at the Former Carter Carburetor Diecast Buildings and Warehouse site (Site) located at 2800-2840 North Spring Avenue, St. Louis, Missouri. This investigation was performed for ACF Industries L.L.C. (ACF) by MACTEC Engineering and Consulting, Inc. (MACTEC). ACF is located at 100 Clark Street in St. Charles, Missouri. Figure 1-1 displays the location of the Site.

1.1 Purpose

The purpose of the Limited Groundwater Investigation was to characterize potential impact to groundwater at the Site; and to gather necessary data to define the groundwater flow direction and gradient.

1.2 Environmental Field Investigation Report Organization

This Limited Groundwater Investigation Report is divided into five sections of text plus one appendix. A brief description of each section is presented below.

- Section 1.0, Introduction, provides background information regarding the regulatory requirements for the Site, purpose of this report, and contents of this report.
- Section 2.0, Site Background Information, references background information regarding the Site and its environmental setting.
- Section 3.0, Environmental Field Investigation Activities, summarizes the field activities and describes the procedures that were utilized for all field sampling and laboratory analysis tasks.
- Section 4.0, Environmental Field Investigation Results, summarizes the geological, hydrogeological, and analytical results of the Environmental Field Investigation.
- Section 5.0, Summary and Conclusions, provides an overview of the findings of the Environmental Field Investigation.

One appendix is also provided to describe associated Environmental Field Investigation activities.

- Appendix A Analytical Laboratory Reports and Chain-of-Custody Forms

2.0 Site Background Information

This section of the Limited Groundwater Investigation for the Former Carter Carburetor Site presents background information pertaining to the operational history and environmental setting for the Site.

2.1 Site Location

The Carter Carburetor Site is located at 2800-2840 North Spring Street in the north-central portion of the City of St. Louis, in a mixed residential and commercial neighborhood. The surrounding area is composed primarily of medium to low income residential dwellings, with commercial development along arterial roads. The site is located on the west side of Grand Boulevard bounded by St. Louis Avenue to the southwest, Dodier to the northeast and Spring Avenue to the northwest. The Herbert Hoover Boys and Girls Club is located to the north across Dodier Street. Two high schools and three elementary schools are located within a half-mile radius of the Site. Residences are located west of Spring Street, and east of Grand Street Boulevard from the Site. The Site is 80 feet in elevation above the Mississippi River and is not within the river's 100-year floodplain zone (Figure 2-1).

2.2 Site History

ACF owned the larger Carter Carburetor Site from the 1930's until April 26, 1984, when the entire property and buildings were conveyed to the Land Reutilization Authority of the City of St. Louis, Missouri (LRA). Figure 2-2 shows the layout of the improvements on the Site at the time of the transfer. During ACF's ownership, the facility was operated by the Carter Carburetor Corporation and Carter Automotive Products, both subsidiaries of ACF, who manufactured carburetors for use on gasoline or diesel powered equipment. When ACF closed the facility in 1984, the manufacturing lines were dismantled and most of the equipment was shipped to new locations or sold. At the time the property was deeded to LRA, approximately 20 transformers and an undisclosed number of capacitors and switch gears, some of which contained PCB fluids, remained on-site. Former manufacturing processes within these buildings utilized various hydraulic/lubricating oils, fuels, paints, cleaning solvents, and dielectric fluid as part of their ongoing operations. Underground storage tanks (USTs), aboveground storage tanks (ASTs), and drums were used to store chemical products/residues inside and outside of the buildings. At the time the property was deeded to LRA, access to the buildings on the Site was strictly controlled. The Site is currently partially surrounded by a chain-link fence.

On April 25, 1985, LRA deeded the larger Carter Carburetor site to Hubert and Sharon Thompson. On January 9, 1986, the Thompson's sold a portion of the larger Carter Carburetor Site to Edward Pivirotto and his wife, which consisted of the Warehouse, North and South Diecast Buildings and the parking lot north of the Diecast buildings. The Pivirottos subsequently failed to pay the real estate taxes on the portion of the property they owned, resulting in a Sheriff's sale on August 20-22, 1991. Because no

substantive bids were received at the sale, the property reverted to LRA. Thus, on February 2, 1992, LRA became the owner of the northeastern portion of the larger Carter Carburetor site previously owned by the Piviottos and the location of the Warehouse and North and South Diecast buildings.

Meanwhile on June 20, 1989, Carter Building, Inc. (CBI), a Delaware Corporation, (no relation to ACF or Carter Carburetor) entered into a Lease and Option to Purchase Agreement with Hubert and Sharon Thompson. On June 28, 1990, CBI provided notice to the Thompsons that CBI was exercising its right to purchase the portion of the facility owned by the Thompsons. Following the filing of a suit for breach of contract and specific performance and a subsequent foreclosure proceeding, CBI received a Trustee's Deed under foreclosure for the facility from the Missouri Title Company, John E. O'Brien, Successor Trustee in October 1991.

2.3 Additional Sources of Background Information

Historic evaluations of the geology and hydrogeology at the Site and surrounding former ACF operations have been conducted as part of previous investigations to better understand the framework for migration of any potential constituent releases and the potential effects on human health and the environment. In addition to the Supplemental Environmental Field Investigation for the Former Carter Carburetor Site (MACTEC, June 2005) and the Environmental Field Investigation Report (MACTEC, 2003), prior reports entitled Draft Engineering Evaluation/Cost Analysis for the Carter Carburetor Site (E&E, 1998); Site Assessment, Carter Carburetor, St. Louis, Missouri (E&E, 1994) and CERCLA Site Assessment: Carter Carburetor, St. Louis, Missouri (E&E, 1995c) should be referenced for additional information pertaining to the site history and environmental setting at the Site.

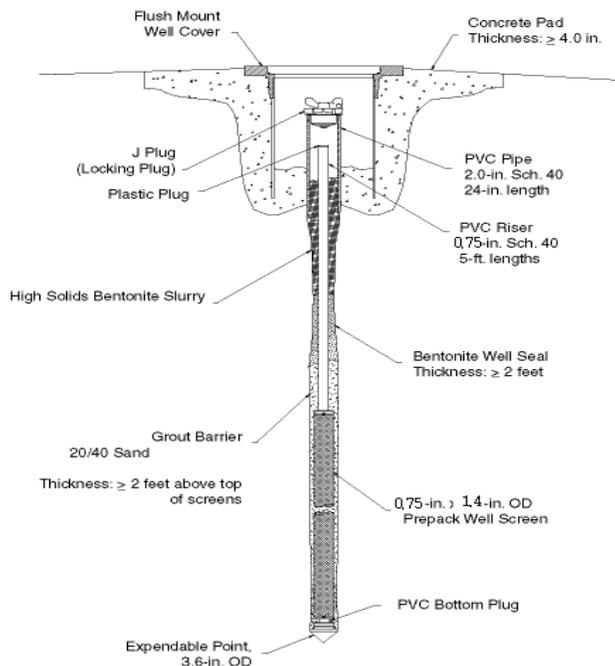
3.0 Environmental Field Investigation Activities

This section summarizes groundwater investigation activities for the Former Carter Carburetor Site conducted in March 2005 by Phillip Environmental Services (PSC) and MACTEC. The purpose of the field activities was to characterize the nature and extent of potential PCB and chemical releases to groundwater at the Site and to determine the groundwater flow direction and gradient.

3.1 Small Diameter Groundwater Well Installation

Four shallow, small diameter wells were installed by PSC on March 1 and 2, 2005. The small diameter groundwater wells were installed in the area of the former Warehouse, North Parking lot, and the North/South Diecast Buildings. The groundwater wells were installed in order to define the groundwater flow gradient and to determine preliminary concentrations of VOCs, SVOCs, PCBs, and TPH in groundwater. To limit the amount of investigative derived waste, the small diameter groundwater wells were installed using a direct push hydraulic boring machine. A variance was obtained from the MDNR Geological Survey for the installation of small diameter groundwater wells. The small diameter groundwater wells allowed for the collection of groundwater samples and water level measurements and groundwater samples. These small diameter groundwater wells were installed to bedrock (approximately 22 feet below existing ground surface) with 15 feet of screen, PVC riser, and flush mount surface completion. An example diagram of a small diameter groundwater well is shown on Figure 3.1.

Figure 3.1



Macrocore probe samplers [2.125-inch outside diameter (OD)] were driven to refusal on bedrock (approximately 22 feet below ground surface). Field screening did not indicate impacted soils except for a petroleum odor at 17 feet below ground surface (bgs) in well PZ-04. Prepack well screens with an OD of 1.4 inches [0.75 inches inside diameter (ID)] which consisted of an inner factory-slotted PVC screen with 0.010 inch slots and an outer screen constructed of stainless steel wire cloth retains the filter media in place and provides strength to the assembly as the screen is installed. The prepack well screen with threaded PVC riser pipe (0.75 inches ID) was lowered into the borehole and a sand barrier consisting of fine-grade sand was gravity fed to a point directly above the well screen to prevent grout from entering the screen. With the barrier in place, bentonite slurry was installed in the annulus to form a well seal. A watertight flush mount well box with a one foot skirt set into concrete completed the well at the surface.

The four small diameter wells were labeled PZ-01 through PZ-04. PZ-01 was located to the north in the west half of the former North Parking lot. PZ-02 was located to the east near Grand Boulevard in the former North Parking lot. PZ-03 was located to the south near Grand Boulevard in the area of the former Warehouse. PZ-04 was located to the west in the former Warehouse near the former Carter Carburetor Building. Copies of the monitoring well logs, which were produced by PSC, were not provided to MACTEC.

3.2 Groundwater Sampling and Analysis

Groundwater samples were collected from each well and submitted for laboratory analysis. Samples were collected into sample containers which were pre-cleaned and assembled to USEPA's Protocol "B". The volume of sample collected and the type of container used was determined by the suggested volumes described in SW-846 for the particular analysis.

Immediately upon collection, each sample was properly labeled with the well ID (PZ-##) to prevent misidentification. After labeling, the samples were placed on ice in an appropriate storage container. The samples were appropriately packaged in the storage container to minimize the potential for damage during transport. A completed chain-of-custody form was placed in each storage container to accompany the samples to the laboratory.

Analytical samples collected by PSC were transported to Environmetrics in St. Louis, Missouri. A chain-of-custody program was followed to track the possession and handling of individual samples from time of collection through completion of laboratory analysis. Copies of the chain-of-custody record were retained in the permanent file for proper documentation.

MACTEC's sample containers were picked up at the job site by a representative of Pace Analytical for overnight transport to their laboratory located in Lenexa, Kansas. Samples were shipped to the off-site laboratory so that they were received within 24 hours from the time of shipment. A chain-of-custody

program was followed to track the possession and handling of individual samples from time of collection through completion of laboratory analysis. Copies of the chain-of-custody record were retained in the permanent file for proper documentation.

Groundwater samples were analyzed for organic constituents by the USEPA methods listed below in Table 3-1. The laboratory analytical results for the groundwater samples are summarized in Section 4.0 with the complete laboratory reports in Appendix A.

Table 3-1

Description	Analytical Method	PCS	MACTEC
Volatile Organic Compounds	SW846 Method 8260	X	X
Semivolatile Organic Compounds	SW846 Method 8270	X	
Polychlorinated Biphenyls	SW846 Method 8082	X	
Total Petroleum Hydrocarbons	Iowa Method OA1/OA2	X	

4.0 Environmental Field Investigation Results

This section discusses the geological, hydrogeological, and chemical analysis results of the Limited Groundwater Investigation and characterizes the nature and extent of PCB and select organic constituent impact to the groundwater at the Site.

Section 4.1 summarizes the geological and hydrogeological results acquired from the Limited Groundwater Investigation, Supplemental Environmental Field Investigation activities and from previous field investigations. Based on the general similarities of the geological/hydrogeological conditions across the Site, these results are presented on a Site-wide perspective. Copies of the laboratory analytical reports and chain-of-custody documents are provided in Appendix A.

4.1 Geological and Hydrogeological Results

The Site is located in an urban setting. The surrounding area is a mix of residential and commercial neighborhoods composed of medium to low income dwellings, small and large businesses. The population of the City of St. Louis is approximately 350,000. Surface water from the Site drains to storm sewers that discharge into the Metropolitan Sewer District (MSD). Geological and hydrogeological information was acquired through an evaluation of the soil boring logs and groundwater elevation measurements that were conducted at the Site. Results are summarized below.

4.1.1 Groundwater Elevations

Groundwater elevations were measured immediately following installation of the wells and immediately prior to each sampling event. A summary of the groundwater elevation data is presented in Table 4-1.

Based on the survey at the site, the groundwater flow direction at the site is toward the southeast with an approximate gradient of 0.0155 feet per foot (see Figure 4-1).

4.1.2 Hydrogeology

Water supplies in the St. Louis area are obtained from the Mississippi, Missouri, and Meramec Rivers. Approximately 82 percent of the water supply is pumped from the Mississippi River, while approximately 12 percent is pumped from the Missouri River and Meramec River combined (Miller et al., 1974). Aquifers exist in both the bedrock and unconsolidated deposits along the Mississippi and Missouri Rivers. These aquifers account for approximately 3 percent of the water supply (Miller et al., 1974).

The shallow groundwater table may be modified locally at the Site due to the presence of buildings or parking lots. Given the low permeability and thickness of the unconsolidated deposits underlying the Site, direct connection to deeper bedrock aquifers is not expected. The bedrock at the Site consists of the Ste. Genevieve and St. Louis Formations which are included in the Group 1 (Post Maquoketa) Aquifers by Miller (Miller et al., 1974). The Group 1 aquifers are underlain by the Maquoketa Shale (Figure 2-6), which acts as an aquitard and prevents significant interaction between the Group 1 Aquifers and underlying aquifer groups (Miller et al., 1974). The Maquoketa Shale is considered part of the Ozark Confining Unit (Imes and Emmett, 1994). The following presents Miller's description of the Group 1 Aquifers.

“Group 1 (Post-Maquoketa) Aquifers – Water from Group 1 aquifers varies from a calcium-magnesium-bicarbonate type to a sodium-sulfate, sodium-bicarbonate, or a sodium-chloride type. The dissolved-solids content is quite variable, ranging from 246 to 6,880 milligrams per liter (mg/L). The water is generally low in iron and very hard. Slightly more than 75 percent of the wells sampled yielded water containing less than 0.3 mg/L of iron. Hardness of water from most of the wells was greater than 180 mg/L. Fluoride content of the water is relatively high. In 50 percent of the samples, the fluoride content was greater than 1.4 mg/L.

The data indicates that just over 50 percent of the wells sampled yielded potable water. These wells are, for the most part, near the outcrop line of Meramecian Series rocks (St. Louis, Salem, and Warsaw Formations) of Mississippian age, and, based upon the 25 percentile values, they yield predominantly calcium-magnesium, bicarbonate type of water. The higher dissolved-solids contents in water from Group 1 aquifers are from an area just north and northwest of the city of St. Louis in St. Louis County, and in extreme southeastern St. Louis County. Water in these areas generally is a sodium-chloride type, but it may also contain large amounts of calcium and sulfate. Variations in the predominant chemical characteristics between the calcium-magnesium-bicarbonate type and the sodium-chloride type are presumably related to the effects of geologic structure, the movement of water from overlying or underlying formations into Group 1 aquifers, and to the presence of certain minerals in the parent rock.

Waters having a high sulfate content are, for the most part, limited to the area underlain by rocks of Pennsylvanian age. These rocks comprise shales, sandstones, and siltstones that locally have minor amounts of pyrite and gypsum. These fine-grained rocks are relatively impermeable; however, over a large area, they could yield enough seepage to explain some of the sulfate anomalies in the study area.”

The Site is located in an area that is not considered favorable for the development of high-yield wells in bedrock aquifers due to “yields generally less than 50 gallons per minute (gpm) in shallow aquifers containing potable water; deeper aquifers yield saline water” (Miller et al., 1974, Figure 11, p. 20). The Site is in an area mapped as having high chloride content (approximately 50 mg/L) in the uppermost (Group 1) limestone bedrock aquifer (Miller et al., 1974, Figure 12, p. 28). High sulfate concentrations

were also reported for areas underlain by Pennsylvanian age rocks, which would include the Site due to the presence of the Cherokee and Marmation Groups. Therefore, the water quality of the uppermost bedrock aquifer is likely poor and not suitable as potable water.

