

August 2006

**Draft
ENVIRONMENTAL ASSESSMENT**

MID-ARKANSAS WATER ALLIANCE

**Water Supply Storage Reallocation
Greers Ferry Lake, Arkansas
Lake Ouachita, Arkansas**

Prepared for



**U.S. Army Corps of Engineers
Little Rock District
Little Rock, Arkansas**

Prepared by



Baton Rouge, Louisiana

**Draft Report
ENVIRONMENTAL ASSESSMENT**

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**Water Supply Storage Reallocation
Greers Ferry Lake, Arkansas
Lake Ouachita, Arkansas**

Contract No. W91278-04-D-0018
Delivery Order No. CL02
GEC Project No. 27309CL02

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**U.S. ARMY CORPS OF ENGINEERS
LITTLE ROCK DISTRICT
LITTLE ROCK, ARKANSAS**

August 16, 2006

**FINDING OF NO
SIGNIFICANT IMPACT**

DRAFT

FINDING OF NO SIGNIFICANT IMPACT

NAME OF PROPOSED ACTION: Mid-Arkansas Water Alliance (MAWA), Water Supply Storage Reallocation, Greers Ferry Lake and Lake Ouachita, Arkansas.

PURPOSE AND NEED FOR THE PROPOSED ACTION. The Little Rock District, U.S. Army Corps of Engineers proposes that 18,730 acre-feet (AF) of water in Greers Ferry Lake be reallocated from flood control storage to water supply storage to satisfy the municipal and industrial water supply needs of MAWA. Of that total, 174.0 AF of storage represents dependable yield mitigation storage (DYMS) required to provide constant yields for existing users. Additionally, it is proposed that 33,303 AF of storage in Lake Ouachita be reallocated from flood control to water supply storage to satisfy water supply needs of MAWA. Of that total, 122.0 AF of storage represents dependable yield mitigation storage (DYMS) required to provide constant yields for existing users.

ALTERNATIVES. In addition to the Proposed Action (reallocation from the flood control pool), reallocation of storage from the conservation pool was considered, as well as the No Action alternative:

Reallocation from the conservation pool (Alternative 2): Under this alternative, water supply storage would be reallocated from the conservation (hydropower) pool, causing both a reduction in existing storage and a reduction in yield for hydropower.

No Action (Alternative 3): This alternative consists of no change in the current water allocation. No water would be allocated for water supply to meet the needs of MAWA. Existing users in MAWA would be forced to find alternate water supplies for municipal and industrial needs.

ANTICIPATED ENVIRONMENTAL IMPACTS:

Consideration of the effects disclosed in the EA, and a finding that they are not significant, is necessary in order to prepare a FONSI. This determination of significance is required by 40 CFR 1508.13. Additionally, 40 CFR 1508.27 defines significance at it relates to consideration of environmental effects of a direct, indirect or cumulative nature.

Criteria that must be considered in making this finding are addressed below, in terms of both context and intensity. The significance of both short and long term effects must be viewed in several contexts: society as a whole (human, national); the affected region; the affected interests; and the locality. The context for this determination is primarily local, as shown in Figures 1 and 2 of the EA. The context for this action is not highly significant geographically, nor is it controversial in any significant way. Consideration of intensity refers to the magnitude and intensity of impact, where impacts may be both beneficial and adverse. Within this context, the

magnitude and intensity of impacts resulting from this decision are not significant. The determination for each impact topic is listed below:

1. **The degree to which the action results in both beneficial and adverse effects. A significant effect may exist even if the Federal agency believes that on balance the effect will be beneficial.** The EA indicates that there will be beneficial effects such as the availability of increased water supply to meet municipal and industrial needs of the region served by MAWA until the year 2025, as well as adverse construction related effects from implementation of Alternative 1 (Proposed Action), but these will be minor in intensity and construction related only.
2. **The degree to which the action affects public health or safety.** No adverse effects to public health or safety will result from the Proposed Action. Under existing conditions, no significant amounts of hazardous materials are identified in the immediate area of the Proposed Action. Implementing the Proposed Action would not create hazardous conditions affecting public health or safety.
3. **The degree to which the action affects unique characteristics of the potentially affected area, such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.** No such unique characteristics or resources have been identified in the project area. Coordination with the State Historic Preservation Officer indicates that proper monitoring during the construction of the new raw water intake and pipeline at Lake Ouachita should be implemented during construction.
4. **The degree to which effects on the quality of the human environment are likely to be highly controversial.** The project will benefit the public, therefore the Little Rock District, Corps of Engineers does not regard this activity as controversial, and the expected public response to the EA should confirm this.
5. **The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.** Reallocation of water supply from these two lakes has occurred several times in the past. Although this reallocation is one of the larger ones, there is no uncertainty involving the impacts or risks of this action.
6. **The degree to which the action may establish a precedent for future actions with significant impacts.** The reallocation of water supply storage at Greers Ferry Lake and Lake Ouachita is situation specific and will not establish any precedent for future action that has significant impacts.
7. **Whether the action is related to other actions with individually insignificant but cumulatively significant impacts.** Cumulative effects analyses for the physical and biological resources that would potentially be affected are present in the EA. Cumulative effects on these resources focus on disturbed soils, vegetation

loss, habitat loss, or other impacts relating to construction activities involved in the Proposed Action. The Proposed Action would not result in any cumulative impacts in regard to any reasonably foreseeable action in the project area.

8. **The degree to which the action may adversely affect items listed or eligible for listing in the National Register of Historic Places, or other significant scientific, cultural or historic resources.** As previously state in Item 3 above, no known historic structures or archaeological sites would be affected by the Proposed Action. Proper monitoring during the construction of the pump station and pipeline should ensure that work is stopped and the SHPO notified should any such sites be discovered.
9. **The degree to which the action may adversely affect an endangered or threatened species or its critical habitat.** As disclosed in the EA, Section 4.4.3, coordination with the USFWS indicates that no T&E species are anticipated to be impacted by the Proposed Action.
10. **Whether the action threatens a violation of Federal, State or local law or requirements imposed for the protection of the environment.** No such violations will occur. Any permits from jurisdictional agencies or authorities that are identified as needed for the construction of the pump station and pipeline at Lake Ouachita will be obtained prior to any construction activities. Continued coordination with regulatory agencies will be ongoing to ensure compliance with all federal, state, regional, and local regulations and guidelines

CONCLUSIONS:

The impacts identified in the prepared EA have been thoroughly discussed and assessed. No impacts identified in the EA would cause any significant adverse effects to the human environment. Therefore, due to the analysis presented in the EA and comments received from a 30-day public review period that began on _____, 2006 and ended on _____, 2006, it is my decision that the preparation of an Environmental Impact Statement (EIS) as required by the National Environmental Policy Act (NEPA) is unwarranted and a "Finding of No Significant Impact" (FONSI) is appropriate. The signing of this document indicates the Corps final decision of the proposed action as it relates to NEPA. The EA and FONSI will be held on file in the Planning and Environmental Office for future reference. Consultation with regulatory agencies will be ongoing to ensure compliance with all federal, state, regional, and local regulations and guidelines.

Date

BENJAMIN H. BUTLER
Colonel, US Army
District Engineer

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

The Mid-Arkansas Water Alliance (MAWA), in conjunction with the U.S. Army Corps of Engineers (USACE), has evaluated future water needs of central Arkansas and identified sources to meet those needs through the year 2050. The group decided that the best alternative for obtaining water for central Arkansas would be to purchase the remaining USACE discretionary storage in Greers Ferry Lake and Lake Ouachita. In March 2006, the USACE completed the *Draft Greers Ferry Lake and Ouachita Lake, Arkansas, Water Supply Reallocation Report for MAWA*, of which this EA is a component. This study revised the water needs and sources projection for central Arkansas from the year 2050 to the year 2025.

The Greers Ferry Dam is located on the Little Red River about two miles northeast of Heber Springs, Arkansas. The lake area contains over 30,000 acres of water surface and extends in a westerly direction upstream from the dam approximately 25 miles into Cleburne and Van Buren counties, Arkansas. Lake Ouachita is located on the Ouachita River within the eastern boundary of the Ouachita Nation Forest in Garland and Montgomery counties, Arkansas. The surface acreage averages from approximately 40,000 to 48,000 acres throughout the year, and surface elevations fluctuate approximately 9 feet each year because of lake operations for flood control and hydropower generation.

It is proposed that 18,730 acre-feet (AF) of storage in Greers Ferry Lake and 33,303 AF of storage in Lake Ouachita be reallocated from flood control to water supply storage to satisfy the municipal and industrial water supply needs of MAWA. The proposed storage reallocation will change the Greers Ferry Lake project by raising the conservation pool by 0.6 feet (to 462.04 feet), providing a safe yield of 15.0 million gallons per day (mgd). The Lake Ouachita project would be changed by raising the conservation pool by 0.82 feet (to 578.98 feet), providing a safe yield of 20.0 mgd. Additionally, a new water intake structure, pump station, and pipeline are proposed for construction on Lake Ouachita to serve the City of Hot Springs, Arkansas.

Consideration was given to alternatives such as water withdrawal from groundwater, existing surface water sources, streams, and construction of a new water supply lake. These alternatives were not viable either economically or environmentally and would not meet the needs of the sponsor.

Although the proposed projects involve raising the conservation pools at each lake, the lake elevations would not change perceptibly due to the operation of the reservoirs for flood control, hydropower, and other purposes, including withdrawals for water supply. No significant impacts to land use, water resources, cultural resources, biological resources, hazardous, toxic and radioactive waste, air quality, noise quality, or recreation are anticipated as a result of the proposed action. The proposed action would have a slight flood damage benefit reduction, but that reduction is not substantial when the existing current reductions are considered. There have been no significant impacts to the human environment identified from this assessment due to the proposed action.

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ENVIRONMENTAL ASSESSMENT

1.0 INTRODUCTION

1.1 SCOPE AND PURPOSE OF THE PROPOSED ACTION

A U.S. Army Corps of Engineers (USACE) report, The Mid-Arkansas Water Resource Study, was completed in November 2002 for the Mid-Arkansas Water Discussion Group to evaluate future water needs of central Arkansas and identify sources to meet those needs through the year 2050. Based upon the results of this study, the group decided that the best alternative for obtaining water for the central Arkansas area south of the Arkansas River would be to purchase the remaining USACE discretionary storage in Greers Ferry Lake and Lake Ouachita.

On April 4, 2003, the Mid-Arkansas Water Discussion Group evolved into the Mid-Arkansas Water Alliance (MAWA) and was incorporated. MAWA is comprised of eight counties in the central Arkansas area. A letter requesting the purchase of the remaining discretionary storage in Greers Ferry Lake and Lake Ouachita was submitted to the Little Rock District on 18 April 2003 by MAWA. The Little Rock District, USACE conducted water reallocation studies for Greers Ferry Lake and Lake Ouachita.

