

**Attachment B**

**PHASE II ENVIRONMENTAL  
ASSESSMENT**

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# **Fourche Creek Little Rock, Arkansas**

## **Fourche Creek Bottomlands Environmental Investigation**

**September, 2002**



**US Army Corps  
of Engineers**  
Little Rock District

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## **1.0 INTRODUCTION**

### **1.1 Executive Summary**

The Preliminary Assessment of the Fourche Creek bottomland was prepared by Parsons Engineering Science, Inc (Preliminary Assessment, Potential HTRW Sites at Fourche Bottomland Acquisition Acreage, Final Submittal, February, 1998). The purpose of the Preliminary Assessment was to distinguish between sites that pose little or no threat to human health and the environment and those sites that require further investigation. The Preliminary Assessment recommended soil and water sampling and analyses to determine if portions of the site to be acquired were contaminated.

This work described in this report constitutes Phase II of the Environmental Assessment. The soil and water sampling and analyses that were recommended by the Parsons Engineering Science, Inc. Preliminary Assessment (Parsons) were performed.

Some of the lands around the industrial sites and the closed Little Rock landfill, now Interstate Park, were eliminated from consideration for acquisition because of contamination.

### **1.2 Project Location**

The Fourche Creek Bottomland area is located south of downtown Little Rock within the floodplain of Fourche Creek and spans approximately 2,100 acres. It lies completely within the corporate limits of the city of Little Rock. The study Area is primarily undeveloped but contains several utility corridors and is bordered by commercial, residential, institutional and industrial uses.

## **2.0 DESCRIPTION OF INVESTIGATION**

The study area was divided into sectors by the Parsons study. Parson's recommendations for each area are listed by sector. The actual samples and analyses are also described. The sample locations are shown on Figure 1.

### **2.1 SECTOR 1**

West of the study area upstream from Sector 1: Parsons recommended that surface water samples be collected from Rock Creek and Fourche Creek to serve as background water quality conditions.

Two Fourche Creek water samples (K110118, K110200) were obtained. One sample was obtained from Fourche Creek at the Railroad Bridge at Interstate Park and the other water sample was obtained at the south Fork of Fourche Creek at Benny Craig Park. The samples were analyzed for volatile organic analytes (VOA), semivolatile organic analytes (Semi-VOAs), and priority pollutant metals (metals).

#### **2.1.1 Site 1.1 - South of Auto Salvage Operations**

Two auto salvage operations are located south of Asher Avenue and west of University Avenue. During the Parsons visual site inspection, evidence of stressed vegetation was observed south of the property fence for the eastern most salvage yard within 100 feet of Rock Creek's northern bank. Parsons recommended that two shallow soil samples be obtained from the area south of the salvage yard property fence, north of Rock Creek. They also recommended that one surface water sample be collected where drainage from the auto salvage yard passes toward Rock Creek. These samples should be analyzed using EPA Method 8015 (modified) for total petroleum hydrocarbons (TPH).

One water sample (K106191) was obtained south of the auto salvage operations, between the auto salvage lots and the creek, and analyzed for TPH. The other samples were not obtained since this area was already eliminated from project consideration.

### **2.2 SECTOR 2**

The sites recommended for additional investigation in Sector 2 are associated with current businesses located on the west side of Mabelvale Pike within the study area.

### **2.2.1 Site 2.1 – Machine Tools Inc.**

A garage or machine shop has been located at the current site of Machine Tools since prior to 1966 (USDA, 1966). The current building at this location has seven bay doors that indicate that the facility may have once been used for automobile maintenance and repair.

Parsons recommended that two shallow soil samples be taken from the property at locations where petroleum products may have been used or discharged. It is also recommended that one surface water sample be collected from property drainage moving toward Fourche Creek. The samples should be analyzed for TPH.

Two soil samples (K106195, K106196) and one water sample (K106197) were obtained from the area around the Machine Tools, Inc. site. One soil sample was obtained near the bridge on Geyer Springs Road in front of the facility. The other soil sample and water sample were obtained near the center of the facility where wastes could have been discharged. The samples were analyzed for TPH.

### **2.2.2 Site 2.2 - Elrod's Imports**

A garage or shop has been located at the current site of Elrod's Imports (4700 Mabelvale Pike) since prior to 1974 (USDA, 1974). The facility may have once been used for automobile maintenance and repair. Such operations could generate waste oils, petroleum products or solvents.

Parsons recommended that two shallow soil samples be taken from the property at locations where petroleum products may have been used or discharged. It is also recommended that one surface water sample be collected drainage moving toward Fourche Creek. The samples should be analyzed for TPH.

The facility was used for automotive maintenance when the samples were obtained. Two soil samples (K106198, K106199) and one water sample (K106200) were obtained from areas around Elrod's Imports from locations where petroleum products could have been used or discharged. One soil sample was obtained between the maintenance building and the creek. The other soil sample was obtained from the field west of the maintenance building where vehicles and other debris had been dumped. The water sample was obtained at the drainage from the facility into Fourche Creek. The samples were analyzed for TPH.

## **2.3 SECTOR 3**

### **2.3.1 Site 3.1 - Glen Daniels Transmission**

A garage has been located at the current site of Glen Daniel Transmission (3611 Mabelvale Pike, Little Rock, AR 72204, 562-3075) since prior to 1983 (USDA, 1983). The facility has

been used for automobile maintenance and repair that could generate waste oils, petroleum products or solvents.