Groundwater on the Carter Carburetor site was encountered at approximately 24 feet below ground surface (bgs) at the soil-bedrock interface during the 1995 Preliminary Assessment/Site Inspection (E&E, 1995c). Groundwater was encountered near the soil-bedrock interface during this investigation with slow recharge.

4.1.3 Surface Water Hydrogeology

General surface water drainage at the Site is by overland flow to storm sewer intakes located across the Site or to open drainage ditches that drain to storm sewers. The storm sewers discharge into MSD sewer system at several locations.

Presently, approximately 65 to 70 percent of the surface area at the Site is covered with buildings and paved parking lots. Several of the aboveground structures associated with discontinued processes have been demolished, although concrete at or below grade remains. An extensive network of utilities including potable and service water lines, storm sewers, sanitary sewers, and other utilities (typical of an industrial facility) are located underground.

4.1.4 Geological Results

Subsurface geologic units in the area of the Site is mainly composed of a silt-rich loess layer, clay-rich loess layer, and one layer of residual soil overlying St. Louis Limestone or the Cherokee Group (Lutzen and Rockaway, 1971).

The bedrock geology in the city of St. Louis consists of essentially flat-lying sedimentary formations, mostly limestone and dolomite (Lutzen and Rockaway, 1971). Geologic formations exposed in St. Louis county, which lies adjacent to and west of the city, range in age from Ordovician to middle Pennsylvanian.

The uppermost bedrock encountered in the area of the Site is the undifferentiated Pleasanton, Marmaton, and Cherokee Groups of Pennsylvanian age. Shales, siltstones, sandstones, coal beds, and thin limestone beds are the dominant lithology of these three groups. Regionally, the Pennsylvanian-age groups have a total thickness ranging from 10 to 300 feet. During the April 2003 investigation, bedrock was encountered at 24 feet bgs.

Underlying the Pennsylvanian strata is Mississippian-age limestone. The Ste. Genevieve Formation (0 to 160 feet thick), St. Louis Limestone (0 to 180 feet thick), Salem Formation (0 to 180 feet thick), and Warsaw Formation (0 to 110 feet thick) are all limestone and compose the upper portion of the Mississippian-age bedrock.

Site soil borings were completed as part of the Supplemental Environmental Field Investigation to provide site-specific stratigraphic and hydrogeologic data. Soil boring data indicate the presence of four general soil stratigraphic units overlying the bedrock surface at the Site. These four general units are defined in descending order as (1) Limestone Gravel/Concrete Unit, (2) Fill Unit, (3) Silty Clay Unit, and (4) Clay Unit.

Limestone Gravel/Concrete Unit

Upon demolition of the former North and South Diecast Buildings in 1998, the concrete floor of the buildings was sealed with an epoxy resin in order to eliminate/retard the movement of water through the concrete and to prevent the movement of PCBs from the concrete. In order to prevent contact with the portions of the concrete floor which had been impacted by PCBs, the floor was then covered with up to 3½-feet of crushed limestone in order to prevent contact with sealed concrete. Soil boring data indicate that the limestone fill material ranges from 1½ feet thick on the west side of the Diecast Buildings to 3½-feet thick along the southeast and east portions of the buildings. The limestone gravel is underlain by the concrete floor, which is from 4 to 6 inches thick.

Fill Unit

Soil boring data indicate that a heterogeneous Fill Unit overlies the native materials at most portions of the Diecast buildings. Fill generally consists of a clay/silty clay matrix, with intermixed sand, gravel, and cinders along with some brick and wood debris. Unit thickness varied across the Site, but was typically 3 to 6 feet in thickness with a maximum thickness of 15 feet. Brick fragments were found in borings near the southwest corner of the South Diecast Building at a depth of up to 18 feet bgs. These brick fragments found at depth could represent the location of a former cistern or sewer.

Silty Clay Unit

Soil boring data indicate the presence of a Silty Clay Unit beneath the surface or the previously defined Fill Unit. These native materials generally consisted of olive-gray to reddish-brown, soft to stiff, silty clay often containing iron oxidation discoloration. Unit thickness generally ranged from 6 to 19 feet. Soils from the Silty Clay Unit were characterized as having low to moderate moisture content; groundwater was not immediately observed in the soil borings upon completion.

Clay Unit

Soil boring data from the deeper soil borings indicate the presence of a Clay Unit underlying the Silty Clay Unit. These native materials generally consisted of reddish-orange tan to brown, stiff to very stiff, plastic clay. This unit was generally encountered at depths greater than 20 feet bgs and extended to the top of bedrock, which was encountered at a depth of between 19 and 29½ feet bgs. The typical depth to

bedrock was between 23 and 26 feet bgs. The Clay Unit generally included some coarse gravels intermixed with the clay at the bedrock interface.

Based on interpretations from the Site boring results, previous investigations, and regional geological information, the Silt Unit and the Clay Unit are expected to be relatively uniform and continuous beneath the Site and immediately surrounding area. As such, the units serve as an aquitard beneath the Site, limiting vertical migration of groundwater.

4.2 Analytical Results for Limited Groundwater Investigation

Groundwater samples were collected from each well to evaluate the concentration of PCBs and select organic constituents within the groundwater. Groundwater sampling activities were also completed to further evaluate the hydrogeological systems beneath the Site. Table 4-2 presents a summary of analytical results for the groundwater samples collected by PSC and MACTEC.

4.2.1 PCS Analytical Results

Four samples (PZ-01 thru PZ-04) and one field duplicate sample (PZ-01 DUP) were collected by PSC and analyzed (see Table 4.2 for summary) for volatile organic constituents (VOCs), semivolatile organic constituents (SVOCs), polychlorinated biphenyls (PCBs) and total petroleum hydrocarbons (TPH). PZ-03 was not sampled for TPH due to insufficient groundwater volume.

PCBs were not detected in the groundwater samples from the four wells. For the purgeable TPH fraction, benzene was the only constituent detected and only in PZ-01 at 2.09 micrograms per liter (ug/L) and PZ-04 at 7.23 ug/L. TPH as gasoline was only detected in PZ-04 at 2,140 ug/L. TPH extractable fractions were only detected in PZ-04. Concentrations for the TPH extractable fractions in the groundwater at that location ranged from 374 to 803 milligrams per liter (mg/L).

Volatile organics were detected in all four wells ranging in concentrations ranging from 2.4 ug/L to 370 ug/L. PZ-01 exhibited detection of trichlorofluoromethane, cis-1,2-dichloroethene (cis-DCE) and trichloroethene (TCE) at 5.0 ug/L, 28 ug/L and 14 ug/L respectively. Analysis of the field duplicate indicated acceptable analytical precision (less than 40% Relative Percent Difference (RPD)) for the duplicate results. Cis-DCE was also detected in PZ-02 and PZ-03 at 29 ug/L and 32 ug/L, respectively. TCE was also detected in PZ-02 and PZ-03 at 5.1 ug/L and 27 ug/L, respectively. PZ-04 exhibited positive results for 11 VOCs ranging in concentrations from 2.8 ug/L to 370 ug/L. TCE was not detected in this well, but degradation products cis-DCE (4.3 ug/L) and vinyl chloride (140 ug/L) were detected, indicating that natural attenuation is occurring at the site. Nine of the 11 volatile compounds that were detected are classified as benzene (aromatic) or substituted benzene compounds (substituted aromatics), for example: benzene; isopropylbenzene (1-methylethyl benzene); 1,2-dichlorobezene; etc. These compounds are integral components of gasoline, distillate fuels, fuel oil and other petroleum products and

can also be associated with industrial applications such as a degreasing or cleaning agent for metals. These compounds are practically insoluble in water.

The semivolatile analysis confirmed the volatile results for PZ-04. The SVOCs detected in PZ-04 were 1,4-dichlorobenzene, 1,2-dichlorobenzene, 1,3-dichlorobenzene and 1,2,4-trichlorobenzene. The results were comparable to the volatile fraction and exhibited acceptable precision between analytical methods. No SVOCs were detected in PZ-01, PZ-02, or PZ-03.

4.2.2 MACTEC Analytical Results

Based on the analytical results from the sampling by PCS, MACTEC sampled the four wells for VOC analysis only. As shown in Table 4-2, the results from the MACTEC sampling corresponded favorably to the initial groundwater sampling results with the majority of the results being within 15 percent of the value measured from the PSC sampling. The main exceptions were cis-DCE in wells PZ-02 and PZ-03 and trichlorofluoromethane in PZ-01. The variance in results (PZ-02; 29 ug/L verses 9.8 ug/L, PZ-03; 32 ug/L verses 3.9 ug/L, and PZ-01 5.0 ug/L verses 3.3 ug/L) could be attributed to fluctuating groundwater conditions, laboratory variances, or sample conditions such as turbidity.

5.0 Summary and Conclusions

Groundwater is present at the Site at depth between approximately 12 and 19 feet below ground surface which is below a typical construction worker exposure of 10 feet bgs. The groundwater gradient was calculated approximately 0.0155 feet per foot to the southeast, away from the Herbert Hoover Boys and Girls Club (Figure 4-1).

Based on the results of the laboratory analyses and a review of previous investigations conducted at the site, MACTEC believes that groundwater should be excluded in future exposure modeling and sampling.

PCBs were not detected in the groundwater samples collected from the four well installed for this Limited Groundwater Investigation. Low concentrations of VOCs were detected in samples collected from all four monitoring wells. The presence of cis-DCE and vinyl chloride in addition to TCE indicates that natural biodegradation of chlorinated hydrocarbon compounds is occurring.

Note that VOCs were not detected in previous groundwater sampling by EPA at a location just north of the Site (50 feet), or in the background sample collected in Fairground Park (approximately 5 blocks north of the Site). No PCBs or other contaminants attributable to the Site were detected by EPA in five water samples collected from four private water faucets at different locations of the Site

The area of the Site is urban with past commercial/ industrial activities, with development in the area dating to at least the late 1800's. The groundwater pathway was scored as a zero by Ecology and Environment, Inc. (E & E) for the US EPA during the Preliminary Assessment/Site Inspection (Memorandum from E & E to Paul Doherty of EPA dated April 6, 1996). No groundwater targets were identified within a 4-mile radius of the Site and there are not any receiving streams within a one-mile radius of the Site. A review of aerial photos, USGS topographic maps, and the USDA NRCS (SCS) soil survey indicate that the nearest receiving stream is the Mississippi River, located approximately two miles east of the facility. Surface stormwater runoff within the area is directed to the Metropolitan Sewer District (MSD) sewer system, with treatment and discharge at the Bissel Point Plant. Potable water supplies within St. Louis City and County are obtained from the Mississippi and Missouri Rivers, with intakes upgradient and greater than two miles from the Site. Wells identified by a well search of the Missouri Department of Natural Resources database within a 2-mile radius of the site were all industrial use, installed between 1904 and 1936. The nearest well to the Site (approximately 1,100 feet to the east) was installed in 1915 and plugged and abandoned with a note of saline groundwater. Literature indicates that the water quality of the uppermost bedrock aquifer is likely poor and not suitable as potable water.

Based on these results and the planned future use of the former Diecast Buildings portion of the Site, MACTEC believes that groundwater can be excluded from future exposure modeling and sampling.

TABLES

Table 4-1 Groundwater Elevation Summary, Limited Groundwater Investigation, March 2005, Former Cart

Monitoring Well	Top of Casing* Elevation	Well Screen Interval	Total Well Depth	March 3, 2005		March 10, 2005		March 24, 2005		Groundwater Gradient PZ-01 to PZ-03
				Depth to Groundwater	Groundwater Elevation	Depth to Groundwater	Groundwater Elevation	Depth to Groundwater	Groundwater Elevation	
PZ-01	98.30	7.54 - 22.54	22.54	12.45	85.85	12.74	85.56	11.85	86.45	0.0155
PZ-02	99.74	7.15 - 22.15	22.15	14.94	84.80	15.13	84.61	15.00	84.74	
PZ-03	101.75	7.0 - 22.0	22.0	19.00	82.75	19.09	82.66	19.25	82.50	
PZ-04	98.85	7.0 - 22.5	22.5	14.95	83.90	15.15	83.70	13.60	85.25	

Measurements are relative to an Onsite benchmark that has an elevation of 100.00
 Benchmark located North East support post of North Gate.

Table 4-2 Analytical Results, Limited Groundwater Investigation, March 2005, Former Carter Carburator Site

Analytical Parameter	PZ-01				PZ-02			PZ-03			PZ-04		
	PSC PZ-01	PSC PZ-01 Dup	MEC PZ-01	RPD	PSC PZ-02	MEC PZ-02	RPD	PSC PZ-03	MEC PZ-03	RPD	PSC PZ-04	MEC PZ-04	RPD
Date Sampled	3/3/2005	3/3/2005	3/24/2005		3/3/2005	3/28/2005		3/10/2005	3/24/2005		3/3/2005	3/24/2005	
BTEX+MTBE+TPH-G (ug/L)													
Benzene	2.09	<2	DNS		<2	DNS		<2	DNS		7.23	DNS	
TPH as Gasoline	<1,000	<1,000	DNS		<1,000	DNS		<1,000	DNS		2140	DNS	
Total Extractable Hydrocarbons (mg/L)													
TPH as Mineral Spirits	<0.10	<0.10	DNS		<0.10	DNS		NS	DNS		0.729	DNS	
TPH as Motor Oil	<0.15	<0.15	DNS		<0.15	DNS		NS	DNS		0.374	DNS	
TPH as Jet Fuel	<0.10	<0.10	DNS		<0.10	DNS		NS	DNS		0.803	DNS	
Volatile Organic Compounds (ug/L)													
Vinyl chloride	<5	<5	<1		<5	<1		<5	<1		140	130	7%
Trichlorofluoromethane	5.0	6.5	3.3	41%	<5	<1		<5	<1		<5	<2	
cis-1,2-Dichloroethene	28	36	20	33%	29	9.8	99%	32	3.9	157%	4.3	5.9	-31%
Benzene	<5	<5	<1		<5	<1		<5	<1		9.3	8.2	13%
Trichloroethene	14	19	10	33%	5.1	<1		27	30	-11%	<5	<2	
Chlorobenzene	<5	<5	<1		<5	<1		<5	<1		130	110	17%
Isopropylbenzene	<5	<5	<1		<5	<1		<5	<1		3.2	3.7	-14%
sec-Butylbenzene	<5	<5	<1		<5	<1		<5	<1		5.9	6.7	-13%
n-Butylbenzene	<5	<5	<1		<5	<1		<5	<1		2.4	2.8	-15%
tert-Butylbenzene	<5	<5	<1		<5	<1		<5	<1		<5	2.9	
n-Propylbenzene	<5	<5	<1		<5	<1		<5	<1		<5	2.3	
Acetone	<5	<5	<10		<5	<10		<5	<10		<5	23	
1,4-Dichlorobenzene	<5	<5	<1		<5	<1		<5	<1		78	63	21%
1,3-Dichlorobenzene	<5	<5	<1		<5	<1		<5	<1		360	370	-3%
1,2-Dichlorobenzene	<5	<5	<1		<5	<1		<5	<1		14	13	7%
1,2,4-Trichlorobenzene	<5	<5	<1		<5	<1		<5	<1		82	71	14%
Semi-Volatile Organic Compounds (ug/L)													
1,4-Dichlorobenzene	<10	<10	DNS		ND	DNS		<5	DNS		55	DNS	
1,3-Dichlorobenzene	<10	<10	DNS		ND	DNS		<5	DNS		250	DNS	
1,2-Dichlorobenzene	<10	<10	DNS		ND	DNS		<5	DNS		11	DNS	
1,2,4-Trichlorobenzene	<10	<10	DNS		ND	DNS		<5	DNS		62	DNS	
Polychlorinated Biphenyls (ug/L)													
PCBs	<1	<1	DNS		ND	DNS		<1	DNS		<1	DNS	

RPD = Relative Percent Difference PSC sample to MEC sample

<1 = non detect, less than indicted detection limit

Bold = Concentration measured

NS = No Sample, due to insufficient groundwater volume

DNS = Did not sample

PSC = Phillip Environmental Service Corporation

MEC = MACTEC Engineering and Consulting, Inc.