Several entities that currently use surface water as their supply for drinking water have joined MAWA because their current supplies may not meet their demand through 2050. These include Central Arkansas Water (Lakes Winona and Maumelle), City of Conway and Conway County (Lake James H. Brewer), Benton (North Fork of the Saline River and Lake Norrell), Hot Springs Village (Middle Fork of Saline River and Lake Lago), Hot Springs at Lake Hamilton, Perryville on Cedar Lake and Fourche LaFave, Community Water System and Heber Springs Water Utilities on Greers Ferry, and Paron-Owensville on Lake Ouachita (through North Garland). All other water supply for MAWA members comes from groundwater. Based upon the November 2002 Mid-Arkansas Water Resource Study, the most economical option for meeting the future water needs of MAWA would be to reallocate storage in Greers Ferry Lake and Lake Ouachita.

In March 2006, the USACE, Little Rock District, completed the Draft Greers Ferry Lake and Ouachita Lake, Arkansas, Water Supply Reallocation Report for MAWA, of which this EA is a component. This study revised the water needs and sources projection for central Arkansas from the year 2050 to the year 2025.

This EA addresses the reallocation of water supply storage to meet needs until 2025 and was prepared pursuant to the National Environmental Policy Act (NEPA), Council for Environmental Quality (CEQ) regulations implementing NEPA (40 CFR, 1500-1517), and Corps of Engineers Regulation ER 200-2-2 Policy and Procedures for Implementing NEPA (33 CFR, 230). The EA was prepared to describe existing conditions and evaluate potential impacts associated with the Proposed Action and alternatives.

1.2 PROJECT LOCATION

1.2.1 Greers Ferry Lake

The Greers Ferry Dam is located at river mile 79.0 on the Little Red River, a tributary of the White River, and is about two miles northeast of Heber Springs, Arkansas, about 50 air miles northeast of Little Rock, Arkansas, and about 115 air miles northwest of Memphis, Tennessee. The lake area contains over 30,000 acres of water surface and extends in a westerly direction upstream from the dam approximately 25 miles into Cleburne and Van Buren counties, Arkansas (see Figure 1).

Greers Ferry Lake is nestled in the eastern foothills of the Arkansas Ozarks. The lake is actually two bodies of water, one lying north of the other and connected at the middle by a quarter mile wide channel called the "Narrows." The surrounding terrain is rocky and rugged with vertical changes in elevation of more than 600 feet. The 276 miles of shoreline lie within Cleburne and Van Buren counties and the perimeter of the lake is almost entirely wooded with a cover of mixed shortleaf pine and upland hardwoods. Over the 42-year history of the lake, water levels have fluctuated annually an average of 17.17 feet.

Three major tributaries of the Little Red River comprise the water source for Greers Ferry Lake. Two of these tributaries, the Devils Fork of the Little Red River and the Middle Fork of the Little Red River, are rapid flowing and provide excellent floating recreation above the area of impoundment.

Greers Ferry Lake is the eastern-most major impoundment of water in Arkansas. It has a 150-highway mile zone of influence, which draws a major portion of the lake's visitors from eastern Arkansas and western Tennessee.

1.2.2 Lake Ouachita

Lake Ouachita is located on the Ouachita River within the eastern boundary of the Ouachita Nation Forest in Garland and Montgomery counties, Arkansas (see Figure 2). The dam, known as Blakely Mountain Dam, is located 13 miles northwest of Hot Springs, Arkansas. The lake is the largest lake in Arkansas, extending approximately 35 miles along the old Ouachita River channel. The lake contains an average of 1,000,000 acre-feet (AF) of water storage. The surface acreage averages from approximately 40,000 to 48,000 acres throughout the year and surface elevations fluctuate approximately 9 feet each year. These fluctuations result from lake operations for flood control and hydropower generation.



Source: USACE, 2006.

Figure 2. Lake Ouachita and Surrounding Communities

1.3 ENVIRONMENTAL COMPLIANCE

Table 1 presents amplifying information on the environmental compliance of the proposed project.

Table 1. Status of Project with Applicable Laws and Statutes

Item	Compliance
<u>Federal Statutes</u>	
Archaeological and Historic Preservation Act, as amended, 16 U.S.C. 469, et. Seq.	Full
Clean Air Act of 1977, as amended, 42 U.S.C. 7609, et seq.	Full
Clean Water Act, as amended, (Federal Water Pollution Control Act) 33 U.S.C. 1251, et seq.	Full
Coastal Zone Management Act, 16 U.S.C. 1451, et seq.	N/A
Endangered Species Act, 16 U.S.C. 1531, et seq.	Full
Estuary Protection Act, 16 U.S.C. 1221, et seq.	N/A
Federal Water Project Recreation Act, 16 U.S.C. 460-12, et seq.	Full
Fish and Wildlife Coordination Act, 16 U.S.C. 661, et seq.	Full
Land and Water Conservation Fund Act, 16 U.S.C. 460/ -460/-11, et seq.	N/A
Marine Protection, Research and Sanctuary Act, 33 U.S.C. 1401, et seq.	N/A
National Environmental Policy Act, 42 U.S.C. 4321, et seq.	Full
National Historic Preservation Act, 16 U.S.C. 470a, et seq.	Full
Rivers and Harbor Act, 33 U.S.C. 401, et seq.	N/A
Watershed Protection and Flood Prevention Act, 16 U.S.C. 1001, et seq.	N/A
Wild and Scenic Rivers Act, 16 U.S.C. 1271, et seq.	Full
<u>Executive Orders, Memorandums, etc.</u>	
Executive Order 11988, Floodplain Management, May 24, 1977 (42 CFR 26951; May 25, 1977)	Full
Executive Order 11990, Protection of Wetlands, May 24, 1977 (42 CFR 26961; May 25, 1977)	Full
Council on Environmental Quality Memorandum of August 11, 1980: Analysis of Impacts on Prime or Unique Agricultural Lands in Implementing the National Environmental Policy Act.	Full
Executive Order 12114, Environmental Effects Abroad of Major Federal Actions.	N/A
<u>State and Local Policies</u>	
Arkansas Water Quality Standards	Full

Notes:

Full Compliance (Full): Having met all requirements of the statute, E.O. or other environmental requirements for the current stage of planning.

Ongoing: Coordination ongoing, and should be completed prior to signature of FONSI.

Not Applicable (N/A): No requirements for the statute, E.O. or other environmental requirement for the current stage of planning.

1.4 PROJECT AUTHORITY AND REGULATORY REQUIREMENTS

Authority for this reallocation is the Water Supply Act of 1958, as amended. This legislation directed the Assistant Secretary of the Army for Civil Works to co-operate with non-Federal interests in developing water supply sources. The water user is responsible for all costs associated with the water supply storage.

2.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

2.1 GREERS FERRY LAKE

2.1.1 Description of the Proposed Action

Based on the findings in the storage reallocation report it is proposed that 18,730 AF of storage in Greers Ferry Lake be reallocated from flood control to water supply storage to satisfy the municipal and industrial water supply needs of MAWA. Of that total, 174.0 AF of storage represents dependable yield mitigation storage (DYMS) required to provide constant yields for existing users. The proposed storage reallocation will change the Greers Ferry Lake project by raising the conservation pool by 0.6 feet (7.2 inches) (461.44 to 462.04). This reallocation would provide a safe yield of 15.0 mgd. MAWA will be required to pay to the Government a pro-rata share of the updated cost of the storage for this storage in accordance with the Water Supply Act of 1958, as amended.

2.1.2 Alternatives to the Proposed Action

Reallocation from the conservation (hydropower) pool was also considered in the alternative analysis. When storage is reallocated from the conservation pool there is no change in the yield of the pool. The reallocation is made directly from hydropower storage, causing both a reduction in existing storage and a reduction in yield for hydropower. During the drought of record, a reallocation from the conservation pool would reduce the lake level by about one foot over the period of a year.

A reallocation from the existing conservation pool for MAWA of 18,405 AF of hydropower storage to M&I water supply purposes is estimated to provide a safe yield of 15.0 mgd. The reallocation will reduce hydropower yield by 15.0 mgd and their storage by 18,405 AF.

2.1.3 No-Action Alternative

This alternative consists of no change in the current water allocation. No water would be allocated for water supply to meet the needs of MAWA. Existing users in MAWA would be forced to find alternate water supplies for M&I needs.

2.2 LAKE OUACHITA

2.2.1 Description of the Proposed Action

Based on the findings in the storage reallocation report it is proposed that 33,303 AF of storage in Lake Ouachita be reallocated from flood control to water supply storage to satisfy the municipal and industrial water supply needs of MAWA. Of that total, 122.0 AF of storage represents dependable yield mitigation storage (DYMS) required to provide constant yields for existing users. The proposed storage reallocation will change the Lake Ouachita project by

raising the conservation pool by 0.82 feet (9.8 inches) (578.16 to 578.98). This reallocation would provide a safe yield of 20.0 mgd. MAWA will be required to pay to the Government a pro-rata share of the updated cost of the storage for this storage in accordance with the Water Supply Act of 1958, as amended.

As part of this proposed action for Lake Ouachita a new water intake structure, pump station and pipeline will be built on Lake Ouachita to serve the City of Hot Springs, Arkansas. The new intake structure is proposed to be built on the lake and a new raw water pipeline will connect to the Ouachita Water Treatment Facility northwest of the City of Hot Springs.

The design of the intake structure, pump station and pipeline is being performed by Garver Engineers, LLC (Garver). Four alternative locations having adequate water depths of over 100 feet have been proposed for the intake structure. Table 2 presents location information about these alternative locations.