Parsons recommended that two shallow soil samples be taken from the property at locations east of Mabelvale Pike where petroleum products may have been used or discharged. It was also recommended that one surface water sample be collected from the drainage moving toward Fourche Creek. The samples should be analyzed for TPH.

Two shallow soil samples (K106192, K106193) and one water sample (K106194) were obtained from the Glen Daniels Transmission site. One soil sample and the water drainage sample were obtained near the center of the facility. The other soil sample was obtained at the east side of the facility at the drainage toward the creek. The samples were analyzed for TPH.

### **2.3.2 Site 3.2 - Twin City Trucking**

A garage or warehouse has been located at the current site of Twin City Trucking since prior to 1983 (USDA, 1983). The facility may have been used for truck maintenance, repair or servicing that could generate waste oils, petroleum products or solvents.

Parsons recommended that two shallow soil samples be taken from the property at locations east of Mabelvale Pike where petroleum products may have been used or discharged. It is also recommended that one surface water sample be collected from the drainage moving toward Fourche Creek. The samples should be analyzed for TPH.

Two shallow soil samples (K106304, K106305) and one water sample (K106306) were obtained from the Twin City Trucking site. The two soil samples were obtained from the south and southeast areas of the site from depressed areas where contaminants could have been deposited or flowed. The water sample was from Fourche Creek on the south side of the site. The samples were analyzed for TPH.

### **2.3.3 Site 3.3 - Brown-colored Discharge from Quality Foods**

The Quality Foods facility and Ruan Trucking maintenance facility were constructed north of Fourche Creek, east of Mabelvale Pike (north of the study area) after 1983 (USDA, 1983). At the time of this study, the Quality Foods, distribution center was located at 4901 Asher Avenue, and the Ruan Leasing Co. was at 2301 60<sup>th</sup> Street. The odd brown color of the discharge observed during Parson's visual site inspection may have indicated that the water contained wastes from these businesses. The bright green algae near the point of discharge into Fourche Creek may also indicated that the brown-colored discharge contained a high nutrient load.

Parsons recommended that two water samples be collected for analysis for Oil & Grease, chemical oxygen demand (COD) and biological oxygen demand (BOD). One sample should be collected from the discharge pipe, and one sample should be collected near the point of discharge into Fourche Creek.



One water sample (K106307) was obtained from the stream flowing from the east side of Quality Foods area toward Fourche Creek. No other discharge was determined to exist. This sample was analyzed for BOD, COD, and Oil & Grease.

#### **2.3.4 Site 3.4 – Septic Discharge from Quality Foods**

The septic discharge from the Quality Foods facility was identified based on color and odor. The discharge was being released into a grassy low-lying area within the bottomland. There was no channel in which the discharge was flowing, and it did not appear to be reaching Fourche Creek. Parsons recommended that one water sample be collected to quantify the oil and grease and COD/BOD created by the discharge.

This discharge location could not be determined to exist. Therefore, no samples could be obtained.

#### **2.3.5 Site 3.5 – Oil Release from Odum Sausage**

A food processing facility has been located north of Fourche Creek, east of Mabelvale Pike at the Odum Sausage site since prior to 1955. Evidence of an oil release was observed emanating from a discharge pipe south of the facility. An oil sheen was observed on standing water and oil stains were observed in a drainageway leading to Fourche Creek. The appearance of the oil sheen and staining would indicate that the release had occurred since the last prior high flow event in the stream leading to Fourche Creek.

Parsons recommended that two sediment samples and two water samples to be analyzed for oil and grease. One sediment and one water sample should be collected near the point of discharge, and one sediment and one water sample should be collected near a point where the stream discharges into Fourche Creek.

Two sediment samples (K106308, K106309) and two water samples (K106310, K106311) were obtained between the Odum Sausage discharge point and Fourche Creek. One water sample and one sediment sample were obtained at the discharge location. The other set of samples was obtained from the stream before its discharge into Fourche Creek. The samples were analyzed for Oil and Grease.

#### **2.3.6 Site 3.6 – Ponds South of Wessel Brothers, Inc.**

The ponds south of Wessel Brothers Drilling Company may receive runoff from the Jimelco site. At the time of this study, Wessell Bros. Foundation Drilling Company was located at 3300 S. Elm Street. Additional dumping has occurred in and around these ponds. The northern pond appears in aerial photos as early as 1955. The southern pond does not appear to have formed until recent years. Its formation may have occurred as a result of the parcel previously owned by M & P Equipment receiving large amounts of fill material in the 1980s.

Parsons recommended that two water samples be collected and analyzed for PCB and TPH. One sample should be collected from drainage entering the ponds from the east. The other sample should be collected from the spillway or drainage ditch leading to the south. This site is north of Fourche Creek, south of the Jimelco site.

One water sample (K106342) was collected from drainage entering the ponds from the east. Another water sample (K106343) was collected from the drainage ditch leading to the south. These samples were analyzed for PCB and TPH.

### **2.3.7 Site 3.7 - Downgradient from Jimelco Site**

The Jimelco site has a history of environmental contamination from PCB. Jimelco Recycling Co. was located on S. Maple Street. Stressed and dead vegetation was observed in a marshy area downgradient and on the south side of the Jimelco site. Drainage from the marshy area may either discharge south through a pipe under a vehicle trail or west in a man-made ditch. PCBs can adsorb onto sediment particles that are transportable. Although the marsh lies north of the study area, Parsons recommended that samples be collected from the swamp to help determine if PCBs have been transported off-site and possibly into the study area.