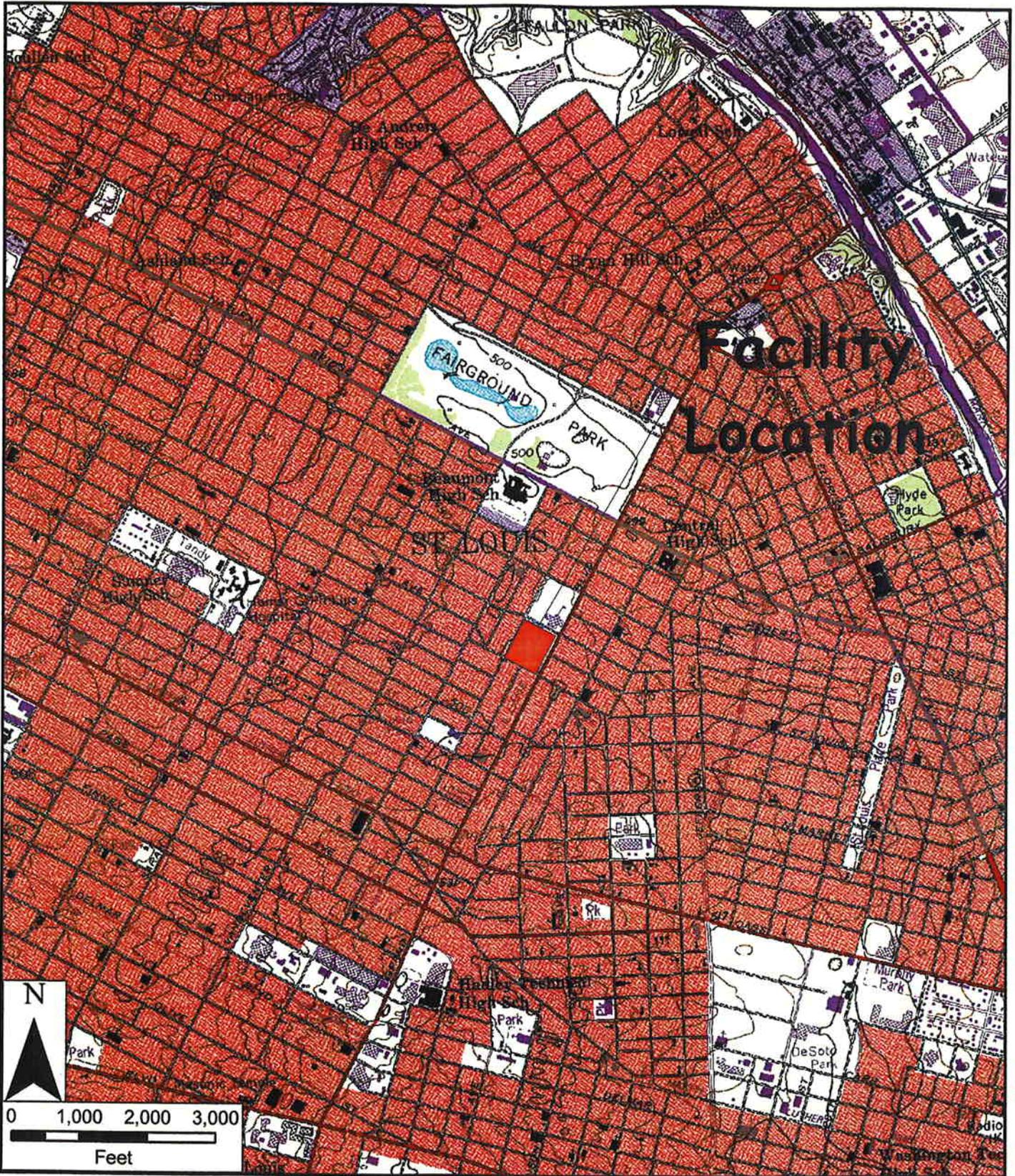
ug/L = micrograms per liter

mg/L = milligrams per liter

Created by: EMW 6/21/2005

Checked by: DLB 6/24/2005

FIGURES



**Facility
Location**

ST. LOUIS

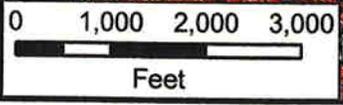
Handley High School

Park

DeSoto Park

Muraly Park

Washington Ave



Legend



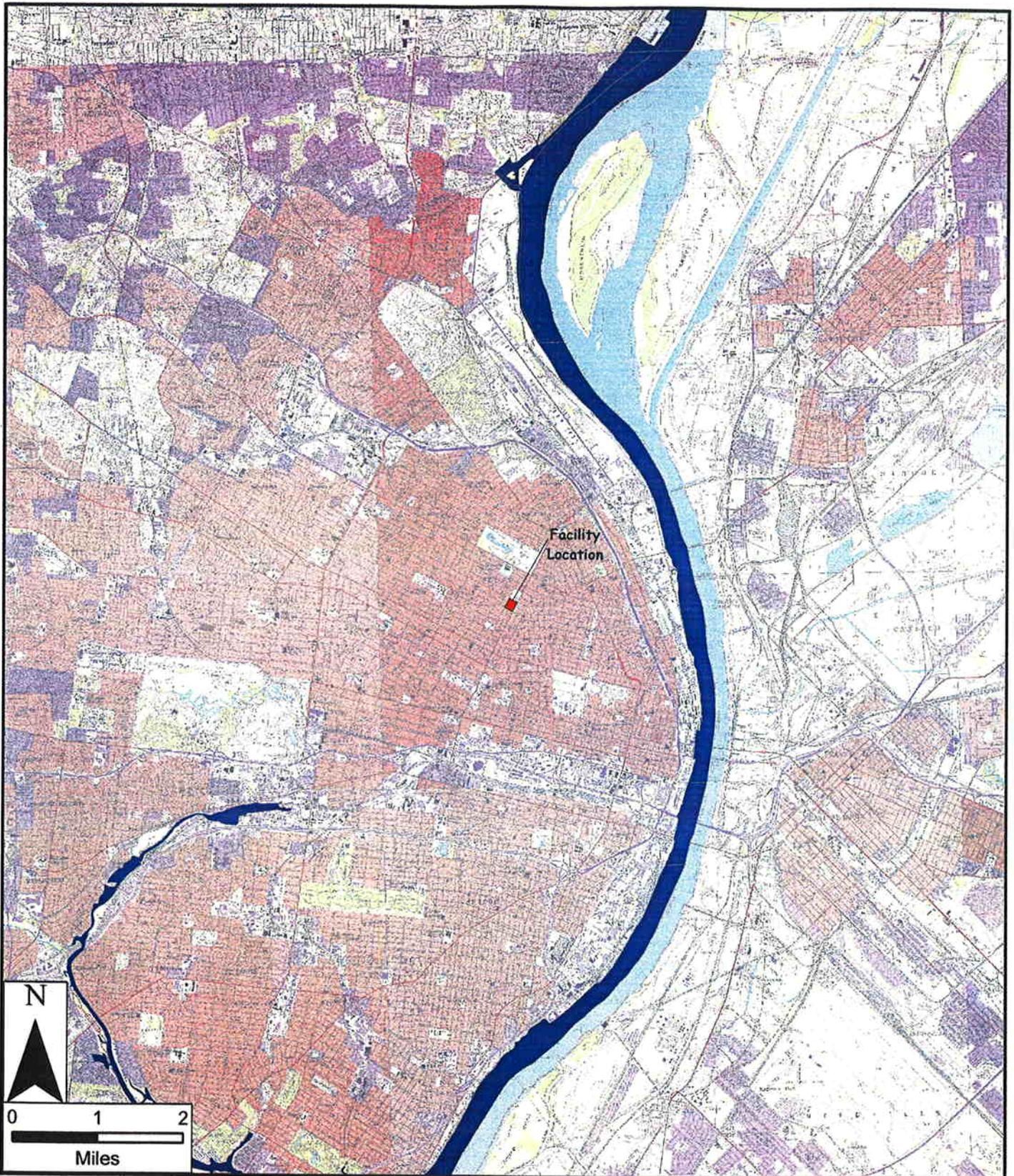
Facility Location

Drawn By: Approved by:

Checked By: Date: May 21, 2005



Figure 1-1
Former Carter Carburetor Site
Facility Location Map
St. Louis, Missouri



Legend

- Facility Location
- 100 Year Floodplain

Drawn By: BSM

Approved by:

Checked By:

Date: October 24, 2005



Figure 2-1
Former Carter Carburetor Site
100-year Floodplain Map
St. Louis, Missouri

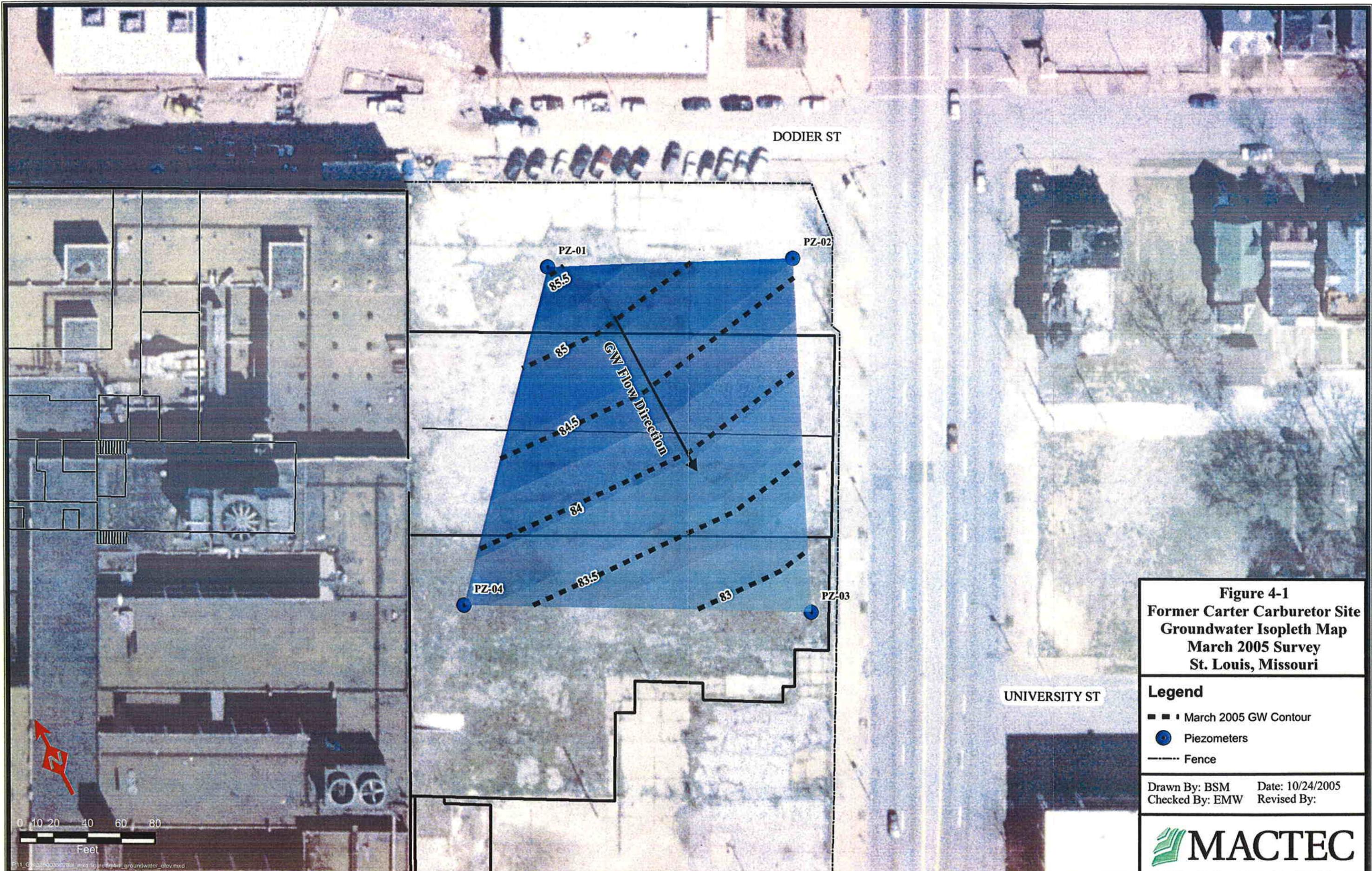


Figure 4-1
Former Carter Carburetor Site
Groundwater Isopleth Map
March 2005 Survey
St. Louis, Missouri

- Legend**
- ■ ■ March 2005 GW Contour
 - Piezometers
 - Fence

Drawn By: BSM Date: 10/24/2005
 Checked By: EMW Revised By:



0 10 20 40 60 80
 Feet

Appendix A

Analytical Laboratory Reports and Chain-of-Custody Forms



Pace Analytical Services, Inc.
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April 04, 2005

Mr. CHRIS TEDDER
MACTEC
3199 RIVERPORT TECH CENTER DR
MARYLAND HEIGHTS, MO 63043

RE: Lab Project Number: 6093202
Client Project ID: ACF-CARTER CARBURETOR

Dear Mr. TEDDER:

Enclosed are the analytical results for sample(s) received by the laboratory on March 25, 2005. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report please feel free to contact me.

Sincerely,

Angie Brown
angela.brown@pacelabs.com
Project Manager

Kansas/NELAP Certification Number E-10116

Enclosures

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Lab Project Number: 6093202
Client Project ID: ACF-CARTER CARBURETOR

<u>Project</u>	<u>Sample</u>				
<u>Sample Number</u>	<u>Number</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Collected</u>	<u>Date Received</u>
6093202-001	608003851	G-04-01-04	Soil	03/24/05 08:20	03/25/05 10:15
6093202-002	608003877	G-04-01-08	Soil	03/24/05 08:25	03/25/05 10:15
6093202-003	608003885	G-04-01-08D	Soil	03/24/05 08:25	03/25/05 10:15
6093202-004	608003893	G-04-01-15	Soil	03/24/05 08:34	03/25/05 10:15
6093202-005	608003901	G-04-01-21	Soil	03/24/05 08:40	03/25/05 10:15
6093202-006	608003919	G-04-02-04	Soil	03/24/05 08:52	03/25/05 10:15
6093202-007	608003935	G-04-02-04D	Soil	03/24/05 08:52	03/25/05 10:15
6093202-008	608003950	G-04-02-10	Soil	03/24/05 08:55	03/25/05 10:15
6093202-009	608003968	G-04-02-16	Soil	03/24/05 08:58	03/25/05 10:15
6093202-010	608003976	G-04-02-21	Soil	03/24/05 09:05	03/25/05 10:15
6093202-011	608003984	G-01-05-03	Soil	03/24/05 15:25	03/25/05 10:15
6093202-012	608004073	G-02-02-04	Soil	03/24/05 12:44	03/25/05 10:15
6093202-013	608004081	G-02-02-10	Soil	03/24/05 12:48	03/25/05 10:15
6093202-014	608004099	G-02-02-16	Soil	03/24/05 12:52	03/25/05 10:15
6093202-015	608004107	G-02-02-21	Soil	03/24/05 12:56	03/25/05 10:15
6093202-016	608004115	G-01-01-04	Soil	03/24/05 13:10	03/25/05 10:15
6093202-017	608004131	G-01-01-10	Soil	03/24/05 13:15	03/25/05 10:15
6093202-018	608004172	G-01-01-16	Soil	03/24/05 13:20	03/25/05 10:15
6093202-019	608004198	G-01-01-21	Soil	03/24/05 13:25	03/25/05 10:15
6093202-020	608004222	G-01-02-03	Soil	03/24/05 13:42	03/25/05 10:15
6093202-021	608004248	G-01-02-10	Soil	03/24/05 13:47	03/25/05 10:15
6093202-022	608004255	G-01-02-16	Soil	03/24/05 13:52	03/25/05 10:15
6093202-023	608004271	G-01-02-21	Soil	03/24/05 13:58	03/25/05 10:15
6093202-024	608004297	G-07-03-04	Soil	03/24/05 09:17	03/25/05 10:15
6093202-025	608004305	G-07-03-08	Soil	03/24/05 09:20	03/25/05 10:15
6093202-026	608004313	G-07-03-08D	Soil	03/24/05 09:20	03/25/05 10:15
6093202-027	608004321	G-07-03-15	Soil	03/24/05 09:30	03/25/05 10:15
6093202-028	608004339	G-07-03-21	Soil	03/24/05 09:38	03/25/05 10:15
6093202-029	608004347	G-03-01-04	Soil	03/24/05 09:52	03/25/05 10:15
6093202-030	608004354	G-03-01-08	Soil	03/24/05 09:58	03/25/05 10:15
6093202-031	608004362	G-03-01-12	Soil	03/24/05 10:00	03/25/05 10:15
6093202-032	608004370	G-03-01-20	Soil	03/24/05 10:06	03/25/05 10:15
6093202-033	608004388	G-03-02-04	Soil	03/24/05 10:42	03/25/05 10:15
6093202-034	608004404	G-03-02-04D	Soil	03/24/05 10:42	03/25/05 10:15
6093202-035	608004420	G-03-02-10	Soil	03/24/05 10:48	03/25/05 10:15
6093202-036	608004461	PZ-01-032405	Water	03/24/05 13:14	03/25/05 10:15
6093202-037	608004479	PZ-03-032405	Water	03/24/05 14:53	03/25/05 10:15
6093202-038	608004487	PZ-04-032405	Water	03/24/05 13:24	03/25/05 10:15