Table 2. Alternative Locations for Water Intake Structure at Lake Ouachita

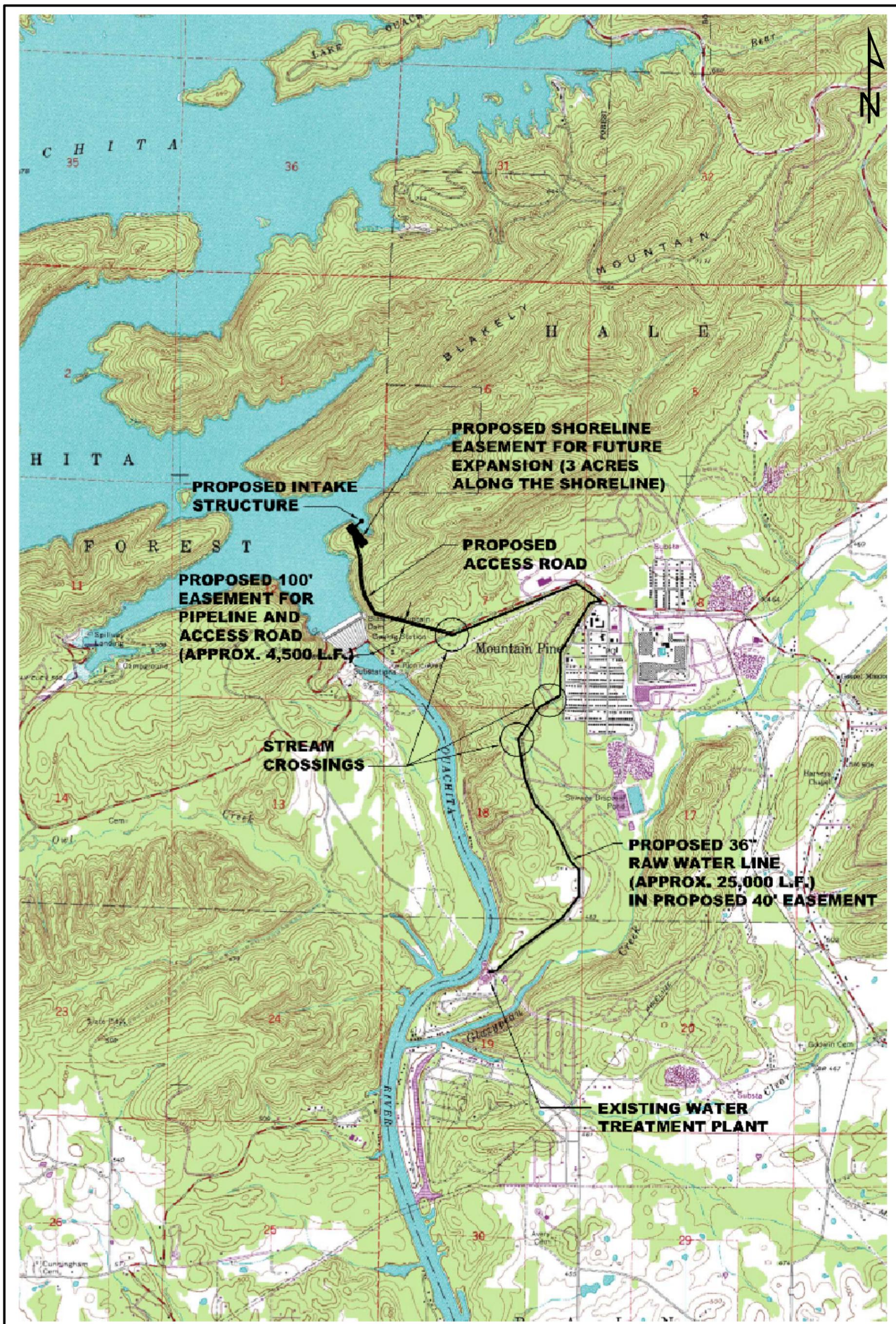
Alternative	Latitude	Longitude	Approximate Water Surface Elevation
Alternative Location 1	N 34° 34.84'	W 93° 11.65'	582.00 ft
Alternative Location 2	N 34° 35.36'	W 93° 11.76'	582.00 ft
Alternative Location 3	N 34° 35.64'	W 93° 12.41'	582.00 ft
Alternative Location 4	N 34° 36.01'	W 93° 11.91'	582.00 ft

Source: Garver Engineers, 2006.

Alternative Location 1, near the Blakely Mountain Dam, has been determined to be the preferred location. The advantages of this location are its depth (approximately 130 feet) and its close proximity to the existing Ouachita Water Treatment Plant. The location is within a small cove that branches off from a larger finger that extends from the northeastern side of the main channel leading to Blakely Mountain Dam. This isolated, low traffic area near the dam offers both the most aesthetically pleasing and economic location. Figure 3 presents the most recent design layout for the preferred alternative location of the pump station on Lake Ouachita and the pipeline route to the water treatment facility.

Garver and City of Hot Springs officials conducted a site reconnaissance of all four alternative locations on 2 June 2006. The results of this reconnaissance confirmed that Alternative Location 1 is the optimal location for the proposed intake structure.

It is currently proposed that three acres along the shoreline near Blakely Mountain Dam be dedicated to the pump station site to allow for future expansion. A 100-foot easement is proposed from the pump station to an existing road leading from the dam to the community of Mountain Pine for a new access road to the pump station site and routing of a 36-inch pipeline, a distance of approximately 4,500 linear feet. From that point, a 40-foot easement is proposed for routing of the 36-inch pipeline to the existing water treatment plant, a distance of approximately



Mid-Arkansas Water Alliance
 Water Supply Storage Reallocation Environmental Assessment
 Lake Ouachita Proposed Pump Station and Raw Water Pipeline



Figure: 3
 Date: 14 July 2006
 Scale: N/A
 Source: USGS/Garver Engineers
 Map Author: D.Shearer, 27309CL02

25,000 linear feet. Total length of the pipeline is approximately 29,500 linear feet or 5.6 miles. Please see Figure 3 for a topographical map with the proposed pump station and pipeline route. Designs of the intake structure and pump station and the associated pipeline are largely conceptual at present. The following is a discussion of proposed design features.

If a can-type intake is selected for construction, drilled shaft piers could provide the foundation. However, because of the hard rock bottom of Lake Ouachita, drilled piles are not a practical option for the foundation of the intake structure. If a cylindrical or cubical intake tower with inlet gates is selected, a poured concrete spread footing could serve as the foundation; this method would require the construction of a caisson. Additional geotechnical investigation and further conceptual design is necessary to finalize foundation design.

Because blasting in close proximity to Blakely Mountain Dam is impractical, a collector well intake design is not recommended for construction. An intake tower is the most practical and economical solution. The pumps must be easily accessible for removal and replacement. Various means of pump accessibility have been proposed, including the use of roof hatches for pump removal and a gantry crane for truck loading. The bridge should be designed to support truck load so that the pumps and other equipment can be easily mobilized.

Because the structure would operate under high flow, high head conditions, vertical turbine pumps are proposed. Water cooled bearing design with a prelubrication mechanism is preferred over the oil cooled bearing design. A preliminary design capacity of 30 mgd has been proposed. Four pump slots are recommended to allow one slot to be available for partner supply while leaving three slots available for the City of Hot Springs. These three slots will initially be filled by 10 mgd, 500 hp pumps, yielding a firm capacity of 20 mgd.

Variable frequency drives (VFDs) are proposed to increase bearing life, decrease maintenance, and increase energy efficiency. The VFDs would be stored in an air conditioned space on the shoreline to reduce the space and air conditioning requirement in the intake tower. Because the VFDs would be located on the shore, air conditioning is not required for the intake structure.

The use of medium voltage (4160 V) to power the large horsepower (500 hp) pumps would reduce the amount of copper and conduit required. However, any savings from this method may be negated by larger costs for VFD control of medium voltage. Further investigation is required to determine whether low voltage or medium voltage would serve best.

To conduct the 30 mgd peak flow to the Ouachita Water Treatment Plant, a minimum pipeline diameter of 36 inches is required. Because significant rock excavation would be required to trench in the 36-inch line near the lake and shore, above-ground installation is proposed for these areas. The above-ground portion of the pipeline would be constructed of restrained joint ductile iron or welded steel pipe, while ductile iron pipe would serve as the material for the traditional trenched installation. Blow-off stations or fire hydrants serving that purpose would be set at specified intervals along the transmission main. Timed automatic flushing devices may also be installed along the pipeline.

2.2.2 Alternatives to the Proposed Action

Reallocation from the conservation (hydropower) pool was also considered in the alternative analysis. When storage is reallocated from the conservation pool there is no change in the yield of the pool. The reallocation is made directly from hydropower storage causing both a reduction in their storage and a reduction in yield for hydropower. During the drought of record, a reallocation from the conservation pool would reduce the lake level by about one foot over the period of a year.

A reallocation from the existing conservation pool for MAWA of 32,573 AF of hydropower storage to M&I water supply purposes is estimated to provide a safe yield of 20.0 mgd. The reallocation will reduce hydropower yield by 20.0 mgd and their storage by 32,573 AF.

2.2.3 No-Action Alternative

This alternative consists of no change in the current water allocation. No water would be allocated for water supply to meet the needs of MAWA. Existing users in MAWA would be forced to find alternate water supplies for M&I needs.

2.3 OTHER ALTERNATIVES CONSIDERED

A requirement of using a Government project as a water supply source is that the use of the Government project be the least cost alternative. The Draft Greers Ferry Lake and Lake Ouachita, Arkansas, Water Supply Storage Reallocation Report was completed in March 2006 for MAWA to evaluate future water needs of central Arkansas and identify sources to meet those needs through the year 2025.

In the current storage reallocation report, several alternatives for water supply have been considered. The following is a description of alternatives that were thoroughly evaluated for technical, permitting, and cost/benefit considerations, but were deemed not feasible to be implemented; consequently, these alternatives are not discussed further in this EA.

2.3.1 Groundwater Withdrawal

Groundwater in central Arkansas is drawn from two aquifer systems: the alluvial aquifer system and the Mississippi Embayment aquifer system. The alluvial system consists of the Arkansas River aquifer and the more extensive Mississippi River Valley aquifer.

The Mississippi Embayment aquifer underlies the alluvial aquifers although these aquifers are connected to each other throughout eastern Arkansas. The alluvial aquifers can yield large quantities of water; properly constructed wells can yield 500 gpm almost anywhere in the system. Wells in the Mississippi River Valley system have been reported to yield as much as 5,000 gpm.

The Mississippi Embayment aquifer system is comprised of several aquifers: the Nacatoch, the Wilcox, the Sparta, and the Cockfield. The Sparta, the most productive aquifer, is capable of producing yields in excess of 1,000 gpm.

As a result of large scale groundwater withdrawals primarily for rice farming, groundwater levels in the state are declining. Declining aquifer water levels create a multitude of problems. Because of the excessive withdrawals of groundwater, the safe yield has been approached or exceeded in the alluvial and Sparta aquifers. The Arkansas Soil and Water Conservation Commission has declared these aquifers as “critical groundwater levels” due to the safe yield concerns relating to poor water quality and to saline intrusions consistent with declining groundwater levels. Several of the existing entities currently use groundwater and are already experiencing difficulty in obtaining adequate water from their sources. Therefore, additional groundwater withdrawal is not considered a viable alternative.

2.3.2 Stream Withdrawal

There are no streams within the study area capable of providing enough safe yields for this purpose. The Arkansas River was briefly considered because it would be capable of serving the needs to the north and south. This alternative was eliminated because the Arkansas Department of Environmental Quality (ADEQ) has listed it as not having enough safe yield that would be available as a water supply.