Parsons recommended that a water and a sediment sample be collected from within the marshy area and analyzed for PCBs and TPH. In addition, they recommended that one sediment sample should be collected from the west drainage ditch, and one sediment sample should be collected from beneath the discharge pipe spillway south of the marsh. They recommended that these samples should be analyzed for PCBs and TPH. They suggested that if a water sample can be collected from the drainage either west or south of the Jimelco site, samples should be obtained and analyzed for PCBs and TPH. This site is north of Fourche Creek, south of Jimelco site.

A water sample (K106341) and a sediment sample (K106340) were collected from within the marshy area south of the Jimelco site and analyzed for PCBs and TPH. In addition, one sediment sample (K106339) was collected from the west drainage ditch, and one sediment sample (K106338) was collected from beneath the discharge pipe spillway south of the marsh, and analyzed for PCBs and TPH. A water sample (K106337) was collected from the drainage culvert south of the Jimelco site, and analyzed for PCBs and TPH.

## **2.4 SECTOR 4**

### **2.4.1 Site 4.1 - Septic Discharge from Brown Packing Company**

Parsons detected a septic discharge from Brown Packing Company based on color and odor. Brown Packing Company, a meat processing company, was located at 5301 Scott Hamilton Drive. The discharge was being released into a drainage ditch that proceeded north to Fourche Creek. Evidence of the septic discharge was visible in Fourche Creek at the point of release

from the drainage ditch. Parsons recommended that one water sample be collected at the point of release behind Brown Packing and one water sample be collected at the point of release into Fourche Creek to quantify the COD / BOD and oil and grease created by the discharge. The site is south of Fourche Creek, east of Earl M. Jorgenson Company.

Brown Packing Company has not been in operation in several years. The discharge location no longer exists. No septic discharge was found. Therefore a sample could not be obtained.

#### **2.4.2 Site 4.2 – Oil Release from Pirelli Tire**

A manufacturing facility has been located at the Pirelli Tire site since prior to 1971. Parsons observed oil releases emanating from discharge pipes at the northeast and southeast corners of the property. At the southern discharge pipe, an oil sheen was observed on standing water and oil stains were observed in a drainage way leading to a small lake to the east. At the northern discharge pipe, a pool with black oil on the surface was observed, and to the east, a patch of stressed vegetation was observed. Assuming the pipes carry storm water, the pool of oil beneath the north discharge pipe suggests that the release had occurred since the last prior high flow event.

Parsons recommended that four sediment samples and four water samples be analyzed for TPH. Their specific recommendations follow. For each discharge location, one sediment and one water sample should be collected near the point of discharge. At the south discharge location, one sediment and one water sample should be collected near a point where the drainage would typically discharge into the small lake. At the north discharge location, one sediment and one water sample should be collected where the stressed vegetation was observed. The sample locations are east of Pirelli Tire.

Four soil samples and three water samples were obtained from discharge points at the Pirelli Tire site. One soil sample (K106389) and one water sample (K106390) were collected at the northeast corner of the Pirelli Tire site. Another soil sample (K106391) and water sample (K106392) were collected from the receiving swampy area by the northeast discharge location. A soil sample (K106393) was collected from the southeast corner of the Pirelli Tire site at the discharge point. Another soil sample (K106394) and water sample (K106395) were collected from the pond that receives the combined discharges from the Pirelli Tire site, before the water discharges to Fourche Creek. These samples were analyzed for TPH.

#### **2.4.3 Site 4.3 - Discarded Paint Material North of 60th Street**

Parsons observed paint materials discarded along the north embankment of 60th Street, west of Freuhauf Trucking. The paint materials included drop cloths and several gallon cans containing partial amounts of paint. Some cans still held their paper labels, suggesting that the materials had been dumped at this location within the year previous to the Parsons Investigation. Paint may be regulated as a hazardous waste because of ignitability and heavy metal content. Sampling could be conducted to determine if the discarded paint materials should be classified as a release of hazardous wastes into the environment. Because of the small and confined nature of

the discarded materials, removal of the wastes and excavation of a small amount of soil if staining were observed beneath the debris were recommended by Parsons instead of an investigation. Therefore, no further investigations were recommended by Parsons for this site. Removal of the discarded materials should occur prior to any property transaction.

## **2.5 SECTOR 5**

### **2.5.1 Site 5.1 – South of Arkla Gas Compressor**

The natural gas line crossing the Sector 5 study area and the associated compressor station located north of the Sector 5 study area have been in place since prior to 1955 (USDA, 1955). Lubricating oils used by some natural gas transmission operators prior to the mid-1970s have been known to contain PCBs. During blowdowns or clean out activities, used lubricating oils are removed that historically may have contained PCBs. Stressed vegetation was observed downgradient from the compressor station, but the cause of the stress could not be determined.

Parsons recommended that two surface soil samples be collected. They said one sample should be collected in the drainage swale just east of the compressor station, and the other sample should be collected from the vicinity of the stressed vegetation. They recommended that the samples be analyzed for PCBs and TPH as an indicator of hydrocarbons that may have been used as lubricating oils. The stressed vegetation was south of the Arkla Gas site.

Two surface soil samples were collected. One soil sample (K106396) was collected in the drainage swale just east of the Arkla Gas meter site, and the other soil sample (K106397) was collected from the vicinity of the stressed vegetation. The samples were analyzed for PCBs and TPH as an indicator of hydrocarbons that may have been used as lubricating oils.