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SAMPLE ANALYTE COUNT

Lab Project Number: 6093202
 Client Project ID: ACF-CARTER CARBURETOR

Project	Analysis	Analyses
<u>Sample Number</u>	<u>Sample No</u> <u>Client Sample ID</u>	<u>Reported</u>
	<u>Code</u>	
	<u>Analysis Description</u>	
6093202-001	608003851 G-04-01-04	
	%MOISTURE	Percent Moisture
	8082 SPAC	PCBs in Soil by 8082
6093202-002	608003877 G-04-01-08	1
	%MOISTURE	Percent Moisture
	8082 SPAC	PCBs in Soil by 8082
6093202-003	608003885 G-04-01-08D	10
	%MOISTURE	Percent Moisture
	8082 SPAC	PCBs in Soil by 8082
6093202-004	608003893 G-04-01-15	1
	%MOISTURE	Percent Moisture
	8082 SPAC	PCBs in Soil by 8082
6093202-005	608003901 G-04-01-21	10
	%MOISTURE	Percent Moisture
	8082 SPAC	PCBs in Soil by 8082
6093202-006	608003919 G-04-02-04	1
	%MOISTURE	Percent Moisture
	8082 SPAC	PCBs in Soil by 8082
6093202-007	608003935 G-04-02-04D	10
	%MOISTURE	Percent Moisture
	8082 SPAC	PCBs in Soil by 8082
6093202-008	608003950 G-04-02-10	1
	%MOISTURE	Percent Moisture
	8082 SPAC	PCBs in Soil by 8082
6093202-009	608003968 G-04-02-16	10
	%MOISTURE	Percent Moisture
	8082 SPAC	PCBs in Soil by 8082
6093202-010	608003976 G-04-02-21	1
	%MOISTURE	Percent Moisture
	8082 SPAC	PCBs in Soil by 8082
6093202-011	608003984 G-01-05-03	10
	%MOISTURE	Percent Moisture
	8082 SPAC	PCBs in Soil by 8082
6093202-012	608004073 G-02-02-04	1
	%MOISTURE	Percent Moisture
	8082 SPAC	PCBs in Soil by 8082
6093202-013	608004081 G-02-02-10	10
	%MOISTURE	Percent Moisture
	8082 SPAC	PCBs in Soil by 8082
6093202-014	608004099 G-02-02-16	1
	%MOISTURE	Percent Moisture
	8082 SPAC	PCBs in Soil by 8082
6093202-015	608004107 G-02-02-21	10
	%MOISTURE	Percent Moisture
	8082 SPAC	PCBs in Soil by 8082
6093202-016	608004115 G-01-01-04	1
	%MOISTURE	Percent Moisture
	8082 SPAC	PCBs in Soil by 8082
6093202-017	608004131 G-01-01-10	10
	%MOISTURE	Percent Moisture
	8082 SPAC	PCBs in Soil by 8082
6093202-018	608004172 G-01-01-16	1
	%MOISTURE	Percent Moisture
	8082 SPAC	PCBs in Soil by 8082
6093202-019	608004198 G-01-01-21	10
	%MOISTURE	Percent Moisture
	8082 SPAC	PCBs in Soil by 8082
6093202-020	608004222 G-01-02-03	1
	%MOISTURE	Percent Moisture
	8082 SPAC	PCBs in Soil by 8082

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Lab Project Number: 6093202
 Client Project ID: ACF-CARTER CARBURETOR

Project	Analysis	Analyses
<u>Sample Number</u>	<u>Code</u>	<u>Reported</u>
6093202-021	%MOISTURE	1
	8082 SPAC	10
6093202-022	%MOISTURE	1
	8082 SPAC	10
6093202-023	%MOISTURE	1
	8082 SPAC	10
6093202-024	%MOISTURE	1
	8082 SPAC	10
6093202-025	%MOISTURE	1
	8082 SPAC	10
6093202-026	%MOISTURE	1
	8082 SPAC	10
6093202-027	%MOISTURE	1
	8082 SPAC	10
6093202-028	%MOISTURE	1
	8082 SPAC	10
6093202-029	%MOISTURE	1
	8082 SPAC	10
6093202-030	%MOISTURE	1
	8082 SPAC	10
6093202-031	%MOISTURE	1
	8082 SPAC	10
6093202-032	%MOISTURE	1
	8082 SPAC	10
6093202-033	%MOISTURE	1
	8082 SPAC	10
6093202-034	%MOISTURE	1
	8082 SPAC	10
6093202-035	%MOISTURE	1
	8082 SPAC	10
6093202-036	826LL WEPA	72
6093202-037	826LL WEPA	72
6093202-038	826LL WEPA	72

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Lab Project Number: 6093202
Client Project ID: ACF-CARTER CARBURETOR

***ALL QC IS NOT COMPLETE FOR QC SAMPLE(S):

ESN 608022547 BATCH 191143

ESN 608022554 BATCH 191143

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Lab Project Number: 6093202
 Client Project ID: ACF-CARTER CARBURETOR

Lab Sample No: 608004461 Project Sample Number: 6093202-036 Date Collected: 03/24/05 13:14
 Client Sample ID: PZ-01-032405 Matrix: Water Date Received: 03/25/05 10:15

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Volatiles								
GC/MS VOCs by 8260 (Low Level) Method: EPA 8260								
Acetone	ND	mg/l	0.01000	03/28/05 11:43	JKL	67-64-1		
Benzene	ND	mg/l	0.00100	03/28/05 11:43	JKL	71-43-2		
Bromobenzene	ND	mg/l	0.00100	03/28/05 11:43	JKL	108-86-1		
Bromochloromethane	ND	mg/l	0.00100	03/28/05 11:43	JKL	74-97-5		
Bromodichloromethane	ND	mg/l	0.00100	03/28/05 11:43	JKL	75-27-4		
Bromoform	ND	mg/l	0.00100	03/28/05 11:43	JKL	75-25-2		
Bromomethane	ND	mg/l	0.00100	03/28/05 11:43	JKL	74-83-9		
2-Butanone (MEK)	ND	mg/l	0.01000	03/28/05 11:43	JKL	78-93-3		
n-Butylbenzene	ND	mg/l	0.00100	03/28/05 11:43	JKL	104-51-8		
sec-Butylbenzene	ND	mg/l	0.00100	03/28/05 11:43	JKL	135-98-8		
tert-Butylbenzene	ND	mg/l	0.00100	03/28/05 11:43	JKL	98-06-6		
tert-Butyl Alcohol	ND	mg/l	0.01000	03/28/05 11:43	JKL	75-65-0		
Carbon disulfide	ND	mg/l	0.00500	03/28/05 11:43	JKL	75-15-0		
Carbon tetrachloride	ND	mg/l	0.00100	03/28/05 11:43	JKL	56-23-5		
Chlorobenzene	ND	mg/l	0.00100	03/28/05 11:43	JKL	108-90-7		
Chloroethane	ND	mg/l	0.00100	03/28/05 11:43	JKL	75-00-3		
Chloroform	ND	mg/l	0.00100	03/28/05 11:43	JKL	67-66-3		
Chloromethane	ND	mg/l	0.00100	03/28/05 11:43	JKL	74-87-3		
2-Chlorotoluene	ND	mg/l	0.00100	03/28/05 11:43	JKL	95-49-8		
4-Chlorotoluene	ND	mg/l	0.00100	03/28/05 11:43	JKL	106-43-4		
1,2-Dibromo-3-chloropropane	ND	mg/l	0.00250	03/28/05 11:43	JKL	96-12-8		
Dibromochloromethane	ND	mg/l	0.00100	03/28/05 11:43	JKL	124-48-1		
1,2-Dibromoethane (EDB)	ND	mg/l	0.00100	03/28/05 11:43	JKL	106-93-4		
Dibromomethane	ND	mg/l	0.00100	03/28/05 11:43	JKL	74-95-3		
1,2-Dichlorobenzene	ND	mg/l	0.00100	03/28/05 11:43	JKL	95-50-1		
1,3-Dichlorobenzene	ND	mg/l	0.00100	03/28/05 11:43	JKL	541-73-1		
1,4-Dichlorobenzene	ND	mg/l	0.00100	03/28/05 11:43	JKL	106-46-7		
Dichlorodifluoromethane	ND	mg/l	0.00100	03/28/05 11:43	JKL	75-71-8		
1,1-Dichloroethane	ND	mg/l	0.00100	03/28/05 11:43	JKL	75-34-3		
1,2-Dichloroethane	ND	mg/l	0.00100	03/28/05 11:43	JKL	107-06-2		
1,2-Dichloroethene (Total)	0.021	mg/l	0.00100	03/28/05 11:43	JKL	540-59-0		
1,1-Dichloroethene	ND	mg/l	0.00100	03/28/05 11:43	JKL	75-35-4		
cis-1,2-Dichloroethene	0.020	mg/l	0.00100	03/28/05 11:43	JKL	156-59-2		
trans-1,2-Dichloroethene	ND	mg/l	0.00100	03/28/05 11:43	JKL	156-60-5		
1,2-Dichloropropane	ND	mg/l	0.00100	03/28/05 11:43	JKL	78-87-5		
1,3-Dichloropropane	ND	mg/l	0.00100	03/28/05 11:43	JKL	142-28-9		
2,2-Dichloropropane	ND	mg/l	0.00100	03/28/05 11:43	JKL	594-20-7		

Date: 04/04/05

Page: 36 of 57

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Lab Project Number: 6093202
 Client Project ID: ACF-CARTER CARBURETOR

Lab Sample No: 608004461 Project Sample Number: 6093202-036 Date Collected: 03/24/05 13:14
 Client Sample ID: PZ-01-032405 Matrix: Water Date Received: 03/25/05 10:15

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
1,1-Dichloropropene	ND	mg/l	0.00100	03/28/05 11:43	JKL	563-58-6		
cis-1,3-Dichloropropene	ND	mg/l	0.00100	03/28/05 11:43	JKL	10061-01-5		
trans-1,3-Dichloropropene	ND	mg/l	0.00100	03/28/05 11:43	JKL	10061-02-6		
Ethylbenzene	ND	mg/l	0.00100	03/28/05 11:43	JKL	100-41-4		
Hexachloro-1,3-butadiene	ND	mg/l	0.00100	03/28/05 11:43	JKL	87-68-3		
2-Hexanone	ND	mg/l	0.01000	03/28/05 11:43	JKL	591-78-6		
Isopropylbenzene (Cumene)	ND	mg/l	0.00100	03/28/05 11:43	JKL	98-82-8		
p-Isopropyltoluene	ND	mg/l	0.00100	03/28/05 11:43	JKL	99-87-6		
Methylene chloride	ND	mg/l	0.00100	03/28/05 11:43	JKL	75-09-2		
4-Methyl-2-pentanone (MIBK)	ND	mg/l	0.01000	03/28/05 11:43	JKL	108-10-1		
Methyl-tert-butyl ether	ND	mg/l	0.00100	03/28/05 11:43	JKL	1634-04-4		
Naphthalene	ND	mg/l	0.01000	03/28/05 11:43	JKL	91-20-3		
n-Propylbenzene	ND	mg/l	0.00100	03/28/05 11:43	JKL	103-65-1		
Styrene	ND	mg/l	0.00100	03/28/05 11:43	JKL	100-42-5		
1,1,1,2-Tetrachloroethane	ND	mg/l	0.00100	03/28/05 11:43	JKL	630-20-6		
1,1,2,2-Tetrachloroethane	ND	mg/l	0.00100	03/28/05 11:43	JKL	79-34-5		
Tetrachloroethene	ND	mg/l	0.00100	03/28/05 11:43	JKL	127-18-4		
Toluene	ND	mg/l	0.00100	03/28/05 11:43	JKL	108-88-3		
1,2,3-Trichlorobenzene	ND	mg/l	0.00100	03/28/05 11:43	JKL	87-61-6		
1,2,4-Trichlorobenzene	ND	mg/l	0.00100	03/28/05 11:43	JKL	120-82-1		
1,1,1-Trichloroethane	ND	mg/l	0.00100	03/28/05 11:43	JKL	71-55-6		
1,1,2-Trichloroethane	ND	mg/l	0.00100	03/28/05 11:43	JKL	79-00-5		
Trichloroethene	0.010	mg/l	0.00100	03/28/05 11:43	JKL	79-01-6		
Trichlorofluoromethane	0.0033	mg/l	0.00100	03/28/05 11:43	JKL	75-69-4		
1,2,3-Trichloropropane	ND	mg/l	0.00250	03/28/05 11:43	JKL	96-18-4		
1,2,4-Trimethylbenzene	ND	mg/l	0.00100	03/28/05 11:43	JKL	95-63-6		
1,3,5-Trimethylbenzene	ND	mg/l	0.00100	03/28/05 11:43	JKL	108-67-8		
Vinyl chloride	ND	mg/l	0.00100	03/28/05 11:43	JKL	75-01-4		
Xylene (Total)	ND	mg/l	0.00300	03/28/05 11:43	JKL	1330-20-7		
m&p-Xylene	ND	mg/l	0.00200	03/28/05 11:43	JKL			
o-Xylene	ND	mg/l	0.00100	03/28/05 11:43	JKL	95-47-6		
Toluene-d8 (S)	98	%		03/28/05 11:43	JKL	2037-26-5		
4-Bromofluorobenzene (S)	103	%		03/28/05 11:43	JKL	460-00-4		
Dibromofluoromethane (S)	100	%		03/28/05 11:43	JKL	1868-53-7		
1,2-Dichloroethane-d4 (S)	90	%		03/28/05 11:43	JKL	17060-07-0		

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Lab Project Number: 6093202
 Client Project ID: ACF-CARTER CARBURETOR

Lab Sample No: 608004479 Project Sample Number: 6093202-037 Date Collected: 03/24/05 14:53
 Client Sample ID: PZ-03-032405 Matrix: Water Date Received: 03/25/05 10:15