2.3.3 New Lake and Pipeline

The water supply needs, for about a 25 year period, could be met by constructing a new reservoir on Bull Creek. This project would have consisted of constructing a 1,000 foot long by 93 feet high by 572 foot wide earthen dam containing 370,000 cubic yards of fill material. This project would have inundated 19 miles of Bull Creek to form a 3,575 acre lake. This reservoir would have been recharged by a 50 square mile drainage area and would have had an approximate yield of 34 mgd.

This project was proposed in the early 1980s to supply water in the north central region of this study area. It was also restudied in 2002 for the Mid-Arkansas Regional Water Discussion Group. The results of both studies found that this alternative was not justifiable either economically or environmentally.

Based on the results of the evaluations described in the storage reallocation report, the three alternatives that are currently under consideration are the Proposed Action (Flood Control Storage Reallocation), Conservation (hydropower) Storage Reallocation, and the No-Action Alternative. Existing environmental conditions related to these alternatives, and the potential impacts resulting from the implementation of the Proposed Action, Conservation Storage Reallocation, and the No-Action Alternative are presented in this EA.

2.4 SUMMARY OF IMPACTS

Table 3 presents a summary of impacts anticipated as a result of the alternatives considered viable for the proposed project. Refer to Section 4.0 *Environmental Consequences* for a detailed description of impacts.

Table 3. Comparative Impacts of Alternatives

Resource Area	Proposed Action	Alternative 2	Alternative 3
	Reallocation From Flood Control Pool	Reallocation From Conservation Pool	No Action Alternative
Land Use	Potential increase in urbanization due to availability of additional M&I water supply.	Potential increase in urbanization due to availability of additional M&I water supply.	No beneficial or adverse effect.
Water Resources	This action would raise the conservation pool approx. 1 foot. This change would not be noticeable however due to the operation of the lake (hydropower, FC, water supply). Potential increase in future water needs from potential increase in urbanization due to availability of additional M&I water supply. New water intake pump station on Lake Ouachita would withdraw an insignificant amount of water on a daily basis.	This action would reduce, to a minor amount, the quantity of water in Greers Ferry Lake. Potential increase in future water needs from potential increase in urbanization due to availability of additional M&I water supply.	Water users would have to find alternative water sources for water needs. Increased groundwater and/or stream pumping could occur to meet these needs.
Cultural Resources	Possibility of minor cultural resource disturbance from potential increase in urbanization due to availability of additional M&I water supply. Upon final plan development, site for new Lake Ouachita pump station and pipeline route would need survey for cultural resource impacts.	No adverse effect because no construction planned outside existing structures. Possibility of minor cultural resource disturbance from potential increase in urbanization due to availability of additional M&I water supply.	No beneficial or adverse effect.
Biological Resources	Possibility of minor habitat disturbance from potential increase in urbanization due to availability of additional M&I water supply. Minor aquatic habitat disturbance during construction of water intake structure on Lake Ouachita, as well as terrestrial habitat disturbances for construction of pump station and pipeline. Minor amounts of wetland may be disturbed at stream crossings of pipeline route. No protected species are anticipated to be impacted.	Possibility of minor habitat disturbance from potential increase in urbanization due to availability of additional M&I water supply.	Potential impacts to fish and wildlife resources if users pump from stressed water resources.

Resource Area	Proposed Action	Alternative 2	Alternative 3
	Reallocation From Flood Control Pool	Reallocation From Conservation Pool	No Action Alternative
HTRW	None	None	None
Air Quality	An insignificant increase in air emissions due to the additional thermal generation of electricity because a slight quantity of hydropower electricity would not be available.	An insignificant increase in air emissions due to the additional thermal generation of electricity because a small quantity of hydropower electricity would not be available.	None
Socioeconomic	Loss of an insignificant amount of hydropower benefits. Additional power could be purchased from other power sources. Benefit to local growth potential because of a reliable water supply.	Loss of insignificant hydropower benefits but more than the proposed action. Additional power could be purchased from other power sources. Benefit to local growth potential because of a reliable water supply.	Loss of growth of the local community because of a limited water supply.
Recreation	New pump station intake on Lake Ouachita may create an insignificant exclusion zone immediately around intake.	None	None
Cumulative Impacts	Additional reallocations could reduce the power yield from the lake by a minor amount. This impact is regulated by the District Commander's authority over water reallocation. Potential increase in urbanization due to availability of additional M&I water supply. Construction of new water intake pump station on Lake Ouachita and pipeline for the city of Hot Springs could result in additional minor impacts to wetlands for the construction of the pipeline at stream crossings, etc., and impacts to cultural resources if such resources are located in the construction area of either the pump station or the pipeline.	Additional reallocations could reduce the power yield from the lake at a larger amount than the proposed action. This impact is regulated by the District Commander's authority over water reallocation. Potential increase in urbanization due to availability of additional M&I water supply	Continued loss of local population growth potential with the current water supply.

3.0 AFFECTED ENVIRONMENT

3.1 GREERS FERRY LAKE

A complete description of the project history, authorized purposes and physical features of the Greers Ferry Lake project can be found in Section A of the Water Storage Reallocation Report.

3.1.1 Land Use

Farming and timber production are the predominant land uses in the Greers Ferry zone of influence. No prime or unique farmlands (Council on Environmental Quality Memorandum of Full Analysis of Impacts on Prime or Unique Agricultural Lands in Implementing the National Environmental Policy Act: August 11, 1980) or wild and scenic rivers (Wild and Scenic Rivers Act, 16 U.S.C. 1271, et. seq.) occur within the area of the proposed action.

3.1.2 Climate

In general the climate is moderate with an average mean annual temperature of 60 degrees Fahrenheit. Short periods of cold weather during the winter months and high temperatures in the summer are experienced. The average annual rainfall is about 50 inches, with most of the precipitation occurring during the winter and spring seasons.

3.1.3 Topography, Physiography and Soils

The project is located in the foothills of the Ozark Mountains, a popular vacation and retirement area. The lake is irregular in shape with numerous arms and coves. Steep bluff formations on both sides of the central portion of the lake confine the water to a straight channel, dividing the lake essentially in half. The area is generally wooded and rugged with interesting geologic formations overlooking the lake.

Greers Ferry Lake is located entirely within the outcrop area of the Hale Formation. The rock strata in this formation are principally sandstone, shale, sandy shale, and shaley sandstone. Except in the active flood plain of the river, where soils consist of alluvial silts and sands, overburden is derived from the in-place weathering of the underlying rock strata. Soils formed in this manner vary from clay to sandy silt, dependent on the nature and characteristics of the parent rock. Where bedrock is sandstone, the soil mantle formed will consist of sandy silt containing fragments of sandstone and will range from 0 to 5 feet in thickness. Where bedrock is shale, the soil mantle is principally clayey and contains few rock fragments. Thickness in these areas varies from 4 feet to as much as 20 feet, depending on the depth to which weathering has been active. The rock-like characteristics of the overburden in these areas become more pronounced with depth, reflecting the gradational change from soil to rock. Soils in some areas contain varying amounts of detrital, or washed-in materials, the amount and nature of which are controlled by the topography of the area.

Coordination has been initiated with the Natural Resources Conservation Service (NRCS) regarding potential impacts to rare or unique soils (including Prime Farmland) in the project area

resulting from implementation of the proposed project. In a letter dated 11 May 2006 the NRCS stated that it had no concerns about the proposed project at Greers Ferry Lake. Agency coordination is included in Appendix A.

3.1.4 Water Resources

At the top of the conservation pool, elevation 461.44 ft. Mean Sea Level (msl), the lake has a surface area of 31,580 acres and a shoreline length of 276 miles. At the top of the flood pool, elevation 487 ft. msl, it has a surface area of 40,480 acres. The lake surface has an average annual fluctuation of 17.2 feet, due to normal operation of the lake for flood control and hydropower generation. The lake is fed by the Middle Fork, Devils Fork and South Fork of the Little Red River and by numerous clear water creeks.

The upper Little Red River and its tributaries upstream of the dam are not generally subject to pollution by industrial or municipal waste. However, the South Fork arm of the lake is subject to pollution from municipal sewage and chicken processing plants. Proper treatment systems can prevent this pollution. The stream is clear except for brief periods immediately following heavy rains. Runoff from the rough, steeply rolling watershed is very rapid until it reaches the relatively flat lands of the river valley.

To fully understand the water resources of Greers Ferry Lake as they relate to this proposed action, a summary of the existing water allocations is necessary. The following paragraphs briefly describe the existing water allocations located on Greers Ferry Lake.

The initial water supply agreement with the Community Water System was approved by the Assistant Secretary of the Army for Civil Works on 29 April 1971. The agreement provided that the user shall have the right to utilize 0.0314 percent of the storage space in the project between elevations 461 and 435 feet above National Geodetic Vertical Datum (NGVD), estimated to be 225 AF. Current yield calculations indicate that 229 AF of storage will provide 0.185 mgd (Appendix A, Water Supply Storage Reallocation Report).

A water supply agreement with the Community Water System (CWS) was approved by the Assistant Secretary of the Army for Civil Works on 17 February 1995. This second agreement with CWS provided that the user shall have the right to utilize 0.524 percent of the storage space in the project between elevations 461.19 and 435.0, estimated to be 3,818.8 AF, of which 3,787.7 AF is exclusively for CWS and 31.1 AF is to maintain the yield of other municipal and industrial (M&I) water supply users (Appendix A, Water Supply Storage Reallocation Report). This storage to maintain the yield of other users, or DYMS, is a result of reallocations occurring after an agreement is signed that results in a lower storage yield (more acre-feet to yield the same flow); i.e., as the lake is enlarged the limited inflow is apportioned among more users. This reallocation of flood control storage to conservation storage for water supply use brought CWS's total storage to 4,047.8 AF (Appendix A, Water Supply Storage Reallocation Report).

CWS has signed a third reallocation agreement in September 1998 for storage in Greers Ferry Lake to provide for the expansion of their facilities to serve parts of White and Lonoke counties. Their desired yield was 3.5 mgd or 4,329.7 AF of storage; 4,294.4 AF for CWS and 35.3 AF for

DYMS (Appendix A, Water Supply Storage Reallocation Report). This amount of storage is 0.59 percent of the usable storage between elevations 461.26 and 435.0. According to data provided in Appendix A of the Water Supply Storage Reallocation Report, reallocations of storage for water supply use bring CWS's total storage to 8,377.4 AF.