### **2.5.2 Site 5.2 – Landfill West of Interstate Park**

Aerial photos indicated that the landfill was in operation between 1966 and 1974. Soil used for the cap appears to be shallow, and in some locations trees are growing from atop the landfill. It is likely that moisture is penetrating the cap that would increase the amount of leachate escaping from the former landfill. Evidence of a seep and possible leachate zone were observed during Parson's visual site inspection. Although the landfill appeared to have been used for domestic solid waste, stressed and dying vegetation was observed in an apparent leachate zone. Escaping leachate flows downgradient into a marshy area, that also contained drying cypress trees, before migrating to Fourche Creek.

Parsons recommended that samples be collected and analyzed for priority pollutant metals, volatile organic and semi-volatile organic compounds to evaluate whether hazardous leachate is being released into the environment. To assist in this evaluation, three soil borings and groundwater monitoring wells were recommended spaced evenly around the perimeter and offset from the base of the landfill. They recommended that two soil samples be collected from each

boring: one near the surface and one at the depth exhibiting the greatest likelihood of contamination. They recommended that groundwater samples be collected from each monitoring well along with sufficient samples for analytical quality assurance/quality control. Because of the expense and maintenance, and environmental liability associated with the installation of monitoring wells, and since the same information can be obtained from soil analyses, only soil analyses from continuously monitored borings were recommended to be used for the investigation.

Parsons recommended that a water sample be collected from the seep identified near the southeast corner of the landfill and from the marsh containing the dead cypress trees. In addition, Parsons recommended that two surface water samples be collected from along Fourche Creek.

Three soil borings (IP-1, IP-2, and IP-3) were made into the capped landfill. From the Boring IP-1, a sample of suspect material from the 23'-26' depth range (K110015) and a soil sample from the bottom of the landfill at the 27.5'-29' depth range (K110016) were analyzed. From the Boring IP-2, a soil sample from the depth of most likely contamination at the 15'-16.5' range (K110049), a composite soil sample from the range beneath the first sample (K110050), and a ground water sample (K110051) were analyzed. This was the only ground water encountered. From the Boring IP-3, a composite soil sample from the 6'-12' depth range (K110052), a soil sample from the 13.5'-15' depth range (K110053), and a soil sample from the 18'-19.5' depth range (K110054) were analyzed. Two of the samples from Boring IP-3 were split and sent to the quality control laboratory. The composite soil sample from the 6'-12' depth range (0110077-01) and the soil sample from the 18'-19.5' depth range (0110077-02) were analyzed by the quality control lab. Soil samples from the borings were analyzed for volatile organic analytes (VOA), semivolatile organic analytes (Semi-VOAs), total petroleum hydrocarbons (TPH), polychlorinated biphenyls (PCBs), pesticides, and priority pollutant metals (metals). The groundwater sample was analyzed for volatile organic analytes (VOA), semivolatile organic analytes (Semi-VOAs), total petroleum hydrocarbons (TPH), and priority pollutant metals (metals).

A water sample was collected from the seep near the southeast corner of the landfill (K110119). A water sample was collected from the marsh that contained the dead cypress trees (K110089).

Two Fourche Creek water samples (K110118, K110200) were obtained. One sample was obtained from Fourche Creek at the Railroad Bridge at Interstate Park and the other water sample was obtained at the southeast corner of the capped landfill (Interstate Park). The samples were analyzed for volatile organic analytes (VOA), semivolatile organic analytes (Semi-VOAs), and priority pollutant metals (metals).

## **2.6 SECTOR 6**

### **2.6.1 Site 6.1 - Particulate Accumulation South of Quarry**

A large amount of particulate sediment (dust) from the gravel quarry was observed in the southwest corner of the Sector 6 study area. According to the Parsons study, this sediment may indicate that a discharge permit for suspended solids is being exceeded. Although the particulate disposition may detract from the aesthetic quality of this location, tailings from the gravel quarry are inert.

In addition, the Parsons investigators observed a significant amount of particulate dust was evident on the foliage in this vicinity. The dust that migrates into the Sector 6 study area may create a human health concern if the area is to be used by the public for recreation since fine particulates in the air can cause respiratory problems. A long-term ambient air monitoring station would be recommended to determine if the concentration of airborne particulate matter could cause a human health concern.

The estimate to conduct the only initial air monitoring of the area around the gravel quarry for particulate missions was exorbitant (\$25,000). Based on this estimate, it was deemed more appropriate to eliminate the sector from consideration than to do a dust study.

### **2.7 Additional Samples**

Additional soil samples were obtained from various locations that were not recommended by Parsons. These soil samples were obtained West of Railroad Bridge - South of I-30 (K10091), West of Arch Street - South of I-30 (K10092), Southwest of I-30/Hwy 65 (K10093), Southeast of I-30/Hwy 65 (K10094), East of I-30 - under overpass (K10095), from the Union Pacific Sump (K10096), and from the Radio Tower Lot (K10097). These samples were analyzed for TPH.

The water used by the drilling company (Anderson Engineering Consultants Inc.) that bored the holes in the landfill was analyzed as the water blank (K110090).



### 3.0 ANALYTICAL RESULTS

#### 3.1 Laboratory Analyses

Soil and water samples obtained during the investigation were analyzed by Arkansas Analytical Laboratory, Inc. in Little Rock, Arkansas. The quality assurance laboratory was Environmental Technical & Consulting, Inc. of Memphis, Tennessee. The laboratory analyses are at Attachment 1. The Chemical Data Quality Assurance Report (CDQAR) was performed by Fort Worth District Corps of Engineers. The CDQAR is at Attachment 2. The statement from Arkansas Analytical, Inc. is at Attachment 3. Their recalculated data is at Attachment 4. A statement from the Arkansas Department of environmental Quality is at Attachment 5. After Arkansas Analytical laboratory satisfactorily modified the data and addressed the concerns expressed by the CDQAR, the laboratory results were accepted for the purpose of this study, which is to delineate lands that are acceptable for acquisition to be used as the Fourche Creek Restoration and Education Project.