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	ReqLmt
GC/MS Volatiles								
GC/MS VOCs by 8260 (Low Level) Method: EPA 8260								
Acetone	ND	mg/l	0.01000	03/28/05 12:00	JKL	67-64-1		
Benzene	ND	mg/l	0.00100	03/28/05 12:00	JKL	71-43-2		
Bromobenzene	ND	mg/l	0.00100	03/28/05 12:00	JKL	108-86-1		
Bromochloromethane	ND	mg/l	0.00100	03/28/05 12:00	JKL	74-97-5		
Bromodichloromethane	ND	mg/l	0.00100	03/28/05 12:00	JKL	75-27-4		
Bromoform	ND	mg/l	0.00100	03/28/05 12:00	JKL	75-25-2		
Bromomethane	ND	mg/l	0.00100	03/28/05 12:00	JKL	74-83-9		
2-Butanone (MEK)	ND	mg/l	0.01000	03/28/05 12:00	JKL	78-93-3		
n-Butylbenzene	ND	mg/l	0.00100	03/28/05 12:00	JKL	104-51-8		
sec-Butylbenzene	ND	mg/l	0.00100	03/28/05 12:00	JKL	135-98-8		
tert-Butylbenzene	ND	mg/l	0.00100	03/28/05 12:00	JKL	98-06-6		
tert-Butyl Alcohol	ND	mg/l	0.01000	03/28/05 12:00	JKL	75-65-0		
Carbon disulfide	ND	mg/l	0.00500	03/28/05 12:00	JKL	75-15-0		
Carbon tetrachloride	ND	mg/l	0.00100	03/28/05 12:00	JKL	56-23-5		
Chlorobenzene	ND	mg/l	0.00100	03/28/05 12:00	JKL	108-90-7		
Chloroethane	ND	mg/l	0.00100	03/28/05 12:00	JKL	75-00-3		
Chloroform	ND	mg/l	0.00100	03/28/05 12:00	JKL	67-66-3		
Chloromethane	ND	mg/l	0.00100	03/28/05 12:00	JKL	74-87-3		
2-Chlorotoluene	ND	mg/l	0.00100	03/28/05 12:00	JKL	95-49-8		
4-Chlorotoluene	ND	mg/l	0.00100	03/28/05 12:00	JKL	106-43-4		
1,2-Dibromo-3-chloropropane	ND	mg/l	0.00250	03/28/05 12:00	JKL	96-12-8		
Dibromochloromethane	ND	mg/l	0.00100	03/28/05 12:00	JKL	124-48-1		
1,2-Dibromoethane (EDB)	ND	mg/l	0.00100	03/28/05 12:00	JKL	106-93-4		
Dibromomethane	ND	mg/l	0.00100	03/28/05 12:00	JKL	74-95-3		
1,2-Dichlorobenzene	ND	mg/l	0.00100	03/28/05 12:00	JKL	95-50-1		
1,3-Dichlorobenzene	ND	mg/l	0.00100	03/28/05 12:00	JKL	541-73-1		
1,4-Dichlorobenzene	ND	mg/l	0.00100	03/28/05 12:00	JKL	106-46-7		
Dichlorodifluoromethane	ND	mg/l	0.00100	03/28/05 12:00	JKL	75-71-8		
1,1-Dichloroethane	ND	mg/l	0.00100	03/28/05 12:00	JKL	75-34-3		
1,2-Dichloroethane	ND	mg/l	0.00100	03/28/05 12:00	JKL	107-06-2		
1,2-Dichloroethene (Total)	0.039	mg/l	0.00100	03/28/05 12:00	JKL	540-59-0		
1,1-Dichloroethene	ND	mg/l	0.00100	03/28/05 12:00	JKL	75-35-4		
cis-1,2-Dichloroethene	0.039	mg/l	0.00100	03/28/05 12:00	JKL	156-59-2		
trans-1,2-Dichloroethene	ND	mg/l	0.00100	03/28/05 12:00	JKL	156-60-5		
1,2-Dichloropropane	ND	mg/l	0.00100	03/28/05 12:00	JKL	78-87-5		
1,3-Dichloropropane	ND	mg/l	0.00100	03/28/05 12:00	JKL	142-28-9		
2,2-Dichloropropane	ND	mg/l	0.00100	03/28/05 12:00	JKL	594-20-7		

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Lab Project Number: 6093202
 Client Project ID: ACF-CARTER CARBURETOR

Lab Sample No: 608004479 Project Sample Number: 6093202-037 Date Collected: 03/24/05 14:53
 Client Sample ID: PZ-03-032405 Matrix: Water Date Received: 03/25/05 10:15

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	ReqLmt
1,1-Dichloropropene	ND	mg/l	0.00100	03/28/05 12:00	JKL	563-58-6		
cis-1,3-Dichloropropene	ND	mg/l	0.00100	03/28/05 12:00	JKL	10061-01-5		
trans-1,3-Dichloropropene	ND	mg/l	0.00100	03/28/05 12:00	JKL	10061-02-6		
Ethylbenzene	ND	mg/l	0.00100	03/28/05 12:00	JKL	100-41-4		
Hexachloro-1,3-butadiene	ND	mg/l	0.00100	03/28/05 12:00	JKL	87-68-3		
2-Hexanone	ND	mg/l	0.01000	03/28/05 12:00	JKL	591-78-6		
Isopropylbenzene (Cumene)	ND	mg/l	0.00100	03/28/05 12:00	JKL	98-82-8		
p-Isopropyltoluene	ND	mg/l	0.00100	03/28/05 12:00	JKL	99-87-6		
Methylene chloride	ND	mg/l	0.00100	03/28/05 12:00	JKL	75-09-2		
4-Methyl-2-pentanone (MIBK)	ND	mg/l	0.01000	03/28/05 12:00	JKL	108-10-1		
Methyl-tert-butyl ether	ND	mg/l	0.00100	03/28/05 12:00	JKL	1634-04-4		
Naphthalene	ND	mg/l	0.01000	03/28/05 12:00	JKL	91-20-3		
n-Propylbenzene	ND	mg/l	0.00100	03/28/05 12:00	JKL	103-65-1		
Styrene	ND	mg/l	0.00100	03/28/05 12:00	JKL	100-42-5		
1,1,1,2-Tetrachloroethane	ND	mg/l	0.00100	03/28/05 12:00	JKL	630-20-6		
1,1,2,2-Tetrachloroethane	ND	mg/l	0.00100	03/28/05 12:00	JKL	79-34-5		
Tetrachloroethene	ND	mg/l	0.00100	03/28/05 12:00	JKL	127-18-4		
Toluene	ND	mg/l	0.00100	03/28/05 12:00	JKL	108-88-3		
1,2,3-Trichlorobenzene	ND	mg/l	0.00100	03/28/05 12:00	JKL	87-61-6		
1,2,4-Trichlorobenzene	ND	mg/l	0.00100	03/28/05 12:00	JKL	120-82-1		
1,1,1-Trichloroethane	ND	mg/l	0.00100	03/28/05 12:00	JKL	71-55-6		
1,1,2-Trichloroethane	ND	mg/l	0.00100	03/28/05 12:00	JKL	79-00-5		
Trichloroethene	0.030	mg/l	0.00100	03/28/05 12:00	JKL	79-01-6		
Trichlorofluoromethane	ND	mg/l	0.00100	03/28/05 12:00	JKL	75-69-4		
1,2,3-Trichloropropane	ND	mg/l	0.00250	03/28/05 12:00	JKL	96-18-4		
1,2,4-Trimethylbenzene	ND	mg/l	0.00100	03/28/05 12:00	JKL	95-63-6		
1,3,5-Trimethylbenzene	ND	mg/l	0.00100	03/28/05 12:00	JKL	108-67-8		
Vinyl chloride	ND	mg/l	0.00100	03/28/05 12:00	JKL	75-01-4		
Xylene (Total)	ND	mg/l	0.00300	03/28/05 12:00	JKL	1330-20-7		
m&p-Xylene	ND	mg/l	0.00200	03/28/05 12:00	JKL			
o-Xylene	ND	mg/l	0.00100	03/28/05 12:00	JKL	95-47-6		
Toluene-d8 (S)	98	%		03/28/05 12:00	JKL	2037-26-5		
4-Bromofluorobenzene (S)	104	%		03/28/05 12:00	JKL	460-00-4		
Dibromofluoromethane (S)	99	%		03/28/05 12:00	JKL	1868-53-7		
1,2-Dichloroethane-d4 (S)	93	%		03/28/05 12:00	JKL	17060-07-0		

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 Phone: 913.599.5665
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Lab Project Number: 6093202
 Client Project ID: ACF-CARTER CARBURETOR

Lab Sample No: 608004487 Project Sample Number: 6093202-038 Date Collected: 03/24/05 13:24
 Client Sample ID: PZ-04-032405 Matrix: Water Date Received: 03/25/05 10:15

Parameters Results Units Report Limit Analyzed By CAS No. Qual RegLmt

GC/MS Volatiles

GC/MS VOCs by 8260 (Low Level) Method: EPA 8260

Acetone	0.023	mg/l	0.02000	03/28/05	12:17	JKL	67-64-1		
Benzene	0.0082	mg/l	0.00200	03/28/05	12:17	JKL	71-43-2		
Bromobenzene	ND	mg/l	0.00200	03/28/05	12:17	JKL	108-86-1		
Bromochloromethane	ND	mg/l	0.00200	03/28/05	12:17	JKL	74-97-5		
Bromodichloromethane	ND	mg/l	0.00200	03/28/05	12:17	JKL	75-27-4		
Bromoform	ND	mg/l	0.00200	03/28/05	12:17	JKL	75-25-2		
Bromomethane	ND	mg/l	0.00200	03/28/05	12:17	JKL	74-83-9		
2-Butanone (MEK)	ND	mg/l	0.02000	03/28/05	12:17	JKL	78-93-3		
n-Butylbenzene	0.0028	mg/l	0.00200	03/28/05	12:17	JKL	104-51-8		
sec-Butylbenzene	0.0067	mg/l	0.00200	03/28/05	12:17	JKL	135-98-8		
tert-Butylbenzene	0.0029	mg/l	0.00200	03/28/05	12:17	JKL	98-06-6		
tert-Butyl Alcohol	ND	mg/l	0.02000	03/28/05	12:17	JKL	75-65-0		
Carbon disulfide	ND	mg/l	0.01000	03/28/05	12:17	JKL	75-15-0		
Carbon tetrachloride	ND	mg/l	0.00200	03/28/05	12:17	JKL	56-23-5		
Chlorobenzene	0.11	mg/l	0.00200	03/28/05	12:17	JKL	108-90-7		
Chloroethane	ND	mg/l	0.00200	03/28/05	12:17	JKL	75-00-3		
Chloroform	ND	mg/l	0.00200	03/28/05	12:17	JKL	67-66-3		
Chloromethane	ND	mg/l	0.00200	03/28/05	12:17	JKL	74-87-3		
2-Chlorotoluene	ND	mg/l	0.00200	03/28/05	12:17	JKL	95-49-8		
4-Chlorotoluene	ND	mg/l	0.00200	03/28/05	12:17	JKL	106-43-4		
1,2-Dibromo-3-chloropropane	ND	mg/l	0.00500	03/28/05	12:17	JKL	96-12-8		
Dibromochloromethane	ND	mg/l	0.00200	03/28/05	12:17	JKL	124-48-1		
1,2-Dibromoethane (EDB)	ND	mg/l	0.00200	03/28/05	12:17	JKL	106-93-4		
Dibromomethane	ND	mg/l	0.00200	03/28/05	12:17	JKL	74-95-3		
1,2-Dichlorobenzene	0.013	mg/l	0.00200	03/28/05	12:17	JKL	95-50-1		
1,3-Dichlorobenzene	0.37	mg/l	0.00200	03/28/05	12:17	JKL	541-73-1		
1,4-Dichlorobenzene	0.063	mg/l	0.00200	03/28/05	12:17	JKL	106-46-7		
Dichlorodifluoromethane	ND	mg/l	0.00200	03/28/05	12:17	JKL	75-71-8		
1,1-Dichloroethane	ND	mg/l	0.00200	03/28/05	12:17	JKL	75-34-3		
1,2-Dichloroethane	ND	mg/l	0.00200	03/28/05	12:17	JKL	107-06-2		
1,2-Dichloroethene (Total)	0.0059	mg/l	0.00200	03/28/05	12:17	JKL	540-59-0		
1,1-Dichloroethene	ND	mg/l	0.00200	03/28/05	12:17	JKL	75-35-4		
cis-1,2-Dichloroethene	0.0059	mg/l	0.00200	03/28/05	12:17	JKL	156-59-2		
trans-1,2-Dichloroethene	ND	mg/l	0.00200	03/28/05	12:17	JKL	156-60-5		
1,2-Dichloropropane	ND	mg/l	0.00200	03/28/05	12:17	JKL	78-87-5		
1,3-Dichloropropane	ND	mg/l	0.00200	03/28/05	12:17	JKL	142-28-9		
2,2-Dichloropropane	ND	mg/l	0.00200	03/28/05	12:17	JKL	594-20-7		

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Lab Project Number: 6093202
 Client Project ID: ACF-CARTER CARBURETOR

Lab Sample No: 608004487 Project Sample Number: 6093202-038 Date Collected: 03/24/05 13:24
 Client Sample ID: PZ-04-032405 Matrix: Water Date Received: 03/25/05 10:15

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	ReqLmt
1,1-Dichloropropene	ND	mg/l	0.00200	03/28/05 12:17	JKL	563-58-6		
cis-1,3-Dichloropropene	ND	mg/l	0.00200	03/28/05 12:17	JKL	10061-01-5		
trans-1,3-Dichloropropene	ND	mg/l	0.00200	03/28/05 12:17	JKL	10061-02-6		
Ethylbenzene	ND	mg/l	0.00200	03/28/05 12:17	JKL	100-41-4		
Hexachloro-1,3-butadiene	ND	mg/l	0.00200	03/28/05 12:17	JKL	87-68-3		
2-Hexanone	ND	mg/l	0.02000	03/28/05 12:17	JKL	591-78-6		
Isopropylbenzene (Cumene)	0.0037	mg/l	0.00200	03/28/05 12:17	JKL	98-82-8		
p-Isopropyltoluene	ND	mg/l	0.00200	03/28/05 12:17	JKL	99-87-6		
Methylene chloride	ND	mg/l	0.00100	03/25/05 21:28	JKL	75-09-2		
4-Methyl-2-pentanone (MIBK)	ND	mg/l	0.02000	03/28/05 12:17	JKL	108-10-1		
Methyl-tert-butyl ether	ND	mg/l	0.00200	03/28/05 12:17	JKL	1634-04-4		
Naphthalene	ND	mg/l	0.02000	03/28/05 12:17	JKL	91-20-3		
n-Propylbenzene	0.0023	mg/l	0.00200	03/28/05 12:17	JKL	103-65-1		
Styrene	ND	mg/l	0.00200	03/28/05 12:17	JKL	100-42-5		
1,1,1,2-Tetrachloroethane	ND	mg/l	0.00200	03/28/05 12:17	JKL	630-20-6		
1,1,2,2-Tetrachloroethane	ND	mg/l	0.00200	03/28/05 12:17	JKL	79-34-5		
Tetrachloroethene	ND	mg/l	0.00200	03/28/05 12:17	JKL	127-18-4		
Toluene	ND	mg/l	0.00200	03/28/05 12:17	JKL	108-88-3		
1,2,3-Trichlorobenzene	ND	mg/l	0.00200	03/28/05 12:17	JKL	87-61-6		
1,2,4-Trichlorobenzene	0.071	mg/l	0.00200	03/28/05 12:17	JKL	120-82-1		
1,1,1-Trichloroethane	ND	mg/l	0.00200	03/28/05 12:17	JKL	71-55-6		
1,1,2-Trichloroethane	ND	mg/l	0.00200	03/28/05 12:17	JKL	79-00-5		
Trichloroethene	ND	mg/l	0.00200	03/28/05 12:17	JKL	79-01-6		
Trichlorofluoromethane	ND	mg/l	0.00200	03/28/05 12:17	JKL	75-69-4		
1,2,3-Trichloropropane	ND	mg/l	0.00500	03/28/05 12:17	JKL	96-18-4		
1,2,4-Trimethylbenzene	ND	mg/l	0.00200	03/28/05 12:17	JKL	95-63-6		
1,3,5-Trimethylbenzene	ND	mg/l	0.00200	03/28/05 12:17	JKL	108-67-8		
Vinyl chloride	0.13	mg/l	0.00200	03/28/05 12:17	JKL	75-01-4		
Xylene (Total)	ND	mg/l	0.00600	03/28/05 12:17	JKL	1330-20-7		
m&p-Xylene	ND	mg/l	0.00400	03/28/05 12:17	JKL			
o-Xylene	ND	mg/l	0.00200	03/28/05 12:17	JKL	95-47-6		
Toluene-d8 (S)	103	%		03/28/05 12:17	JKL	2037-26-5		
4-Bromofluorobenzene (S)	109	%		03/28/05 12:17	JKL	460-00-4		
Dibromofluoromethane (S)	101	%		03/28/05 12:17	JKL	1868-53-7		
1,2-Dichloroethane-d4 (S)	98	%		03/28/05 12:17	JKL	17060-07-0		

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Lab Project Number: 6093202
Client Project ID: ACF-CARTER CARBURETOR

PARAMETER FOOTNOTES

ND Not detected at or above adjusted reporting limit
NC Not Calculable
J Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
MDL Adjusted Method Detection Limit
(S) Surrogate
[1] Surrogate standards were not recovered due to sample dilution.