An initial water supply agreement with the city of Clinton, Arkansas was approved by the Assistant Secretary of the Army for Civil Works on 4 November 1970. The agreement provided that the user shall have the right to utilize 0.126 percent of the storage space in the project between elevations 461 and 435, estimated to be 913 AF (Appendix A, Water Supply Storage Reallocation Report).

Red Apple Inn and Country Club (RAICC): The Little Rock District Engineer executed a water supply agreement with the RAICC on 17 June 1996. The agreement provided that the user shall have the right to utilize 65.6 AF or 0.004 percent of the usable storage space in the Greers Ferry Lake project between elevation 435.00 and 487.00 (Appendix A, Water Supply Storage Reallocation Report).

Thunderbird Country Club, Incorporated (TCC): TCC signed a water supply agreement for 55.7 AF on 10 March 1998 (Appendix A, Water Supply Storage Reallocation Report).

Silver Ridge Development, Incorporated (SRD): SRD signed a water supply agreement for 90.306 AF on 14 November 1998. This storage provided 89.57 AF for SRD's use and 0.736 AF for DYMS (Appendix A, Water Supply Storage Reallocation Report).

Relocation Contract with Heber Springs: Construction of the Greers Ferry Project, which was completed in 1964, inundated the water intake structure of the city of Heber Springs. Under Contract DA-03-CIVENG-59-184, the city's 0.835-mgd water supply pump station was relocated from the bank of the Little Red River to a point above elevation 491 to allow for construction of the project. A provision of the relocation contract allows Heber Springs to perpetually withdraw 0.835 mgd without additional cost to the city. The relocation contract did not specify a storage amount, but subsequent computations have determined the required storage for this yield is 1,033 AF (Appendix A, Water Supply Storage Reallocation Report).

In total, the USACE has reallocated 11,586 AF within its authority and 4,550 AF by direction of Congress for M&I under supply storage at Greers Ferry Lake. Since Congressional reallocations do not reduce the USACE's discretionary authority, 18,730 AF would be available to MAWA to help meet the needs of central Arkansas through the year 2025. The reallocation request by MAWA for 18,730 AF would leave the Corps 10,134 AF of discretionary authority storage in Greers Ferry Lake.

At the time of this writing, three requests are being prepared or pending approval for reallocation from storage in Greers Ferry Lake (see Appendix A, Water Supply Storage Reallocation Report):

1. City of Heber Springs (Congressional reallocation of 3,525.1 AF);

2. Searcy County Regional Water District (discretionary authority reallocation of 5,000 AF); and
3. White River Minimum Flows (Congressional reallocation, volumes not yet determined).

3.1.5 Cultural Resources

Cultural resource investigations have been performed on Greers Ferry Lake since the early 1950s. These investigations have included both small and large-scale surveys as well as major excavations. As a result, the archeological data related to the history of the Little Red River basin in the Ozark Mountains has been greatly increased. However, much information remains undocumented. Future investigations will be directed toward the collection of new data. Much of the area directly involved in the proposed action received cultural resource investigations in 1982. One archeological site was found but it was determined to lack sufficient scientific value for inclusion on the National Register of Historic Places.

Coordination has been initiated with the Arkansas State Historic Preservation Office (SHPO) regarding potential impacts cultural resources in the project area resulting from implementation of the proposed project. In a letter dated 10 May 2006, the SHPO responded that the agency had no objection to the proposed project at Greers Ferry Lake. Agency coordination is included in Appendix A.

3.1.6 Biological Resources

3.1.6.1 Vegetation

The Greers Ferry Lake area is an excellent example of the typical Arkansas Hill Country. The major forest types are the upland hardwood and shortleaf pine associations. The upland hardwood and shortleaf pine associations can partially be attributed to the physiographic variations from stream and river valleys to the steep, rocky slopes and benches created in the flood plain. The vegetation can be classified by its location within these variations. The shortleaf pine-oak-hickory association will be more prominent on the mountainous, rocky slopes, while the maple-sycamore-gum association will be found on the lower benches and stream valleys.

Some mention should be made of the typical understory associated with the upland hardwood and shortleaf pine forests. The downy serviceberry (*Amelanchier arborea*) will be found in common association with the white, red and chinkapin oaks and upland hickories. The pawpaw (*Asimina triloba*) is a typical understory tree commonly found in stands of oak, maple, and hickory in most areas. The hawthorn (*Crataegus species*) adapts to diverse environs. It can be found in the wet forest flood plains to the exposed, rocky slopes. The sassafras (*Sassafras albidum*) is similar to the hawthorn in that it has a diverse growth range, but will mostly be found in the areas with rich, moist soil. Southern wax myrtle (*Myrica cerifera*) is a common semi-evergreen shrub found mostly along the stream banks and marsh areas.

Bottomland hardwoods are not a major forest association in the area, although the formation of Greers Ferry Lake has created a microenvironment that supports species of this forest association. Vegetative species common to bottomland hardwoods have become prominent along the coves and tributaries of the lake margin. Blackgum (*Nyssa sylvatica*), sweetgum (*Liquidambar styraciflua*), black willow (*Salix nigra*), and American sycamore (*Platanus occidentalis*) have become the dominant species along the lake margin because of the fluctuation of the holding pool. A typical characteristic of the bottomland hardwood association is their ability to survive saturation or flooding of the root systems 10 to 20 percent of the time. The above mentioned species also can be expected to occur along the small streams of the area.

3.1.6.2 Fish and Wildlife

The segment of the Little Red River inundated by the impoundment area was frequently subject to near cessation of flows during dry periods; and for this reason, it was less attractive for fishing than the other major streams in the White River Basin. However, on a seasonal basis, usually during each spring and fall, fishing success was good and the stream was considered locally as a good fishing stream. Important game fish species present in the streams in the lake area were smallmouth, largemouth and spotted bass, walleye, sunfish, and channel catfish. All of these species have thrived in the impoundment. In addition, white bass and crappie have now become important. The Arkansas Game and Fish Commission has stocked the lake with populations of walleye, Florida bass, rainbow and lake trout. Commercial fishing is not permitted on the lake.

The tailwater below the dam has become habitat for trout caught on rod and reel. The U. S. Fish and Wildlife Service (USFWS) operates a trout hatchery immediately below the Greers Ferry Dam.

The large natural areas in the project area provide abundant habitat for a variety of species. Black bears are the dominant predators in the project area, and coyotes, raccoon, opossum, squirrels, and other mammals are found throughout natural areas in the vicinity of the lake. Migratory waterfowl, including mallards, wood ducks, and geese, use the lake seasonally. A population of Canada geese utilizes the lake as a year-round habitat. Songbirds and wading birds are also found in the project area.

Hunting is popular in this general area. Important game species include deer, squirrels, turkey, quail, doves, rabbits, and fur bearers. There is intense interest in fox hunting for recreation. The rugged topography, with resultant pattern of small farms and extensive forest areas, provides excellent habitat for forest and upland game. With the exception of hunting opportunities for migratory waterfowl, which have been substantially increased by the project, other types of hunting opportunities have been slightly reduced to some extent due to inundation of land.

3.1.6.3 Threatened and Endangered Species

An analysis of potential impacts on threatened and endangered species and biological resources within the vicinity of the proposed action is included pursuant to the requirements of the NEPA of 1969, 42 U.S.C. section 4321, *et seq.* Additional jurisprudence includes the Endangered Species Act of 1973 (PL 93-205; 16 U.S.C. 1531 *et seq.*, as amended); the Fish and Wildlife

Conservation Act of 1958 (PL 85-624; 16 U.S.C. 661 *et seq.*); and Article VI of the U.S. Constitution.

Table 4 provides amplifying information about federally listed species in the Greers Ferry Lake project area.

Table 4. Federally Listed Species for the Greers Ferry Lake Project Area

Common Name	Scientific Name	Status	Occurrence
Fat pocketbook	<i>Potamilus capax</i>	E	Statewide
Bald eagle	<i>Haliaeetus leucocephalus</i>	T	Cleburne and Van Buren
Gray bat	<i>Myotis grisescens</i>	E	Van Buren
Speckled pocketbook	<i>Lampsilis streckeri</i>	E	Van Buren

Source: USFWS, 1997.

The fat pocketbook mussel is found primarily in river systems in the midwestern and southeastern United States. The species inhabits slow-moving waterbodies with a mud or sand substrate. The specific food habits of the species are unknown, but other juvenile and adult freshwater mussels have been documented to feed on detritus, diatoms, phytoplankton, and zooplankton. Navigation and flood control projects have resulted in severe population declines in recent decades. Primary threats to the species are dredging operations and water impoundments.

The bald eagle is found throughout North America. The species primarily inhabits forests adjacent to significant waterbodies (e.g., coastal areas, bays, rivers, and lakes). Bald eagles suffered substantial population declines in the 20th century primarily from pesticide contamination. Conservation efforts have resulted in an increase in population to the point where the species is no longer threatened with extinction in the lower 48 states. However, the species is sensitive to habitat loss, biocide contamination, and illegal shooting. Wintering bald eagles may occasionally be seen on Greers Ferry Lake. Two eagle nests have been documented in the vicinity of Greers Ferry Lake.

The gray bat is found primarily in the Central United States, but a few populations occur in the Southeast and Midwest. Gray bat colonies are restricted entirely to caves or cave-like habitats. During summer the bats are highly selective for caves providing specific temperature and roost conditions. Little is known about the actual feeding habits of gray bats. However, limited observations indicate that the majority of insects eaten are aquatic species, particularly mayflies. Primary threats to the species are human disturbance and vandalism of host caves. No gray bat colonies have been reported within a mile of Greers Ferry Lake.

The speckled pocketbook is found only in the Middle Fork of the Little Red River watershed in Van Buren and Stone counties. The species' entire range is encompassed by approximately nine miles of the Middle Fork of the Little Red River from Greers Ferry Lake upstream to the

confluence with Meadow Creek. The species is intolerant of still water, and the impoundment of the Little Red River to create Greers Ferry Lake resulted in the elimination of significant species habitat. Primary threats to the species are hazardous material spills within the Little Red River watershed, channelization projects, and turbidity and pollution from gravel mining and poor land use practices.

Coordination has been initiated with the USFWS and the Arkansas Game and Fish Commission (AGFC) regarding potential impacts to threatened and endangered species in the project area resulting from implementation of the proposed project. In a letter dated 26 April 2006, the AGFC indicated that it had no objections to the proposed project at Greers Ferry Lake. Agency coordination is included in Appendix A.