The analytical results were compared to established levels. A synopsis of the analytical results is presented in Table 1. The concentrations of analytes in the soil samples were compared with the EPA Human Health Medium Specific Screening Levels for Outdoor Workers without Dermal contact. The concentrations of analytes in the aqueous samples were compared with the EPA's Maximum Contaminant Level (MCL) from the National Primary Drinking Water Regulations and the Tap Water Screening Levels for Chronic exposure.

Several of the analytes from the water sample (K110051) from the second monitoring well (IP-2) that was drilled into the closed landfill adjacent to Interstate Park exceeded the comparison values. The arsenic concentration in the sample was 0.015 mg/L. The MCL for arsenic is 0.01 mg/L, and the Tap Water Screening Level for Chronic exposure is .0000448 mg/L (0.04 µg/L). Therefore the arsenic concentration exceeded the MCL but not the Screening Level. The concentration of cadmium from the same water sample was 0.01 mg/L. The MCL for cadmium is 0.005 mg/L, and the Screening Level is 0.01825 mg/L (18.25 µg/L). Therefore the cadmium concentration exceeded the MCL, but not the Screening Level. The concentration of lead from the same water sample was 0.286 mg/L. The MCL for lead is 0.015 mg/L, and the Screening Level is also 0.015 mg/L (15 µg/L). Therefore the lead concentration exceeded both the MCL and the Screening Level. The concentration of mercury in the same sample was 0.0021 mg/L. The MCL for mercury is 0.002 mg/L, and the Screening Level is 0.01095 mg/L (10.95 µg/L). Therefore the mercury concentration exceeded both the MCL and the Screening Level.

Several of the analytes from the surface water sample (K110089) from the marsh that contained the dead cypress trees exceeded the comparison values. The arsenic concentration in the sample was 0.035 mg/L. The MCL for arsenic is 0.01 mg/L, and the Tap Water Screening Level for Chronic exposure is .0000448 mg/L (0.04 µg/L). Therefore the arsenic concentration exceeded the MCL and the Screening Level. The concentration of cadmium from the same

water sample was 0.022 mg/L. The MCL for cadmium is 0.005 mg/L, and the Screening Level is 0.01825 mg/L (18.25 µg/L). Therefore the cadmium concentration exceeded the MCL and the Screening Level. The concentration of chromium from the same water sample was 0.21 mg/L. The MCL for chromium is 0.1 mg/L, and the Screening Level is 0.10950 mg/L (109.50 µg/L). Therefore the chromium concentration exceeded the MCL and the Screening Level. The concentration of lead from the same water sample was 0.317 mg/L. The MCL for lead is 0.015 mg/L, and the Screening Level is also 0.015 mg/L (15 µg/L). Therefore the lead concentration exceeded both the MCL and the Screening Level.

The concentration of arsenic from the water sample blank (K110090) was 0.001 mg/L. The MCL for arsenic is 0.01 mg/L, and the Tap Water Screening Level for Chronic exposure is .0000448 mg/L (0.04 µg/L). Therefore the arsenic concentration exceeded the Screening Level but not the MCL. The concentration of chloroform from the water blank (K110090) was 42 µg/L. The Tap Water Screening Level for Chronic exposure to chloroform is 0.16 µg/L. Therefore the chloroform concentration exceeded the Screening Level. (There was no MCL listed for chloroform.) The concentration of bromodichloromethane from the water sample blank (K110090) was 6 µg/L. The Tap Water Screening Level for Chronic exposure is 0.18 µg/L. Therefore the bromodichloromethane concentration exceeded the Screening Level. (There was no MCL listed for bromodichloromethane.)

The concentration of chloroform from the Seep at Southeast corner of landfill (K110119) was 27 µg/L. The Tap Water Screening Level for Chronic exposure to chloroform is 0.16 µg/L. Therefore the chloroform concentration exceeded the Screening Level. (There was no MCL listed for chloroform.)

The concentration of total petroleum hydrocarbons (TPH) in several of the samples exceeded the state limit of 100 parts per million. The TPH concentration in the soil from the NE Point of Discharge at the Pirelli Tire site was 180 mg/Kg (parts per million). The TPH concentration in the soil from the monitoring well IP-1 from the 23'-26' depth range (suspect material) was 331 mg/Kg. The TPH concentration in the sediment from the Union Pacific Sump was 26,000 mg/Kg.

The detection level for antimony (<0.06) in the aqueous samples exceeded the comparison values. The detection level for thallium (<0.05 mg/L) in the aqueous samples exceeded the MCL (0.002 mg/L) and the Screening Level (0.00292 mg/L). The actual concentrations may or may not have exceeded the comparison levels.

### **3.2 Chemical Data Quality Assurance Report**

The Chemical Data Quality Assurance Report (CDQAR) was performed by Fort Worth District Corps of Engineers (Attachment 2). Several problems with the data were revealed by the CDQAR. Several of the samples were outside of the method required holding time. The quality control procedures were not followed by the laboratory for some analyses. (EPA SW-846 states "the analyst should not force the line through the origin, but have the intercept calculated from the data points, i.e., a line through the origin will not meet the quality control



specifications”). The CDQAR also noted that some of the samples were outside of the method required temperature.