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QUALITY CONTROL DATA

Lab Project Number: 6093202
 Client Project ID: ACF-CARTER CARBURETOR

QC Batch: 190879	Analysis Method: EPA 8082				
QC Batch Method: EPA 3550	Analysis Description: PCBs in Soil by 8082				
Associated Lab Samples:	608003877	608003885	608003893	608003901	608003919
	608003935	608003950	608003968	608003976	608003984
	608004073	608004081	608004099	608004107	608004115
	608004131	608004172	608004198	608004222	608004248

METHOD BLANK: 608014965							
Associated Lab Samples:	608003877	608003885	608003893	608003901	608003919	608003935	608003950
	608003968	608003976	608003984	608004073	608004081	608004099	608004107
	608004115	608004131	608004172	608004198	608004222	608004248	

Parameter	Units	Blank	Reporting	Footnotes
		Result	Limit	
PCB-1016 (Aroclor 1016)	mg/kg	ND	0.50	
PCB-1221 (Aroclor 1221)	mg/kg	ND	0.50	
PCB-1232 (Aroclor 1232)	mg/kg	ND	0.50	
PCB-1242 (Aroclor 1242)	mg/kg	ND	0.50	
PCB-1248 (Aroclor 1248)	mg/kg	ND	0.50	
PCB-1254 (Aroclor 1254)	mg/kg	ND	0.50	
PCB-1260 (Aroclor 1260)	mg/kg	ND	0.50	
Decachlorobiphenyl (S)	%	75		
Tetrachloro-m-xylene (S)	%	79		

LABORATORY CONTROL SAMPLE: 608014973

Parameter	Units	Spike	LCS	LCS	% Rec	Footnotes
		Conc.	Result	% Rec	Limits	
PCB-1016 (Aroclor 1016)	mg/kg	2.500	2.1710	87	59-115	
PCB-1260 (Aroclor 1260)	mg/kg	2.500	2.1640	87	55-120	
Decachlorobiphenyl (S)				82	28-150	
Tetrachloro-m-xylene (S)				81	33-135	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 608014981 608014999

Parameter	Units	608003893	Spike	MS	MSD	MS	MSD	% Rec	Max	Footnotes
		Result	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	
PCB-1016 (Aroclor 1016)	mg/kg	0.00000	3.128	3.8160	3.8340	122	123	46-120	0	17 1,1

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QUALITY CONTROL DATA

Lab Project Number: 6093202
Client Project ID: ACF-CARTER CARBURETOR

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 608014981 608014999

Table with columns: Parameter, Units, 608003893 Result, Spike Conc., MS Result, MSD Result, % Rec, % Rec, Limits, RPD, RPD, Footnotes. Rows include PCB-1260 (Aroclor 1260), Decachlorobiphenyl (S), and Tetrachloro-m-xylene (S).

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QUALITY CONTROL DATA

Lab Project Number: 6093202
 Client Project ID: ACF-CARTER CARBURETOR

METHOD BLANK: 608010450
 Associated Lab Samples: 608004461 608004479 608004487

Parameter	Units	Blank	Reporting	Footnotes
		Result	Limit	
1,1-Dichloroethene	mg/l	ND	0.0010	
cis-1,2-Dichloroethene	mg/l	ND	0.0010	
trans-1,2-Dichloroethene	mg/l	ND	0.0010	
1,2-Dichloropropane	mg/l	ND	0.0010	
1,3-Dichloropropane	mg/l	ND	0.0010	
2,2-Dichloropropane	mg/l	ND	0.0010	
1,1-Dichloropropene	mg/l	ND	0.0010	
cis-1,3-Dichloropropene	mg/l	ND	0.0010	
trans-1,3-Dichloropropene	mg/l	ND	0.0010	
Ethylbenzene	mg/l	ND	0.0010	
Hexachloro-1,3-butadiene	mg/l	ND	0.0010	
2-Hexanone	mg/l	ND	0.010	
Isopropylbenzene (Cumene)	mg/l	ND	0.0010	
p-Isopropyltoluene	mg/l	ND	0.0010	
Methylene chloride	mg/l	0.0015	0.0010	2
4-Methyl-2-pentanone (MIBK)	mg/l	ND	0.010	
Methyl-tert-butyl ether	mg/l	ND	0.0010	
Naphthalene	mg/l	ND	0.010	
n-Propylbenzene	mg/l	ND	0.0010	
Styrene	mg/l	ND	0.0010	
1,1,1,2-Tetrachloroethane	mg/l	ND	0.0010	
1,1,2,2-Tetrachloroethane	mg/l	ND	0.0010	
Tetrachloroethene	mg/l	ND	0.0010	
Toluene	mg/l	ND	0.0010	
1,2,3-Trichlorobenzene	mg/l	ND	0.0010	
1,2,4-Trichlorobenzene	mg/l	ND	0.0010	
1,1,1-Trichloroethane	mg/l	ND	0.0010	
1,1,2-Trichloroethane	mg/l	ND	0.0010	
Trichloroethene	mg/l	ND	0.0010	
Trichlorofluoromethane	mg/l	ND	0.0010	
1,2,3-Trichloropropane	mg/l	ND	0.0025	
1,2,4-Trimethylbenzene	mg/l	ND	0.0010	
1,3,5-Trimethylbenzene	mg/l	ND	0.0010	
Vinyl chloride	mg/l	ND	0.0010	
Xylene (Total)	mg/l	ND	0.0030	
m&p-Xylene	mg/l	ND	0.0020	

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QUALITY CONTROL DATA

Lab Project Number: 6093202
 Client Project ID: ACF-CARTER CARBURETOR

METHOD BLANK: 608010450
 Associated Lab Samples: 608004461 608004479 608004487

Parameter	Units	Blank	Reporting	Footnotes
		Result	Limit	
o-Xylene	mg/l	ND	0.0010	
Toluene-d8 (S)	%	98		
4-Bromofluorobenzene (S)	%	103		
Dibromofluoromethane (S)	%	98		
1,2-Dichloroethane-d4 (S)	%	90		

LABORATORY CONTROL SAMPLE: 608010468

Parameter	Units	Spike	LCS	LCS	% Rec	Footnotes
		Conc.	Result	% Rec	Limits	
Acetone	mg/l	0.0200	0.0220	110	22-150	
Benzene	mg/l	0.0100	0.0107	107	78-122	
Bromobenzene	mg/l	0.0100	0.0105	105	77-122	
Bromochloromethane	mg/l	0.0100	0.0108	108	72-126	
Bromodichloromethane	mg/l	0.0100	0.0103	103	76-129	
Bromoform	mg/l	0.0100	0.0103	103	71-126	
Bromomethane	mg/l	0.0100	0.0151	151	16-150	3
2-Butanone (MEK)	mg/l	0.0200	0.0128	64	32-150	
n-Butylbenzene	mg/l	0.0100	0.0108	108	70-127	
sec-Butylbenzene	mg/l	0.0100	0.0105	105	75-128	
tert-Butylbenzene	mg/l	0.0100	0.0107	107	74-125	
tert-Butyl Alcohol	mg/l	0.0500	0.0546	109	50-150	
Carbon disulfide	mg/l	0.0200	0.0231	116	11-150	
Carbon tetrachloride	mg/l	0.0100	0.0098	98	71-136	
Chlorobenzene	mg/l	0.0100	0.0103	103	79-121	
Chloroethane	mg/l	0.0100	0.0112	112	27-150	
Chloroform	mg/l	0.0100	0.0101	101	75-122	
Chloromethane	mg/l	0.0100	0.0098	98	31-150	
2-Chlorotoluene	mg/l	0.0100	0.0106	106	76-124	
4-Chlorotoluene	mg/l	0.0100	0.0103	103	77-123	
1,2-Dibromo-3-chloropropane	mg/l	0.0100	0.0109	109	62-131	
Dibromochloromethane	mg/l	0.0100	0.0110	110	74-126	
1,2-Dibromoethane (EDB)	mg/l	0.0100	0.0108	108	76-126	
Dibromomethane	mg/l	0.0100	0.0108	108	75-126	
1,2-Dichlorobenzene	mg/l	0.0100	0.0107	107	77-124	

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QUALITY CONTROL DATA

Lab Project Number: 6093202
Client Project ID: ACF-CARTER CARBURETOR

LABORATORY CONTROL SAMPLE: 608010468

Parameter	Units	Spike	LCS	LCS	% Rec	Footnotes
		Conc.	Result	% Rec	Limits	
1,3-Dichlorobenzene	mg/l	0.0100	0.0102	102	78-120	
1,4-Dichlorobenzene	mg/l	0.0100	0.0102	102	76-120	
Dichlorodifluoromethane	mg/l	0.0100	0.0071	70	10-149	
1,1-Dichloroethane	mg/l	0.0100	0.0105	105	73-130	
1,2-Dichloroethane	mg/l	0.0100	0.0098	98	74-131	
1,2-Dichloroethene (Total)	mg/l	0.0200	0.0224	112	79-126	
1,1-Dichloroethene	mg/l	0.0100	0.0113	113	71-134	
cis-1,2-Dichloroethene	mg/l	0.0100	0.0108	108	78-123	
trans-1,2-Dichloroethene	mg/l	0.0100	0.0116	116	75-133	
1,2-Dichloropropane	mg/l	0.0100	0.0109	109	77-122	
1,3-Dichloropropane	mg/l	0.0100	0.0109	109	78-124	
2,2-Dichloropropane	mg/l	0.0100	0.0103	103	61-142	
1,1-Dichloropropene	mg/l	0.0100	0.0105	105	76-131	
cis-1,3-Dichloropropene	mg/l	0.0100	0.0107	107	77-128	
trans-1,3-Dichloropropene	mg/l	0.0100	0.0107	107	75-133	
Ethylbenzene	mg/l	0.0100	0.0104	104	78-121	
Hexachloro-1,3-butadiene	mg/l	0.0100	0.0102	102	65-132	
2-Hexanone	mg/l	0.0200	0.0222	111	50-138	
Isopropylbenzene (Cumene)	mg/l	0.0100	0.0101	101	72-118	
p-Isopropyltoluene	mg/l	0.0100	0.0101	101	73-122	
Methylene chloride	mg/l	0.0100	0.0149	149	66-134	3
4-Methyl-2-pentanone (MIBK)	mg/l	0.0200	0.0225	112	54-131	
Methyl-tert-butyl ether	mg/l	0.0100	0.0104	104	61-131	
Naphthalene	mg/l	0.0100	0.0115	115	51-141	
n-Propylbenzene	mg/l	0.0100	0.0109	109	75-125	
Styrene	mg/l	0.0100	0.0111	111	79-125	
1,1,1,2-Tetrachloroethane	mg/l	0.0100	0.0102	102	80-123	
1,1,2,2-Tetrachloroethane	mg/l	0.0100	0.0117	117	69-127	
Tetrachloroethene	mg/l	0.0100	0.0099	99	75-126	
Toluene	mg/l	0.0100	0.0103	103	77-120	
1,2,3-Trichlorobenzene	mg/l	0.0100	0.0106	106	58-134	
1,2,4-Trichlorobenzene	mg/l	0.0100	0.0106	106	66-127	
1,1,1-Trichloroethane	mg/l	0.0100	0.0100	100	73-131	
1,1,2-Trichloroethane	mg/l	0.0100	0.0114	114	77-126	
Trichloroethene	mg/l	0.0100	0.0102	102	75-125	
Trichlorofluoromethane	mg/l	0.0100	0.0088	88	62-136	
1,2,3-Trichloropropane	mg/l	0.0100	0.0100	100	73-127	

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QUALITY CONTROL DATA

Lab Project Number: 6093202
 Client Project ID: ACF-CARTER CARBURETOR

LABORATORY CONTROL SAMPLE: 608010468

Parameter	Units	Spike	LCS	LCS	% Rec	Footnotes
		Conc.	Result	% Rec	Limits	
1,2,4-Trimethylbenzene	mg/l	0.0100	0.0110	110	76-124	
1,3,5-Trimethylbenzene	mg/l	0.0100	0.0106	106	76-124	
Vinyl chloride	mg/l	0.0100	0.0103	103	47-142	
Xylene (Total)	mg/l	0.0300	0.0317	106	78-124	
m&p-Xylene	mg/l	0.0200	0.0210	105	77-123	
o-Xylene	mg/l	0.0100	0.0107	107	76-125	
Toluene-d8 (S)				100	88-110	
4-Bromofluorobenzene (S)				106	86-115	
Dibromofluoromethane (S)				100	86-118	
1,2-Dichloroethane-d4 (S)				95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 608010823 608010831

Parameter	Units	608006862	Spike	MS	MSD	MS	MSD	% Rec	Max	Footnotes	
		Result	Conc.	Result	Result	% Rec	% Rec	Limits	RPD		RPD
cis-1,2-Dichloroethene	mg/l	0.00000	0.0100	0.0110	0.0083	110	83	70-145	28	20	4
Ethylbenzene	mg/l	0.00000	0.0100	0.0104	0.0079	104	79	57-145	27	26	4
Tetrachloroethene	mg/l	0.00000	0.0100	0.0104	0.0078	104	78	61-146	28	24	4
Toluene	mg/l	0.00000	0.0100	0.0105	0.0080	105	80	61-140	27	26	4
Trichloroethene	mg/l	0.00000	0.0100	0.0104	0.0079	104	78	59-144	28	25	4
Xylene (Total)	mg/l	0.00000	0.0300	0.0317	0.0242	106	81	53-149	27	26	4
m&p-Xylene	mg/l	0.00000	0.0200	0.0212	0.0161	106	80	65-143	27	28	
o-Xylene	mg/l	0.00000	0.0100	0.0105	0.0081	105	81	61-150	26	26	
Toluene-d8 (S)						99	99	88-110			
4-Bromofluorobenzene (S)						103	102	86-115			
Dibromofluoromethane (S)						100	98	86-118			
1,2-Dichloroethane-d4 (S)						96	95	80-120			

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QUALITY CONTROL DATA

Lab Project Number: 6093202
Client Project ID: ACF-CARTER CARBURETOR

QC Batch: 190823 Analysis Method: SM 2540G
QC Batch Method: SM 2540G Analysis Description: Percent Moisture
Associated Lab Samples: 608003851 608003877 608003885 608003893 608003901

SAMPLE DUPLICATE: 608014080

Table with 7 columns: Parameter, Units, 608003703 Result, DUP Result, RPD, RPD, Footnotes. Row 1: Percent Moisture, %, 22.00, 21.40, 3.

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QUALITY CONTROL DATA

Lab Project Number: 6093202
 Client Project ID: ACF-CARTER CARBURETOR

QC Batch: 190824	Analysis Method: SM 2540G				
QC Batch Method: SM 2540G	Analysis Description: Percent Moisture				
Associated Lab Samples:	608003919	608003935	608003950	608003968	608003976
	608003984	608004073	608004081	608004099	608004107
	608004115	608004131	608004172	608004198	608004222
	608004248				

SAMPLE DUPLICATE: 608014098

<u>Parameter</u>	<u>Units</u>	608003919		DUP		<u>Footnotes</u>
		<u>Result</u>	<u>Result</u>	<u>RPD</u>	<u>RPD</u>	
Percent Moisture	%	21.00	20.60	2		

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QUALITY CONTROL DATA

Lab Project Number: 6093202
 Client Project ID: ACF-CARTER CARBURETOR

QC Batch: 190930	Analysis Method: SM 2540G				
QC Batch Method: SM 2540G	Analysis Description: Percent Moisture				
Associated Lab Samples:	608004255	608004271	608004297	608004305	608004313
	608004321	608004339	608004347	608004354	608004362
	608004370	608004388	608004404	608004420	

SAMPLE DUPLICATE: 608017596

<u>Parameter</u>	<u>Units</u>	608004255	DUP	<u>RPD</u>	<u>RPD</u>	<u>Footnotes</u>
		<u>Result</u>	<u>Result</u>			
Percent Moisture	%	22.20	21.60	3		

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Lab Project Number: 6093202
Client Project ID: ACF-CARTER CARBURETOR

QUALITY CONTROL DATA PARAMETER FOOTNOTES

Consistent with EPA guidelines, unrounded concentrations are displayed and have been used to calculate % Rec and RPD values.