3.1.6.4 Floodplains and Wetlands

Wetlands are rare at Greers Ferry Lake because the steep shorelines are not conducive to wetland formation or sustenance. Nonetheless, small areas of wetlands are located in the shallow margins of Greers Ferry Lake. Lacustrine littoral wetlands (wetlands that form along lake margins) have been noted in isolated pockets along the lakeshore in some locations. The littoral zone along the lake is not well developed because the steep shoreline does not provide a large area for a transitional environment between shoreline and open-water habitat. Palustrine (inland) wetland communities are also located adjacent to lake tributaries. The majority of wetlands in the vicinity of Greers Ferry Lake are concentrated at the mouths of major tributaries on the west side of the lake. Floodplains are located along lake tributaries in the Greers Ferry Lake watershed.

Coordination has been initiated with the Federal Emergency Management Agency (FEMA) regarding potential impacts to floodplains in the project area resulting from implementation of the proposed project. In a response dated 20 April 2006, FEMA requested that the local floodplain administrator be contacted for the review and possible permit requirements for the project. Agency coordination is included in Appendix A.

3.1.7 Hazardous, Toxic, and Radioactive Wastes

Engineer Regulation 1165-2-132 provides guidelines for the reasonable identification and evaluation of all Hazardous and Toxic Radioactive Waste (HTRW) contamination within the vicinity of the proposed action. A limited HTRW investigation has been performed for the study area in general accordance with guidance from ER 1165-2-132 and the American Society for Testing and Materials (ASTM) in Standard E 1527-00. The following is a summary of the initial investigation.

The goal of this effort is to identify recognized environmental condition (REC) sites or potential REC sites in connection with the study area. This is accomplished through research and site observations to establish whether any of the following conditions exist:

1. Indications that hazardous substances or petroleum products exist, or have existed, on or adjacent to the subject property;

2. The possibility that violations of environmental regulations have occurred on the subject property;
3. The potential for spilled, leaked, disposed or otherwise released hazardous substances or petroleum products to migrate to the subject property from nearby properties containing such materials; and
4. The existence of unsafe conditions in connection with the subject property.

REC sites were evaluated for their potential to pose constraints to the project engineering design process.

An environmental database search was completed by Banks Information Solutions, Inc. (Banks). A complete copy of the environmental database report is provided in Appendix B. The environmental database report developed by Banks includes reports on each site identified with information about the cause(s) for listing and the site's current status. This information is utilized to determine which, if any, sites warrant scrutiny for the potential presence of HTRW.

Seven federal and four state databases were reviewed, including the following:

Federal Databases:

- NPL - National Priority List. The U.S. Environmental Protection Agency's (EPA) list of confirmed or proposed Superfund sites (updated April 2006).
- CERCLIS – The EPA's Comprehensive Environmental Response, Compensation and Liability Information System (updated March 2006).
- NFRAP - A CERCLIS designation indicating that to the best of the EPA's knowledge, assessment of a site has been completed and the EPA has determined no further remedial action is planned (updated March 2006).
- RCRA TSD – The EPA's list of Resource Conservation and Recovery Information System (RCRIS) - Treatment, Storage and Disposal facilities (updated April 2006).
- RCRA CORRACTS - RCRIS – The EPA's list of Corrective Action Sites (updated April 2006).
- RCRA GN - RCRIS – The EPA's list of large and small quantity hazardous waste generators (updated April 2006).
- ERNS – The EPA's list of emergency response actions (Emergency Response Notification System) (updated December 2005).

State Databases:

- STATE SITES – The ADEQ list of facilities and/or locations recognized with potential or existing environmental contamination (updated quarterly).
- SWL - Solid waste landfills and transfer stations maintained by ADEQ (updated December 2004).
- RUST - The ADEQ list of all registered underground or above storage tanks (updated May 2006).
- LUST – The ADEQ list of all leaking underground storage tanks (updated May 2006).

3.1.7.1 Limitations

This limited HTRW assessment was conducted in general accordance with guidelines set forth by Part 7 of ER 1165-2-132 and ASTM Standard E 1527-00. Accordingly, no guarantee is made or intended that all site conditions were observed or that all records were reviewed.

Much of the information provided in the report was compiled from public records and other sources maintained by third parties. Although reasonable care was exercised in its preparation, the USACE cannot be held responsible for errors, omissions, or inaccurate information from third parties.

Finally, any changes in project actions from those provided the USACE may render the recommendations and conclusions presented in this report void.

3.1.7.2 Findings

The results of the search for potential REC sites as outlined in the environmental database report are discussed in the following section.

Environmental Database Review

A thorough search of Federal, state, and local government environmental databases was conducted to obtain and review records and documents that would aid in identifying known or potential environmental concerns in or near the study area.

Table 5 provides the results of the search for potential REC sites listed in federal and state environmental databases as part of the environmental records review for the study area. In addition to plottable sites, a search for orphan sites was conducted. Orphan sites are sites containing insufficient location information and can only be identified as being within the same

ZIP code(s) as the property. A map of all plottable sites is presented in Figure 4. The Banks report is provided in Appendix B.

Table 5. Environmental Database Research Results Summary for Greers Ferry Lake

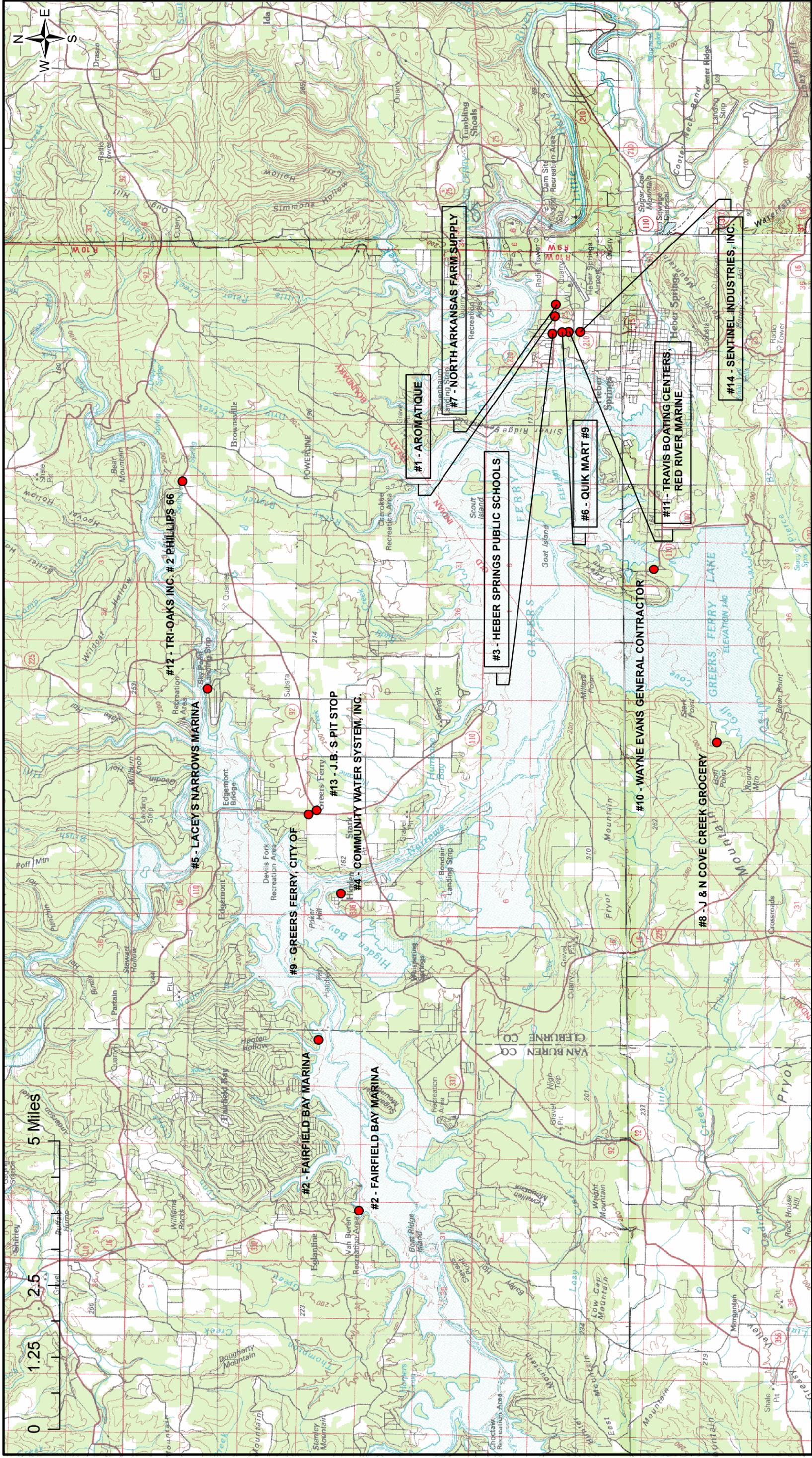
Database	Radius (mi)	Site	1/8 mile	1/4 mile	1/2 mile	>1/2 mile	Orphan	Total
NPL	1.00	---	---	---	---	---	---	---
CERCLIS	0.50	---	---	---	---		1	1
NFRAP	0.50	---	---	---			---	---
<i>RCRA:</i>								
TSD	0.50	---	---	---	1		---	1
COR	1.00	---	---	---	1	---	---	1
GEN	0.25	---	---	1			4	5
ERNS	0.15	1	---	---			2	3
<i>State:</i>								
State Sites	1.00	---	---	---	---	---	---	---
SWL	0.50	---	---	---	---		1	1
RUST	0.25	3	5	3			20	31
LUST	0.50	3	1	---	---		---	4
<i>Totals</i>	---	7	6	4	2	---	28	47
Notes: --- indicates no sites/items were found. LUST and UST values represent facilities, some of which contain multiple tanks. Some sites are listed in multiple databases. Shaded areas indicate search not required per ASTM Standard E1527-00.								

Source: Banks Information Solutions, Inc., 2006.

National Priorities List (NPL) Database

The NPL is the EPA's database of uncontrolled or abandoned hazardous waste sites identified for priority remedial actions under the Superfund program. A site must meet or surpass a predetermined hazard ranking system score, be chosen as a state's top priority site, or meet three specific criteria set jointly by the U.S. Department of Health and Human Services (DHHS) and the EPA in order to become an NPL site.

Research of the EPA's NPL database, last updated April 2006, indicates no such sites are located within one mile of the study area.



POTENTIAL REC SITES

Greers Ferry Lake

MAWA Water Supply Storage Reallocation Study



Figure: 4
 Date: June 2006
 Scale: 1:100,000
 Source: Banks, USGS
 Map Author: D. Shearer 27309CL02

Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) and No Further Remedial Action Planned (NFRAP) Databases

The CERCLIS database is a comprehensive listing of known or suspected uncontrolled or abandoned hazardous waste sites. These sites have either been investigated or are currently under investigation by the EPA for the release or threatened release of hazardous substances. Once a site is placed in CERCLIS, it may be subjected to several levels of review and evaluation and may ultimately be placed on the NPL.