The primary laboratory recalculated the results after the curves were regenerated without forcing the origins, reexamined questionable data, and regenerated all reports with any revisions (Attachment 4). This work affected some of the data. The samples that were analyzed outside of the method required holding time were considered acceptable for the purposes of this study, and the land area represented by the samples was not recommended for purchase. The reason that the CDQAR reported that some of the samples were outside of the method required temperature was that the samples were delivered to the laboratory before their temperature had reached equilibrium with the cooler. Fort Worth District Corps of Engineers and the Arkansas Department of Environmental Quality concurred that the modified data were acceptable.

## 4.0 DATA ANALYSIS

### 4.1 SECTOR 1

#### 4.1.1 Site 1.1 - South of Auto Salvage Operations:

The water sample that was obtained south of the auto salvage operations, between the auto salvage lots and the creek was not found to contain TPH. The other samples were not obtained since this area was already eliminated from project consideration.

### 4.2 SECTOR 2

(west of Mabelvale Pike)

#### 4.2.1 Site 2.1 - Machine Tools Inc.:

The site is now used for ceramics production, not a petroleum related industry. The concentrations of TPH in the samples were less than the detection limit.

#### 4.2.2 Site 2.2 - Elrod's Imports:

The concentrations of TPH in the samples were less than the detection limit.

### 4.3 SECTOR 3

#### 4.3.1 Site 3.1 - Glen Daniels Transmission:

The concentrations of TPH in the samples were less than the detection limit.

#### 4.3.2 Site 3.2 - Twin City Trucking:

The concentrations of TPH in the samples were less than the detection limit.

#### 4.3.3 Site 3.3 - Brown-colored Discharge from Quality Foods:

One water sample (K106307) was obtained from the stream flowing from the east side of Quality Foods area toward Fourche Creek and analyzed for BOD, COD, and Oil & Grease. BOD and COD were detected in the water sample of 5.18 and 26.6 mg/L respectively. This is a low level and contributes minimally to the nutrient load of the receiving stream.

#### **4.3.4 Site 3.4 - Septic Discharge from Quality Foods:**

This discharge location could not be determined to exist. Therefore, no samples could be obtained.

#### **4.3.5 Site 3.5 - Oil Release from Odum Sausage:**

The Oil & Grease concentration in the aqueous samples was less than the detection limit. Concentrations of Oil & Grease were detected in the soil samples. The concentrations decreased as from the discharge point to the creek. Discharges of Oil & Grease that are not absorbed before they reach the stream will increase the BOD and COD in the stream.

#### **4.3.6 Site 3.6 - Ponds South of Wessel Brothers:**

Concentrations of PCBs and TPH were not detected in the water samples from the Wessell Brothers site.

#### **4.3.7 Site 3.7 - Downgradient from Jimelco Site:**

A concentration of 73 mg/L of TPH was detected in the sediment sample from the marsh area south of the Jimelco site. No other concentrations of PCBs and TPH were detected in the water or sediment samples from the Jimelco site.

### **4.4 SECTOR 4**

#### **4.4.1 Site 4.1 - Septic Discharge from Brown Packing Company:**

Brown Packing Company has not been in operation in several years. The discharge location no longer exists. No septic discharge was found.

#### **4.4.2 Site 4.2 - Oil Release from Pirelli Tire:**

Pirelli Tire no longer operates a production facility at the site. Petroleum hydrocarbons were detected in the soil and water samples from the area at the northeast corner of the Pirelli Tire site. The sample at the discharge point contained 180 mg/Kg. This exceeds the state limit of 100. Apparently the petroleum hydrocarbons that were predominantly discharged when Pirelli Tire was in operation at the site have been dissipated since the hydrocarbon concentration at the swampy area downgradient from the discharge point was less than the detection limit.

## 4.5 SECTOR 5

### 4.5.1 Site 5.1 - South of Arkla Gas Compressor:

. The “Arkla Gas Compressor” site is not presently a compressor site. It is merely a meter station. Concentrations of PCB and TPH were not detected in the soil samples from the Arkla Gas Compressor site.

### 4.5.2 Site 5.2 - Landfill West of Interstate Park:

The occurrence of many metals, volatile, and semi-volatile organic analytes in the landfill at Boring IP-1 was documented. The only analyte that exceeded one of the limits was the diesel range organics (TPH) identified in the suspect material from the 23’-26’ range.

Metals, volatiles, and semi-volatiles were also detected in the landfill at Boring IP-2. The only analytes that exceeded any of the limits were some of the metals in the groundwater sample.

Metals, volatiles, semi-volatiles, pesticides, and PCBs were detected in the landfill at Boring IP-3. However, none of the analytes exceeded any of the limits.

Chloroform was detected in the water sample that was collected from the seep near the southeast corner of the landfill. Chloroform is a byproduct of the chlorination of city water. The seep at the southeast corner of the landfill was probably a water line leak.

Relatively high concentrations of some metals were detected in the water sample that was collected from the marsh that contained the dead cypress trees. The concentrations of arsenic, cadmium, chromium, and lead in this water sample exceeded both the MCLs and the Tap Water Screening Levels.

The Fourche Creek water samples that were obtained at Fourche Creek at the Railroad Bridge at Interstate Park and south fork of Fourche Creek at Benny Craig Park were not contaminated.

## 4.6 SECTOR 6

### 4.6.1 Site 6.1 - Particulate Accumulation South of Quarry

This area was eliminated from consideration for purchase for this project because of the exorbitant cost of a dust study. It was deemed cheaper to eliminate the sector from consideration rather than to perform a dust study. . Although the Parsons study contended that the tailings from the gravel quarry were inert, exposing the unsuspecting public to inspirable, thoracic, and

respirable particulate matter could create a course of future litigation. The southwest corner of Sector 6 was eliminated from consideration for purchase.