- LCS(D) Laboratory Control Sample (Duplicate)
- MS(D) Matrix Spike (Duplicate)
- DUP Sample Duplicate
- ND Not detected at or above adjusted reporting limit
- NC Not Calculable
- J Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
- MDL Adjusted Method Detection Limit
- RPD Relative Percent Difference
- (S) Surrogate
- [1] High spike recovery. The successful recovery of the Laboratory Control Sample (LCS) demonstrates the analytical system was in control for this QA/QC sample group.
- [2] Compound was detected in method blank above the reporting limit. This analyte was not detected in any of the associated samples above the reporting limit, therefore no corrective action was taken.
- [3] The compound or surrogate recovery exceeds the laboratory generated acceptance limits. While the recovery was elevated, the compound was not detected above the reporting limit in the associated samples; therefore, the high bias does not affect the usability of the reported sample results.
- [4] The calculated RPD was outside QC acceptance limits. Acceptable recovery of the LCS indicates the analytical system was in control.

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QUALITY CONTROL DATA

CROSS REFERENCE TABLE

Lab Project Number: 6093202

Client Project ID: ACF-CARTER CARBURETOR

Lab Sample No Identifier	Client Sample Identifier	QC Batch Method	QC Batch Identifier	Analytical Method	Analytical Batch Identifier
608003877	G-04-01-08	EPA 3550	190879	EPA 8082	191050
608003885	G-04-01-08D	EPA 3550	190879	EPA 8082	191050
608003893	G-04-01-15	EPA 3550	190879	EPA 8082	191050
608003901	G-04-01-21	EPA 3550	190879	EPA 8082	191050
608003919	G-04-02-04	EPA 3550	190879	EPA 8082	191050
608003935	G-04-02-04D	EPA 3550	190879	EPA 8082	191050
608003950	G-04-02-10	EPA 3550	190879	EPA 8082	191050
608003968	G-04-02-16	EPA 3550	190879	EPA 8082	191050
608003976	G-04-02-21	EPA 3550	190879	EPA 8082	191050
608003984	G-01-05-03	EPA 3550	190879	EPA 8082	191050
608004073	G-02-02-04	EPA 3550	190879	EPA 8082	191050
608004081	G-02-02-10	EPA 3550	190879	EPA 8082	191050
608004099	G-02-02-16	EPA 3550	190879	EPA 8082	191050
608004107	G-02-02-21	EPA 3550	190879	EPA 8082	191050
608004115	G-01-01-04	EPA 3550	190879	EPA 8082	191050
608004131	G-01-01-10	EPA 3550	190879	EPA 8082	191050
608004172	G-01-01-16	EPA 3550	190879	EPA 8082	191050
608004198	G-01-01-21	EPA 3550	190879	EPA 8082	191050
608004222	G-01-02-03	EPA 3550	190879	EPA 8082	191050
608004248	G-01-02-10	EPA 3550	190879	EPA 8082	191050
608003851	G-04-01-04	EPA 3550	191051	EPA 8082	191143
608004255	G-01-02-16	EPA 3550	191051	EPA 8082	191143
608004271	G-01-02-21	EPA 3550	191051	EPA 8082	191143
608004297	G-07-03-04	EPA 3550	191051	EPA 8082	191143
608004305	G-07-03-08	EPA 3550	191051	EPA 8082	191143
608004313	G-07-03-08D	EPA 3550	191051	EPA 8082	191143
608004321	G-07-03-15	EPA 3550	191051	EPA 8082	191143
608004339	G-07-03-21	EPA 3550	191051	EPA 8082	191143
608004347	G-03-01-04	EPA 3550	191051	EPA 8082	191143
608004354	G-03-01-08	EPA 3550	191051	EPA 8082	191143
608004362	G-03-01-12	EPA 3550	191051	EPA 8082	191143
608004370	G-03-01-20	EPA 3550	191051	EPA 8082	191143
608004388	G-03-02-04	EPA 3550	191051	EPA 8082	191143
608004404	G-03-02-04D	EPA 3550	191051	EPA 8082	191143

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Lab Sample No Identifier	Client Sample Identifier	QC Batch Method	QC Batch Identifier	Analytical Method	Analytical Batch Identifier
608004420	G-03-02-10	EPA 3550	191051	EPA 8082	191143
608004461	PZ-01-032405	EPA 8260	190720		
608004479	PZ-03-032405	EPA 8260	190720		
608004487	PZ-04-032405	EPA 8260	190720		
608003851	G-04-01-04	SM 2540G	190823		
608003877	G-04-01-08	SM 2540G	190823		
608003885	G-04-01-08D	SM 2540G	190823		
608003893	G-04-01-15	SM 2540G	190823		
608003901	G-04-01-21	SM 2540G	190823		
608003919	G-04-02-04	SM 2540G	190824		
608003935	G-04-02-04D	SM 2540G	190824		
608003950	G-04-02-10	SM 2540G	190824		
608003968	G-04-02-16	SM 2540G	190824		
608003976	G-04-02-21	SM 2540G	190824		
608003984	G-01-05-03	SM 2540G	190824		
608004073	G-02-02-04	SM 2540G	190824		
608004081	G-02-02-10	SM 2540G	190824		
608004099	G-02-02-16	SM 2540G	190824		
608004107	G-02-02-21	SM 2540G	190824		
608004115	G-01-01-04	SM 2540G	190824		
608004131	G-01-01-10	SM 2540G	190824		
608004172	G-01-01-16	SM 2540G	190824		
608004198	G-01-01-21	SM 2540G	190824		
608004222	G-01-02-03	SM 2540G	190824		
608004248	G-01-02-10	SM 2540G	190824		
608004255	G-01-02-16	SM 2540G	190930		
608004271	G-01-02-21	SM 2540G	190930		
608004297	G-07-03-04	SM 2540G	190930		
608004305	G-07-03-08	SM 2540G	190930		
608004313	G-07-03-08D	SM 2540G	190930		
608004321	G-07-03-15	SM 2540G	190930		
608004339	G-07-03-21	SM 2540G	190930		
608004347	G-03-01-04	SM 2540G	190930		
608004354	G-03-01-08	SM 2540G	190930		
608004362	G-03-01-12	SM 2540G	190930		
608004370	G-03-01-20	SM 2540G	190930		

Date: 04/04/05

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Lab Sample No Identifier	Client Sample Identifier	QC Batch Method	QC Batch Identifier	Analytical Method	Analytical Batch Identifier
608004388	G-03-02-04	SM 2540G	190930		
608004404	G-03-02-04D	SM 2540G	190930		
608004420	G-03-02-10	SM 2540G	190930		

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April 07, 2005

Mr. GENE WATSON
MACTEC
3199 RIVERPORT TECH CENTER DR
MARYLAND HEIGHTS, MO 63043

RE: Lab Project Number: 6093286
Client Project ID: ACF-CARTER CARBURETOR

Dear Mr. WATSON:

Enclosed are the analytical results for sample(s) received by the laboratory on March 29, 2005. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report please feel free to contact me.

Sincerely,

Angie Brown
angela.brown@pacelabs.com
Project Manager

Kansas/NELAP Certification Number E-10116

Enclosures

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SAMPLE SUMMARY

Lab Project Number: 6093286
Client Project ID: ACF-CARTER CARBURETOR

<u>Project</u>	<u>Sample</u>				
<u>Sample Number</u>	<u>Number</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Collected</u>	<u>Date Received</u>
6093286-001	608012233	G-02-05-03	Soil	03/28/05 07:42	03/29/05 07:45
6093286-002	608012241	G-02-05-03D	Soil	03/28/05 07:42	03/29/05 07:45
6093286-003	608012258	G-02-05-08	Soil	03/28/05 07:45	03/29/05 07:45
6093286-004	608012266	G-02-05-15	Soil	03/28/05 07:50	03/29/05 07:45
6093286-005	608012274	G-02-05-21	Soil	03/28/05 07:55	03/29/05 07:45
6093286-006	608012282	G-02-04-03	Soil	03/28/05 08:55	03/29/05 07:45
6093286-007	608012290	G-02-04-08	Soil	03/28/05 08:10	03/29/05 07:45
6093286-008	608012308	G-02-04-08D	Soil	03/28/05 08:10	03/29/05 07:45
6093286-009	608012316	G-02-04-15	Soil	03/28/05 08:15	03/29/05 07:45
6093286-010	608012324	G-02-04-21	Soil	03/28/05 08:20	03/29/05 07:45
6093286-011	608012332	PZ-02-032805	Water	03/28/05 08:33	03/29/05 07:45
6093286-012	608012340	G-02-03-03	Soil	03/28/05 08:40	03/29/05 07:45
6093286-013	608012357	G-02-03-03D	Soil	03/28/05 08:40	03/29/05 07:45
6093286-014	608012373	G-02-03-08	Soil	03/28/05 08:45	03/29/05 07:45
6093286-015	608012381	G-02-03-15	Soil	03/28/05 08:52	03/29/05 07:45
6093286-016	608012399	G-02-03-21	Soil	03/28/05 09:00	03/29/05 07:45
6093286-017	608012407	G-03-05-02	Soil	03/28/05 09:15	03/29/05 07:45
6093286-018	608012415	G-03-05-02D	Soil	03/28/05 09:15	03/29/05 07:45
6093286-019	608012423	G-03-05-08	Soil	03/28/05 09:20	03/29/05 07:45
6093286-020	608012431	G-03-05-15	Soil	03/28/05 09:25	03/29/05 07:45
6093286-021	608012449	G-03-05-21	Soil	03/28/05 09:30	03/29/05 07:45
6093286-022	608012464	G-04-05-04	Soil	03/28/05 09:40	03/29/05 07:45
6093286-023	608012472	G-04-05-09	Soil	03/28/05 09:45	03/29/05 07:45
6093286-024	608012480	G-04-05-16	Soil	03/28/05 09:50	03/29/05 07:45
6093286-025	608012498	G-04-05-21	Soil	03/28/05 09:55	03/29/05 07:45
6093286-026	608012506	G-05-05-02	Soil	03/28/05 10:05	03/29/05 07:45
6093286-027	608012514	G-05-05-08	Soil	03/28/05 10:10	03/29/05 07:45
6093286-028	608012522	G-05-05-15	Soil	03/28/05 10:12	03/29/05 07:45
6093286-029	608012530	G-05-05-21	Soil	03/28/05 10:15	03/29/05 07:45
6093286-030	608012548	G-06-05-03	Soil	03/28/05 10:30	03/29/05 07:45
6093286-031	608012555	G-06-05-03D	Soil	03/28/05 10:30	03/29/05 07:45
6093286-032	608012563	G-06-05-10	Soil	03/28/05 10:35	03/29/05 07:45

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SAMPLE ANALYTE COUNT

Lab Project Number: 6093286
 Client Project ID: ACF-CARTER CARBURETOR

Project	Analysis	Analyses
<u>Sample Number</u>	<u>Sample No</u> <u>Client Sample ID</u>	<u>Code</u> <u>Analysis Description</u>
		<u>Reported</u>
6093286-001	608012233 G-02-05-03	%MOISTURE Percent Moisture 1
		8082 SPAC PCBs in Soil by 8082 10
6093286-002	608012241 G-02-05-03D	%MOISTURE Percent Moisture 1
		8082 SPAC PCBs in Soil by 8082 10
6093286-003	608012258 G-02-05-08	%MOISTURE Percent Moisture 1
		8082 SPAC PCBs in Soil by 8082 10
6093286-004	608012266 G-02-05-15	%MOISTURE Percent Moisture 1
		8082 SPAC PCBs in Soil by 8082 10
6093286-005	608012274 G-02-05-21	%MOISTURE Percent Moisture 1
		8082 SPAC PCBs in Soil by 8082 10
6093286-006	608012282 G-02-04-03	%MOISTURE Percent Moisture 1
		8082 SPAC PCBs in Soil by 8082 10
6093286-007	608012290 G-02-04-08	%MOISTURE Percent Moisture 1
		8082 SPAC PCBs in Soil by 8082 10
6093286-008	608012308 G-02-04-08D	%MOISTURE Percent Moisture 1
		8082 SPAC PCBs in Soil by 8082 10
6093286-009	608012316 G-02-04-15	%MOISTURE Percent Moisture 1
		8082 SPAC PCBs in Soil by 8082 10
6093286-010	608012324 G-02-04-21	%MOISTURE Percent Moisture 1
		8082 SPAC PCBs in Soil by 8082 10
6093286-011	608012332 PZ-02-032805	826LL WEPA GC/MS VOCs by 8260 (Low Level) 72
6093286-012	608012340 G-02-03-03	%MOISTURE Percent Moisture 1
		8082 SPAC PCBs in Soil by 8082 10
6093286-013	608012357 G-02-03-03D	%MOISTURE Percent Moisture 1
		8082 SPAC PCBs in Soil by 8082 10
6093286-014	608012373 G-02-03-08	%MOISTURE Percent Moisture 1
		8082 SPAC PCBs in Soil by 8082 10
6093286-015	608012381 G-02-03-15	%MOISTURE Percent Moisture 1
		8082 SPAC PCBs in Soil by 8082 10
6093286-016	608012399 G-02-03-21	%MOISTURE Percent Moisture 1
		8082 SPAC PCBs in Soil by 8082 10
6093286-017	608012407 G-03-05-02	%MOISTURE Percent Moisture 1
		8082 SPAC PCBs in Soil by 8082 10
6093286-018	608012415 G-03-05-02D	%MOISTURE Percent Moisture 1
		8082 SPAC PCBs in Soil by 8082 10
6093286-019	608012423 G-03-05-08	%MOISTURE Percent Moisture 1
		8082 SPAC PCBs in Soil by 8082 10
6093286-020	608012431 G-03-05-15	%MOISTURE Percent Moisture 1
		8082 SPAC PCBs in Soil by 8082 10
6093286-021	608012449 G-03-05-21	%MOISTURE Percent Moisture 1

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Lab Project Number: 6093286
 Client Project ID: ACF-CARTER CARBURETOR

Project Sample Number	Sample No	Client Sample ID	Analysis Code	Analysis Description	Analytes Reported
6093286-022	608012464	G-04-05-04	8082 SPAC %MOISTURE	PCBs in Soil by 8082 Percent Moisture	10 1
6093286-023	608012472	G-04-05-09	8082 SPAC %MOISTURE	PCBs in Soil by 8082 Percent Moisture	10 1
6093286-024	608012480	G-04-05-16	8082 SPAC %MOISTURE	PCBs in Soil by 8082 Percent Moisture	10 1
6093286-025	608012498	G-04-05-21	8082 SPAC %MOISTURE	PCBs in Soil by 8082 Percent Moisture	10 1
6093286-026	608012506	G-05-05-02	8082 SPAC %MOISTURE	PCBs in Soil by 8082 Percent Moisture	10 1
6093286-027	608012514	G-05-05-08	8082 SPAC %MOISTURE	PCBs in Soil by 8082 Percent Moisture	10 1
6093286-028	608012522	G-05-05-15	8082 SPAC %MOISTURE	PCBs in Soil by 8082 Percent Moisture	10 1
6093286-029	608012530	G-05-05-21	8082 SPAC %MOISTURE	PCBs in Soil by 8082 Percent Moisture	10 1
6093286-030	608012548	G-06-05-03	8082 SPAC %MOISTURE	PCBs in Soil by 8082 Percent Moisture	10 1
6093286-031	608012555	G-06-05-03D	8082 SPAC %MOISTURE	PCBs in Soil by 8082 Percent Moisture	10 1
6093286-032	608012563	G-06-05-10	8082 SPAC %MOISTURE	PCBs in Soil by 8082 Percent Moisture	10 1