The NFRAP Report, also known as the CERCLIS Archive, contains information pertaining to sites that have been removed from the EPA's CERCLIS database. NFRAP sites may be sites where, following an initial investigation, either no contamination was found, contamination was removed quickly without need for the site to be placed on the NPL, or contamination was not serious enough to require Superfund action or NPL consideration.

Initial research of the CERCLIS and NFRAP databases, last updated March 2006, indicated one orphan CERCLIS site potentially located within the ASTM-recommended search radius of the study area. Subsequent research revealed the site is within the ASTM-recommended search radius and is cross-listed in two other databases.

<u>Facility Name:</u>	Sentinel Industries
<u>Facility Location:</u>	1745 Heber Springs Rd N
<u>Distance/Direction:</u>	0.33 mi SE
<u>Other Databases:</u>	RCRA TSD, RCRACOR

The site is listed as a manufacturing and wood preserving facility. The facility also operates an incinerator. The facility is cross-listed in the RCRA CORRACTS and RCRA TSD databases, which indicate that the site also serves as a land disposal facility. Hazardous waste present at the site includes chromium, methyl ethyl ketone, arsenic, wastewaters, process residuals, preservative drippage, and spent formulations from wood preserving processes that use arsenic or chromium. Contamination was apparently reported at the facility in May 1992. A preliminary assessment conducted in September 1992 indicated that the site posed a low risk, and an inspection in June 2000 resulted in the site being listed in the NFRAP database. The site does not appear to have been archived to date.

The environmental database report lists a total of 15 violations for the facility, all of which occurred in May 1998. ADEQ issued four enforcement actions between May 1998 and December 1999 in response to these violations, including two Final 3008(A) Compliance Orders. Seven correction action events are on record for the site between March 1999 and February 2000. No additional information is provided for the facility. Based on the above information, it is believed that the site may have adversely impacted environmental conditions in the study area.

Resource Conservation and Recovery Act (RCRA) Treatment, Storage, and Disposal (TSD) Sites

RCRA TSDs are facilities that treat, store and/or dispose of hazardous waste.

Research of the database, last updated April 2006, indicates one potential REC site located within one-half mile of the study area. The facility is cross-listed in multiple databases.

Facility Name: Sentinel Industries
Facility Location: 1745 Heber Springs Rd N
Distance/Direction: 0.33 mi SE
Other Databases: CERCLIS, RCRACOR

The Sentinel Industries facility is discussed in the CERCLIS subsection above. Based on the information presented in that subsection, it is believed that the site may have adversely impacted environmental conditions in the study area.

RCRA CORRACTS Database

The EPA's RCRA database contains information concerning RCRA facilities that have conducted, or are currently conducting, a corrective action. A Corrective Action Order is issued pursuant to RCRA Section 3008(h) when a release of hazardous waste or constituents into the environment occurs from a RCRA facility. Corrective actions may also be imposed as a requirement of receiving and maintaining a transportation/storage/disposal facility (TSDF) permit.

Research of the EPA's RCRA CORRACTS database, last updated April 2006, indicates one potential REC site is located within one mile of the study area. The facility is cross-listed in multiple databases.

Facility Name: Sentinel Industries
Facility Location: 1745 Heber Springs Rd N
Distance/Direction: 0.33 mi SE
Other Databases: CERCLIS, RCRACOR

The Sentinel Industries facility is discussed in the CERCLIS subsection above. Based on the information presented in that subsection, it is believed that the site may have adversely impacted environmental conditions in the study area.

RCRA Generator Database

The EPA's RCRA Generator Database provides a list of Large Quantity Generators and Small Quantity Generators. Large Quantity Generators are defined as facilities that generate at least 1,000 kilograms per month of non-acutely hazardous waste or one kilogram per month of

acutely hazardous waste. Small Quantity Generators generate less than 1,000 kilograms per month of non-acutely hazardous waste.

Research of the EPA's Generator database, last updated April 2006, indicates one potential REC site located within one-quarter mile of the study area and four orphan sites potentially located within the ASTM-recommended search radius. Subsequent research revealed that one of these orphan sites is located within the ASTM-recommended search radius, and two sites are located outside the radius. The location of the remaining orphan site could not be determined.

Plottable Sites:

Facility Name: Travis Boating Centers/Red River Marine
Facility Location: 2001 Hwy 25 N
Distance/Direction: 0.14 mi SE
Other Databases: RUST

Facility Name: U.S. Army Corps of Engineers-
Greers Ferry Powerhouse
Facility Location: 4 MN Heber Springs Rd
Distance/Direction: Onsite

Orphan Sites:

Facility Name: Greers Ferry Glass Works
Facility Location: 5902 Heber Springs Rd
Distance/Direction: Unknown

The Travis Boating Centers facility is a conditionally exempt small quantity generator that produces less than 100 kilograms per month of ignitable hazardous waste. The facility is cross-listed in the RUST database. No violations or enforcement actions are listed for the facility, and the facility does not appear to be listed in any corrective actions database. For these reasons, and based on a lack of evidence to the contrary, it is believed that the facility has had little, if any, impact on environmental conditions in the study area.

The USACE Greers Ferry Powerhouse is a conditionally exempt small quantity generator that produces less than 100 kilograms per month of polychlorinated biphenyls (PCBs). No violations or enforcement actions are listed for the facility, and the facility does not appear in any corrective actions database. For these reasons, and based on a lack of evidence to the contrary, it is believed that the facility has had little, if any, impact on environmental conditions in the study area.

Greers Ferry Glassworks operates a conditionally exempt small quantity generator that produces less than 100 kilograms per month of corrosive waste. No violations or enforcement actions are listed for the facility, and the facility does not appear in any corrective actions

database. For these reasons, and based on a lack of evidence to the contrary, it is believed that the facility has had little, if any, impact on environmental conditions in the study area.

Emergency Response Notification System (ERNS) Database

ERNS is a national database that is used to store information on the sudden and/or accidental release of hazardous substances, including petroleum, into the environment. The ERNS reporting system contains preliminary information on specific releases, including spill location, substance released, and responsible parties.

Research of the database, last updated December 2005, indicates one ERNS incident occurred within 0.15 mile of the study area and two orphan incidents potentially occurred within 0.15 mile of the study area. It is unknown if the remaining orphan incident occurred within the ASTM-recommended search radius.

Plottable Sites:

Facility Name: Aromatique
Facility Location: 3421 Hwy 25
Distance/Direction: Onsite

Orphan Sites:

Facility Name: None
Facility Location: Lakeshore Hills Subdivision
Distance/Direction: Unknown

Facility Name: None
Facility Location: Lakeshore Hills Subdivision
Distance/Direction: Unknown

No information is available regarding the Aromatique incident. Because no information is available, it cannot be determined if this incident has adversely impacted environmental conditions in the study area.

The incidents at Lakeshore Hills Subdivision both involve complaints filed in 1995 of a resident dumping antifreeze and used oil on his property. The resident is alleged to have dumped these products for a period of 6-7 years on the property. No additional information is available; however, the quantities of oil and hazardous waste appear to be relatively small, and it is unlikely that either of these incidents have resulted in significant adverse impacts to environmental conditions in the study area.

State Environmental Databases Reviewed

State Equivalent NPL Database

This database is maintained by ADEQ. The database provides a listing of hazardous waste generators.

Research of the State Sites database indicated no such sites potentially located within one mile of the study area.

Solid Waste Landfill Facilities (SWL) Databases

The listing of solid waste landfills maintained by ADEQ related to solid waste and landfill disposal facilities was reviewed.

Research of this database, last updated December 2004, initially indicated one orphan site potentially located within one-half mile of the study area. Subsequent research indicates that the site is not located within the ASTM-recommended search radius.

Leaking Underground Storage Tank (LUST) Database

Initial queries of this ADEQ database, last updated May 2006, indicated three potential REC sites (some with multiple listings) located within one-half mile of the study area. Two of the facilities are cross-listed in multiple databases.

Facility Name: Fairfield Bay Marina
Facility Location: Greers Ferry Lake
Distance/Direction: Onsite

Facility Name: Heber Springs Public School
Facility Location: 800 West Moore St
Distance/Direction: Onsite
Other Databases: RUST

Facility Name: J&N Cove Creek Grocery
Facility Location: 4 Cove Creek Rd
Distance/Direction: 0.05 mi NW
Other Databases: RUST

The Fairfield Bay Marina reported two separate incidents in which an exposed fuel line was ruptured and introduced small quantities of gasoline into Greers Ferry Lake. One incident occurred in July 2000. The fuel line was repaired and a hazardous material remediation company was contracted to clean up the contamination. ADEQ issued a No Further Action letter for the incident in September 2000. A second incident occurred in August 2001. A light sheen approximately 10 inches in diameter was reported on Greers Ferry Lake in the vicinity of the

ruptured line. The ruptured line was repaired, and ADEQ determined that no cleanup actions were necessary. A No Further Action letter was submitted for the incident in September 2001. Because both of these incidents involved the release of small quantities of product that were successfully remediated, and lacking any evidence to the contrary, it is believed that this facility has had little, if any, impact on environmental conditions in the study area.

The Heber Springs Public School facility is cross-listed in the RUST database. Two USTs are listed for the facility, one of which is listed as Permanently Out of Service. A fuel line test in August 2002 revealed a leak at the site. Subsequent investigation revealed that soil at the site had been contaminated from the leak. The fuel line leak was reported and the contaminated soil was excavated. Laboratory analyses of the contaminated soil indicated that contaminant quantities were below ADEQ guidelines. ADEQ submitted a No Further Action letter and closed the file. Because the incident at this site has been successfully remediated, and lacking any evidence to the contrary, it is believed that this facility has had little, if any, impact on environmental conditions in the study area.

The J&N Cove Creek facility is also cross-listed in the RUST database. Four USTs are listed for the facility, three of which are listed as Permanently Out of Service. A leak at the site was reported in September 1999. No information regarding remediation activities is provided. Based on this information, it is believed that the site may have adversely impacted environmental conditions in the study area.

Registered Underground Storage Tank (RUST) Database

Initial queries of this ADEQ database, last updated May 2006, indicated 11 potential REC sites located within 0.25 mile of the study area and 20 orphan sites potentially located within the ASTM-recommended search radius. Three of the plottable sites are cross-listed in multiple databases.

Facility Name: Travis Boating Centers/Red River Marine
Facility Location: 2001 Hwy 25 N
Distance/Direction: 0.14 mi SE
Other Databases: RUST

Facility Name: Heber Springs Public School
Facility Location: 800 West Moore St
Distance/Direction: Onsite
Other Databases: RUST

Facility Name: J&N Cove Creek Grocery
Facility Location: 4 Cove Creek Rd
Distance/Direction: 0.05 mi NW
Other Databases: RUST

The Red River Marine facility is discussed in the RCRA subsection above. Based on the information presented in that subsection, and lacking any evidence to the contrary, it is believed that this facility has had little, if any, impact on environmental conditions in the study area.