#### **4.6.2 Additional Samples:**

Contaminants were detected in the control water sample. The water used by the drilling company that bored the holes in the landfill (Anderson Engineering Consultants Inc.) was analyzed as the water blank. Chloroform, bromodichloromethane, and arsenic were detected in the water blank that exceeded the limits. Chloroform and bromodichloromethane are a byproduct of the chlorination of city water.

The additional soil samples were obtained from various locations that were not recommended by Parsons were analyzed for total petroleum hydrocarbon content. Only the sediment sample obtained from the Union Pacific Sump contained a concentration of TPH that exceeded the state limit.

## **5.0 LAND RECOMMENDED FOR PURCHASE**

Based on the data presented in this report and visual observation of the site, the area that was considered uncontaminated and suitable for purchase was selected. This area is shown on Figure 2. The areas that were excluded from consideration for acquisition include the area around the closed landfill (Interstate Park), which could generate contaminated leachate, the southwest corner of Sector 6 which could receive dust from the adjacent quarry, and the area west of University Avenue.

## **6.0 LIST OF PREPARERS**

1. Max Frauenthal, Engineer, Planning, Environmental and Regulatory Division, Planning Branch, U. S. Army Corps of Engineers, Little Rock District

**APPENDIX A: LIST OF ACRONYMS AND ABBREVIATIONS**



**LIST OF ACRONYMS AND ABBREVIATIONS**

BOD	Biological Oxygen Demand
CDQAR	Chemical Data Quality Assurance Report
COD	Chemical Oxygen Demand
EPA	Environmental Protection Agency
MCL	Maximum Contaminant Level
ug/L	micrograms per liter
mg/Kg	milligrams per kilogram
mg/L	milligrams per liter
Parsons	Parsons Engineering Science, Inc. Preliminary Assessment
PCB	Polychlorinated Biphenyls
Semi-VOAs	Semi-Volatile Organic Analytes
TPH	Total Petroleum Hydrocarbons
VOA	Volatile Organic Analytes