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QUALITY CONTROL DATA

Lab Project Number: 6093286
 Client Project ID: ACF-CARTER CARBURETOR

METHOD BLANK: 608013934
 Associated Lab Samples: 608012332

Parameter	Units	Blank	Reporting	Footnotes
		Result	Limit	
cis-1,2-Dichloroethene	mg/l	ND	0.0010	
trans-1,2-Dichloroethene	mg/l	ND	0.0010	
1,2-Dichloropropane	mg/l	ND	0.0010	
1,3-Dichloropropane	mg/l	ND	0.0010	
2,2-Dichloropropane	mg/l	ND	0.0010	
1,1-Dichloropropene	mg/l	ND	0.0010	
cis-1,3-Dichloropropene	mg/l	ND	0.0010	
trans-1,3-Dichloropropene	mg/l	ND	0.0010	
Ethylbenzene	mg/l	ND	0.0010	
Hexachloro-1,3-butadiene	mg/l	ND	0.0010	
2-Hexanone	mg/l	ND	0.010	
Isopropylbenzene (Cumene)	mg/l	ND	0.0010	
p-Isopropyltoluene	mg/l	ND	0.0010	
Methylene chloride	mg/l	ND	0.0010	
4-Methyl-2-pentanone (MIBK)	mg/l	ND	0.010	
Methyl-tert-butyl ether	mg/l	ND	0.0010	
Naphthalene	mg/l	ND	0.010	
n-Propylbenzene	mg/l	ND	0.0010	
Styrene	mg/l	ND	0.0010	
1,1,1,2-Tetrachloroethane	mg/l	ND	0.0010	
1,1,2,2-Tetrachloroethane	mg/l	ND	0.0010	
Tetrachloroethene	mg/l	ND	0.0010	
Toluene	mg/l	ND	0.0010	
1,2,3-Trichlorobenzene	mg/l	ND	0.0010	
1,2,4-Trichlorobenzene	mg/l	ND	0.0010	
1,1,1-Trichloroethane	mg/l	ND	0.0010	
1,1,2-Trichloroethane	mg/l	ND	0.0010	
Trichloroethene	mg/l	ND	0.0010	
Trichlorofluoromethane	mg/l	ND	0.0010	
1,2,3-Trichloropropane	mg/l	ND	0.0025	
1,2,4-Trimethylbenzene	mg/l	ND	0.0010	
1,3,5-Trimethylbenzene	mg/l	ND	0.0010	
Vinyl chloride	mg/l	ND	0.0010	
Xylene (Total)	mg/l	ND	0.0030	
m&p-Xylene	mg/l	ND	0.0020	
o-Xylene	mg/l	ND	0.0010	

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QUALITY CONTROL DATA

Lab Project Number: 6093286
 Client Project ID: ACF-CARTER CARBURETOR

METHOD BLANK: 608013934
 Associated Lab Samples: 608012332

Parameter	Units	Blank	Reporting	Footnotes
		Result	Limit	
Toluene-d8 (S)	%	101		
4-Bromofluorobenzene (S)	%	110		
Dibromofluoromethane (S)	%	98		
1,2-Dichloroethane-d4 (S)	%	91		

LABORATORY CONTROL SAMPLE: 608013942

Parameter	Units	Spike	LCS	LCS	% Rec	Footnotes
		Conc.	Result	% Rec	Limits	
Acetone	mg/l	0.0200	0.0206	103	22-150	
Benzene	mg/l	0.0100	0.0104	104	78-122	
Bromobenzene	mg/l	0.0100	0.0101	101	77-122	
Bromochloromethane	mg/l	0.0100	0.0103	103	72-126	
Bromodichloromethane	mg/l	0.0100	0.0105	105	76-129	
Bromoform	mg/l	0.0100	0.0086	86	71-126	
Bromomethane	mg/l	0.0100	0.0108	108	16-150	
2-Butanone (MEK)	mg/l	0.0200	0.0207	104	32-150	
n-Butylbenzene	mg/l	0.0100	0.0120	120	70-127	
sec-Butylbenzene	mg/l	0.0100	0.0111	111	75-128	
tert-Butylbenzene	mg/l	0.0100	0.0092	92	74-125	
Carbon disulfide	mg/l	0.0200	0.0185	92	11-150	
Carbon tetrachloride	mg/l	0.0100	0.0082	82	71-136	
Chlorobenzene	mg/l	0.0100	0.0100	100	79-121	
Chloroethane	mg/l	0.0100	0.0083	83	27-150	
Chloroform	mg/l	0.0100	0.0100	100	75-122	
Chloromethane	mg/l	0.0100	0.0094	94	31-150	
2-Chlorotoluene	mg/l	0.0100	0.0106	106	76-124	
4-Chlorotoluene	mg/l	0.0100	0.0109	109	77-123	
1,2-Dibromo-3-chloropropane	mg/l	0.0100	0.0103	103	62-131	
Dibromochloromethane	mg/l	0.0100	0.0095	94	74-126	
1,2-Dibromoethane (EDB)	mg/l	0.0100	0.0096	96	76-126	
Dibromomethane	mg/l	0.0100	0.0101	101	75-126	
1,2-Dichlorobenzene	mg/l	0.0100	0.0103	103	77-124	
1,3-Dichlorobenzene	mg/l	0.0100	0.0101	101	78-120	
1,4-Dichlorobenzene	mg/l	0.0100	0.0103	103	76-120	

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QUALITY CONTROL DATA

Lab Project Number: 6093286
 Client Project ID: ACF-CARTER CARBURETOR

LABORATORY CONTROL SAMPLE: 608013942

Parameter	Units	Spike	LCS	LCS	% Rec	Footnotes
		Conc.	Result	% Rec	Limits	
Dichlorodifluoromethane	mg/l	0.0100	0.0076	76	10-149	
1,1-Dichloroethane	mg/l	0.0100	0.0111	111	73-130	
1,2-Dichloroethane	mg/l	0.0100	0.0101	101	74-131	
1,2-Dichloroethene (Total)	mg/l	0.0200	0.0195	98	79-126	
1,1-Dichloroethene	mg/l	0.0100	0.0086	86	71-134	
cis-1,2-Dichloroethene	mg/l	0.0100	0.0103	103	78-123	
trans-1,2-Dichloroethene	mg/l	0.0100	0.0092	92	75-133	
1,2-Dichloropropane	mg/l	0.0100	0.0098	98	77-122	
1,3-Dichloropropane	mg/l	0.0100	0.0108	108	78-124	
2,2-Dichloropropane	mg/l	0.0100	0.0094	94	61-142	
1,1-Dichloropropene	mg/l	0.0100	0.0097	97	76-131	
cis-1,3-Dichloropropene	mg/l	0.0100	0.0102	102	77-128	
trans-1,3-Dichloropropene	mg/l	0.0100	0.0101	101	75-133	
Ethylbenzene	mg/l	0.0100	0.0104	104	78-121	
Hexachloro-1,3-butadiene	mg/l	0.0100	0.0108	108	65-132	
2-Hexanone	mg/l	0.0200	0.0189	94	50-138	
Isopropylbenzene (Cumene)	mg/l	0.0100	0.0107	107	72-118	
p-Isopropyltoluene	mg/l	0.0100	0.0105	105	73-122	
Methylene chloride	mg/l	0.0100	0.0136	136	66-134	3
4-Methyl-2-pentanone (MIBK)	mg/l	0.0200	0.0193	97	54-131	
Methyl-tert-butyl ether	mg/l	0.0100	0.0099	99	61-131	
Naphthalene	mg/l	0.0100	0.0096	96	51-141	
n-Propylbenzene	mg/l	0.0100	0.0104	104	75-125	
Styrene	mg/l	0.0100	0.0082	82	79-125	
1,1,1,2-Tetrachloroethane	mg/l	0.0100	0.0090	90	80-123	
1,1,2,2-Tetrachloroethane	mg/l	0.0100	0.0120	120	69-127	
Tetrachloroethene	mg/l	0.0100	0.0090	90	75-126	
Toluene	mg/l	0.0100	0.0102	102	77-120	
1,2,3-Trichlorobenzene	mg/l	0.0100	0.0101	101	58-134	
1,2,4-Trichlorobenzene	mg/l	0.0100	0.0107	107	66-127	
1,1,1-Trichloroethane	mg/l	0.0100	0.0094	94	73-131	
1,1,2-Trichloroethane	mg/l	0.0100	0.0106	106	77-126	
Trichloroethene	mg/l	0.0100	0.0100	100	75-125	
Trichlorofluoromethane	mg/l	0.0100	0.0091	91	62-136	
1,2,3-Trichloropropane	mg/l	0.0100	0.0087	87	73-127	
1,2,4-Trimethylbenzene	mg/l	0.0100	0.0117	117	76-124	
1,3,5-Trimethylbenzene	mg/l	0.0100	0.0117	117	76-124	

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QUALITY CONTROL DATA

Lab Project Number: 6093286
Client Project ID: ACF-CARTER CARBURETOR

LABORATORY CONTROL SAMPLE: 608013942

<u>Parameter</u>	<u>Units</u>	<u>Spike</u> <u>Conc.</u>	<u>LCS</u> <u>Result</u>	<u>LCS</u> <u>% Rec</u>	<u>% Rec</u> <u>Limits</u>	<u>Footnotes</u>
Vinyl chloride	mg/l	0.0100	0.0076	76	47-142	
Xylene (Total)	mg/l	0.0300	0.0305	102	78-124	
m&p-Xylene	mg/l	0.0200	0.0202	101	77-123	
o-Xylene	mg/l	0.0100	0.0103	103	76-125	
Toluene-d8 (S)				104	88-110	
4-Bromofluorobenzene (S)				109	86-115	4
Dibromofluoromethane (S)				95	86-118	
1,2-Dichloroethane-d4 (S)				93	80-120	

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QUALITY CONTROL DATA

Lab Project Number: 6093286
 Client Project ID: ACF-CARTER CARBURETOR

QC Batch: 191026	Analysis Method: SM 2540G				
QC Batch Method: SM 2540G	Analysis Description: Percent Moisture				
Associated Lab Samples:	608012340	608012357	608012373	608012381	608012399
	608012407	608012415	608012423	608012431	608012449
	608012464	608012472	608012480	608012498	

SAMPLE DUPLICATE: 608021077

<u>Parameter</u>	<u>Units</u>	608012423	DUP	<u>RPD</u>	<u>RPD</u>	<u>Footnotes</u>
		<u>Result</u>	<u>Result</u>			
Percent Moisture	%	20.70	20.00	3		

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QUALITY CONTROL DATA

Lab Project Number: 6093286
Client Project ID: ACF-CARTER CARBURETOR

QC Batch: 191103 Analysis Method: SM 2540G
QC Batch Method: SM 2540G Analysis Description: Percent Moisture
Associated Lab Samples: 608012506 608012514 608012522 608012530 608012548
608012555 608012563

SAMPLE DUPLICATE: 608025680

Table with 7 columns: Parameter, Units, 608012506 Result, DUP Result, RPD, RPD, Footnotes. Row 1: Percent Moisture, %, 19.90, 19.90, 0.

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Lab Project Number: 6093286
Client Project ID: ACF-CARTER CARBURETOR

QUALITY CONTROL DATA PARAMETER FOOTNOTES

Consistent with EPA guidelines, unrounded concentrations are displayed and have been used to calculate % Rec and RPD values.

- LCS(D) Laboratory Control Sample (Duplicate)
MS(D) Matrix Spike (Duplicate)
DUP Sample Duplicate
ND Not detected at or above adjusted reporting limit
NC Not Calculable
J Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
MDL Adjusted Method Detection Limit
RPD Relative Percent Difference
(S) Surrogate
- [1] The sample matrix affected the Matrix Spike and Matrix Spike Duplicate (MS/MSD) compound recovery. The successful recovery of the Laboratory Control Sample (LCS) demonstrates the analytical system was in control for this QA/QC sample group.
- [2] The Matrix Spike and Matrix Spike Duplicate (MS/MSD) compound recovery information is not available. The randomly selected sample used for spiking purposes required a dilution due to a high level of target analyte(s) or matrix interference. The Laboratory Control Sample (LCS) demonstrates satisfactory recovery of target analytes during extraction workup of the QA/QC sample group.
- [3] The compound or surrogate recovery exceeds the laboratory generated acceptance limits. While the recovery was elevated, the compound was not detected above the reporting limit in the associated samples; therefore, the high bias does not affect the usability of the reported sample results.
- [4] The MS and/or MSD compound(s) recovery information is not available due to insufficient sample volume. The LCS demonstrates the analytical system was in control for this QA/QC sample group.

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QUALITY CONTROL DATA

CROSS REFERENCE TABLE

Lab Project Number: 6093286
 Client Project ID: ACF-CARTER CARBURETOR

Lab Sample No Identifier	Client Sample Identifier	QC Batch Method	QC Batch Identifier	Analytical Method	Analytical Batch Identifier
608012340	G-02-03-03	EPA 3550	191051	EPA 8082	191143
608012357	G-02-03-03D	EPA 3550	191051	EPA 8082	191143
608012373	G-02-03-08	EPA 3550	191051	EPA 8082	191143
608012423	G-03-05-08	EPA 3550	191051	EPA 8082	191143
608012381	G-02-03-15	EPA 3550	191125	EPA 8082	191145
608012399	G-02-03-21	EPA 3550	191125	EPA 8082	191145
608012407	G-03-05-02	EPA 3550	191125	EPA 8082	191145
608012415	G-03-05-02D	EPA 3550	191125	EPA 8082	191145
608012431	G-03-05-15	EPA 3550	191125	EPA 8082	191145
608012449	G-03-05-21	EPA 3550	191125	EPA 8082	191145
608012464	G-04-05-04	EPA 3550	191125	EPA 8082	191145
608012472	G-04-05-09	EPA 3550	191125	EPA 8082	191145
608012480	G-04-05-16	EPA 3550	191125	EPA 8082	191145
608012498	G-04-05-21	EPA 3550	191125	EPA 8082	191145
608012506	G-05-05-02	EPA 3550	191125	EPA 8082	191145
608012514	G-05-05-08	EPA 3550	191125	EPA 8082	191145
608012522	G-05-05-15	EPA 3550	191125	EPA 8082	191145
608012530	G-05-05-21	EPA 3550	191125	EPA 8082	191145
608012548	G-06-05-03	EPA 3550	191125	EPA 8082	191145
608012555	G-06-05-03D	EPA 3550	191125	EPA 8082	191145
608012563	G-06-05-10	EPA 3550	191125	EPA 8082	191145
608012241	G-02-05-03D	EPA 3550	191129	EPA 8082	191332
608012258	G-02-05-08	EPA 3550	191129	EPA 8082	191332
608012266	G-02-05-15	EPA 3550	191129	EPA 8082	191332
608012274	G-02-05-21	EPA 3550	191129	EPA 8082	191332
608012290	G-02-04-08	EPA 3550	191129	EPA 8082	191332
608012282	G-02-04-03	EPA 3550	191130	EPA 8082	191254
608012308	G-02-04-08D	EPA 3550	191130	EPA 8082	191254
608012316	G-02-04-15	EPA 3550	191130	EPA 8082	191254
608012324	G-02-04-21	EPA 3550	191130	EPA 8082	191254
608012233	G-02-05-03	EPA 3550	191208	EPA 8082	191333

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Lab Sample No Identifier	Client Sample Identifier	QC Batch Method	QC Batch Identifier	Analytical Method	Analytical Batch Identifier
608012332	PZ-02-032805	EPA 8260	190813		
608012340	G-02-03-03	SM 2540G	191026		
608012357	G-02-03-03D	SM 2540G	191026		
608012373	G-02-03-08	SM 2540G	191026		
608012381	G-02-03-15	SM 2540G	191026		
608012399	G-02-03-21	SM 2540G	191026		
608012407	G-03-05-02	SM 2540G	191026		
608012415	G-03-05-02D	SM 2540G	191026		
608012423	G-03-05-08	SM 2540G	191026		
608012431	G-03-05-15	SM 2540G	191026		
608012449	G-03-05-21	SM 2540G	191026		
608012464	G-04-05-04	SM 2540G	191026		
608012472	G-04-05-09	SM 2540G	191026		
608012480	G-04-05-16	SM 2540G	191026		
608012498	G-04-05-21	SM 2540G	191026		
608012506	G-05-05-02	SM 2540G	191103		
608012514	G-05-05-08	SM 2540G	191103		
608012522	G-05-05-15	SM 2540G	191103		
608012530	G-05-05-21	SM 2540G	191103		
608012548	G-06-05-03	SM 2540G	191103		
608012555	G-06-05-03D	SM 2540G	191103		
608012563	G-06-05-10	SM 2540G	191103		
608012241	G-02-05-03D	SM 2540G	191138		
608012258	G-02-05-08	SM 2540G	191138		
608012266	G-02-05-15	SM 2540G	191138		
608012274	G-02-05-21	SM 2540G	191138		
608012282	G-02-04-03	SM 2540G	191138		
608012290	G-02-04-08	SM 2540G	191138		
608012308	G-02-04-08D	SM 2540G	191138		
608012316	G-02-04-15	SM 2540G	191138		
608012324	G-02-04-21	SM 2540G	191138		
608012233	G-02-05-03	SM 2540G	191139		

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