## ATTACHMENTS

Table 1: Synopsis of Analytical Results

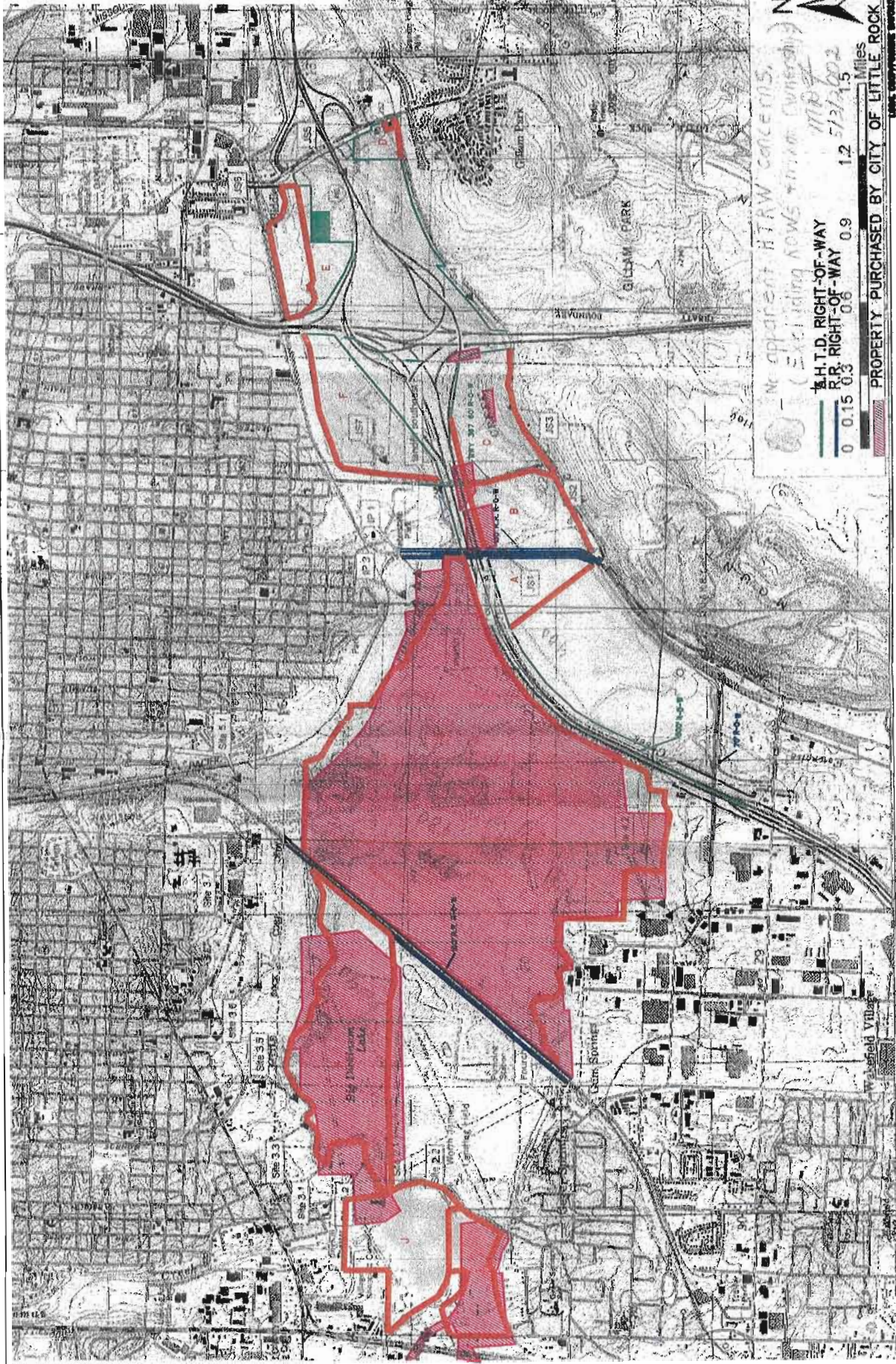
Figure 1: Sample Locations

Figure 2: Land Recommended for Purchase

Attachment 1: Letter from Arkansas Department of Environmental Quality and E-mail between Patricia Taylor and Max Frauenthal







No apparent H.T.W. concretions,  
 (Excluding ROWS within University)

1/4 H.T.D. RIGHT-OF-WAY 1.107  
 R.R. RIGHT-OF-WAY 0.9 5/23/602  
 0 0.15 0.3 0.6 0.9 1.2 1.5 Miles

PROPERTY PURCHASED BY CITY OF LITTLE ROCK

DATE: 5/23/60





# ADEQ

ARKANSAS  
Department of Environmental Quality

Date: April 25, 2002

Mr. Max Frauenthal  
U.S. Corp of Engineers  
P.O. Box 867  
Little Rock, AR 72203

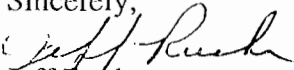
Ref: Requested analytical Data review of project Fourche Creek

After reviewing the Arkansas Analytical and ETC data reports I agree with all the statements listed in the CDQAR for Fourche Creek dated April 3, 2002. I would like to bring to your attention an item that may need to be further investigated.

Metals:

ID# K110051 and K110089,  
Lead levels above limits.

Sincerely,



Jeff Rutehr

ADEQ, QA Officer

ATRW

From: Taylor, Patricia A SWD  
Sent: Monday, May 13, 2002 11:26 AM  
To: Frauenthal, Max D SWL  
Subject: RE: Fourche Creek land acquisition, Little Rock, Arkansas  
Max:  
Sounds like you have it covered. Good job.  
Patty

-----Original Message-----

From: Frauenthal, Max D SWL  
Sent: Monday, May 13, 2002 11:10 AM  
To: Taylor, Patricia A SWD  
Cc: Smethurst, Julia A SWL; Barber, David W SWD  
Subject: RE: Fourche Creek land acquisition, Little Rock, Arkansas

Patty:

Thanks for the response and welcome back.

Yes, I believe the confines of the landfill have been adequately defined. A recreational area (baseball & soccer fields) was built over a large portion of the landfill, and the rest of the landfill is fairly obvious. In addition to this, yes, Parsons did perform an adequate records search/field inspection documented with historical records and photographs, etc., and many people still remember when the landfill was active. HQ USACE reviewed the Parsons report 21 December 1999, and stated the report was well prepared, and agreed that we could avoid contaminated sites, but stated that we had to be certain that the lands to be acquired were free from contamination.

Thanks,  
Max

-----Original Message-----

From: Taylor, Patricia A SWD  
Sent: Monday, May 13, 2002 10:11 AM  
To: Frauenthal, Max D SWL  
Cc: Smethurst, Julia A SWL; Barber, David W SWD  
Subject: RE: Fourche Creek land acquisition, Little Rock, Arkansas

Max:

Based upon what you have told me, I believe you have satisfied the requirements. Avoiding the landfill was a wise decision. My only question/concern is that you are certain you have adequately defined the confines of the landfill area. Did Parsons perform an adequate records search/field inspection (looking at historical records/pictures/newspaper articles, research State records, did they conduct an actual field visit, documented with pictures?).

I would be happy to take a look at the Parsons report if you think it would assist you.

Let me know.

Thanks.

Patty

P.S. I'm back to work full-time now. Thank you for your patience with me.

-----Original Message-----

From: Frauenthal, Max D SWL  
Sent: Friday, May 03, 2002 3:47 PM  
To: Taylor, Patricia A SWD

Cc: Smethurst, Julia A SWL  
Subject: Fourche Creek land acquisition, Little Rock, Arkansas

Hi Patty,

We are in the process of performing a limited re-evaluation report for the acquisition of 1,750 acres of bottomland in Fourche bayou. Parsons Engineering Science, Inc. performed the preliminary assessment report. There were some HTRW concerns. Our requirement was to acquire no land contaminated with HTRW.

We performed the site inspection as recommended by the Parsons assessment. An Arkansas certified laboratory was used because of their experience with PCBs instead of a Corps validated lab. Ft. Worth District (Roxanne Welch) performed the Chemical Data Quality Assessment Report. The CDQAR noted several problems. After discussion with laboratory personnel and receipt of feedback from Ft. Worth on the lab's response, we requested the primary lab to correct the errors that could be corrected after the fact. The Arkansas Department of Environmental Quality confirmed the CDQAR and expressed concern about lead in the landfill.

We took into consideration that the purpose of the investigation was to eliminate land that we do not wish to purchase. Since it was for screening purposes only, the data confirmed that we will not purchase the former city dump. The most questionable data pertained to the dump area. It also appears that the landfill contents have not contaminated the land downstream.

Based on our investigations, we are certifying to our Real Estate Division which land we consider acceptable for purchase with respect to HTRW concerns.

Are there any additional requirements that we need to meet at this time?

Max Frauenthal