The Heber Springs Public School facility is discussed in the LUST subsection above. Based on the information presented in that subsection, and lacking any evidence to the contrary, it is believed that this facility has had little, if any, impact on environmental conditions in the study area.

The J&N Cove Creek Grocery facility is discussed in the LUST subsection above. Based on the information presented in that subsection, it is believed that the site may have adversely impacted environmental conditions in the study area.

The remaining plottable and orphan sites do not appear to be listed in the LUST database or other corrective action databases. For these reasons, and based on a lack of evidence to the contrary, it is believed that these facilities have had little, if any, impact on environmental conditions in the study area.

3.1.7.3 Conclusions

Based on the site reconnaissance, records review, interviews, and best engineering judgment, conditions in the study area are likely to present a potential for special actions associated with state or Federal environmental regulations regarding the handling, storage, or disposal of hazardous materials. Accordingly, this assessment has revealed evidence of REC in connection with the study area. Table 6 provides a list of sites that may have adversely impacted environmental conditions in the study area.

Table 6. List of Potential REC Sites That May Have Adversely Impacted Environmental Conditions in the Study Area (Greers Ferry Lake)

Site Name	Street Address	Database	Distance/Direction From Project Area
<i>Plottable Sites (within ASTM-recommended search radii)</i>			
Sentinel Industries	1745 Heber Springs Rd N	CERCLIS, RCRA TSD, RCRA COR	0.33 mi SE
Aromatique	3421 Hwy 25	ERNS	Onsite
J&N Cove Creek Grocery	4 Cove Creek Rd	LUST, RUST	0.05 mi NW

Source: Banks Information Solutions/GEC, 2006.

The proposed project does not involve the construction of any improvements or the disturbance of any of the above listed facilities or lands. Consequently, although potential REC sites have been identified in the study area, it is not believed that any of these sites would be affected by project implementation. No actions associated with the proposed project would result in the

disturbance of these sites and the consequent release of hazardous waste into the surrounding environment.

3.1.8 Air Quality

Greers Ferry Lake is located in the Ozark Mountains, remote from heavy smoke-producing industry or large mining operations. The air is very clean and smog is virtually unknown in this region. Pollution sources in the vicinity of the lake include automobile emissions and local industries. Automobile traffic in the region is typical of rural areas and is not considered to be a significant source of pollutants. Automobile traffic in the project area is much greater during the summer recreational season, and some degradation of air quality is likely to occur during this period.

The EPA's AirData database contains measurements of air pollutant concentrations in the United States. The measurements include both criteria air pollutants and hazardous air pollutants and are compared against the National Ambient Air Quality Standards (NAAQS) specified by the EPA. The AirData database was queried for air quality data for Cleburne and Van Buren counties for the interval 2001-2005. No data was available for either county in the database.

The Clean Air Act of 1977 as amended requires Federal facilities to comply with all Federal, state, interstate, and local requirements regarding the control and abatement of air pollution in the same manner as any non-governmental entity, including any requirement for permits. No particular Federal requirements are involved that are not already incorporated into Arkansas State law. According to the ADEQ, the entire state of Arkansas is in compliance with all EPA ambient air quality standards. Only ozone concentrations occasionally approach the limit of the standard. The Conformity Rule of the Clean Air Act of 1977 (CAA), as amended, states that all Federal actions must conform to appropriate State Implementation Plans (SIPs). This rule took effect on January 31, 1994, and at present applies only to Federal actions in non-attainment areas (those not meeting the National Ambient Air Quality Standards for the criteria pollutants in the CAA). The state of Arkansas, including the Greers Ferry Lake area, is considered an attainment area and is therefore exempt from the Conformity Rule of the CAA.

3.1.9 Noise

Noise levels around the Greers Ferry Project are consistent with those found normally associated with outdoor water recreational activities. These noises emanate from boats, jet skis and other recreational vehicles and equipment. No industrial noise sources exist on the lake shores.

3.1.10 Socioeconomics

The region of economic impact consists of eight counties in the state of Arkansas. These counties represent the MAWA survey area. The following table shows historical, current, and projected population counts of the counties and the state of Arkansas.

For all but two of the counties, population growth for the study area has increased by more than the state statistic. Six of the eight counties had population increases greater than the state's

statistics during the past 20 years, while the remaining two counties had low or negative population growth. The populations in the central Arkansas counties have continued to increase through 2005. Table 7 presents population growth in central Arkansas counties, as well as for the entire state.

Table 7. County and State Populations

County / State	1980	1990	Percent Change	2000	Percent Change	2005
	Population	Population	1980 - 1990	Population	1990 - 2000	Population Estimate ¹
ARKANSAS	2,286,435	2,350,725	2.8%	2,673,400	13.7%	2,794,974
Cleburne, AR	16,909	19,411	14.8%	24,046	23.9%	26,142
Conway, AR	19,505	19,151	-1.8%	20,336	6.2%	20,655
Faulkner, AR	46,192	60,006	29.9%	86,014	43.3%	96,916
Garland, AR	70,531	73,397	4.1%	88,068	20.0%	94,457
Lonoke, AR	34,518	39,268	13.8%	52,828	34.5%	59,278
Perry, AR	7,266	7,969	9.7%	10,209	28.1%	10,760
Pulaski, AR	340,613	349,660	2.7%	361,474	3.4%	368,133
Saline, AR	53,161	64,183	20.7%	83,529	30.1%	91,555

¹ Population estimates obtained from the Center for Business and Economic Research, University of Arkansas

The study area's race profile is predominantly white with Pulaski County being the only county having a non-white population that is greater than the state's rate, 20.0 percent. The remaining counties have non-white population percentages that range from 1.8 percent (Cleburne County) to 15.7 percent (Conway County). The national rate is 24.9 percent. All of the counties, with the exception of Pulaski County, have non-white populations that are less than the national rate. This difference is most likely a result of the rural nature of most of these counties. The non-white population range is from 1.8 percent (Cleburne County) to 36.0 percent (Pulaski County).

Income statistics for the study area are above the state's level for six of the eight counties. Arkansas' per capita income, in 1999 dollars, was \$16,904. The national rate is \$21,587. When comparing the counties to the national rate, all eight counties have per capita income less than the national. The per capita income range is from \$16,056 (Conway County) to \$21,466 (Pulaski County).

Lastly, the study area's poverty levels are below the state's level, 15.8 percent, for six of the eight counties. However, when compared to the national rate of 12.4 percent, six of the eight counties have a greater percentage of poverty. The poverty statistics for the study area range from 7.2 percent (Saline County) to 16.6 percent (Garland County). The race and income demographics of the eight counties differ from state and national rates. Table 8 details the populations by race, per capita income, and poverty levels for the eight Arkansas counties.

Table 8. County and State Race, Income, and Poverty Data

County / State	Total Race Population	White Population	% Non-White Pop. (2000)	Per Capita Income (1999 \$'s)	% Persons in Poverty (1999 %)
ARKANSAS	2,673,400	2,138,598	20.0%	\$16,904	15.8%
Cleburne, AR	24,046	23,613	1.8%	17,250	13.1%
Conway, AR	20,336	17,137	15.7%	16,056	16.1%
Faulkner, AR	86,014	75,973	11.7%	17,988	12.5%
Garland, AR	88,068	78,250	11.1%	18,631	16.6%
Lonoke, AR	52,828	48,089	9.0%	17,397	10.5%
Perry, AR	10,209	9,762	4.4%	16,216	14.0%
Pulaski, AR	361,474	231,211	36.0%	21,466	13.3%
Saline, AR	83,529	79,575	4.7%	19,214	7.2%

Economic activity in the study area is varied, but each county hosts a majority, if not all, of North American Industry Classification System (NAICS) sectors. The counties within the study area account for nearly one-third of the persons employed in the state. This is due in part to the inclusion of Pulaski County, which accounts for nearly 23 percent of the persons employed in the state. Annual payroll in the study area is greater than \$8.7 billion. The counties within the study area account for over 35 percent of the total payroll in the state. Again, this is due largely to Pulaski County, which accounts for over 26 percent of the state’s total annual payroll. Arkansas also has a total of 63,185 business establishments, of which over 31 percent are located in the study area. Pulaski County accounts for over 12,000 establishments, or 19.1 percent.

3.1.11 Environmental Justice

The following discussion of environmental justice issues has been developed to address two Presidential Executive Orders:

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority and Low-Income Populations. On February 11, 1994, President Clinton issued Executive Order 12898, Federal Actions to Address Environmental Justice in Minority and Low-Income Populations. The purpose of this Executive Order is to avoid the disproportionate placement of adverse environmental, economic, social, or health impacts from Federal actions and policies on minority and low-income populations or communities. An element emanating from this order was the creation on an Interagency Federal Working Group on Environmental Justice comprised of the heads of 17 Federal departments and agencies, including the U.S. Army. Each department or agency is to develop a strategy and implementation plan for addressing environmental justice.

It is the USACE’s policy to fully comply with Executive Order 12898 by incorporating environmental justice concerns in decision-making processes supporting USACE policies, programs, projects, and activities. In this regard, the USACE ensures that it would identify, disclose, and respond to potential adverse social and environmental impacts on minority and/or low-income populations within the area affected by a proposed USACE action. The initial step in this process is the identification of minority and low-income populations that might be affected by implementation of the proposed action or alternatives. For environmental justice considerations, these populations are defined as individuals or groups of individuals that are

subject to an actual or potential health, economic, or environmental threat arising from existing or proposed Federal actions and policies. Low income is defined as the aggregate annual mean income for a family of four in 2000 of \$17,601.

Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks. On April 21, 1997, President Clinton issued Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks. This Executive Order recognizes that a growing body of scientific knowledge demonstrates that children may suffer disproportionately from environmental health risks and safety risks. These risks arise because children's bodily systems are not fully developed, because their size and weight can diminish protection from standard safety features, and because their behavior patterns can make them more susceptible to accidents. Based on these factors, President Clinton directed each Federal agency to make it a high priority to identify and assess environmental health risks and safety risks that might disproportionately affect children. President Clinton also directed each Federal agency to ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks.

It is the USACE's policy to fully comply with Executive Order 13045 by incorporating these concerns in decision-making processes supporting USACE policies, programs, projects, and activities. In this regard, the USACE ensures that it would identify, disclose, and respond to potential adverse social and environmental impacts on children within the area affected by a proposed USACE action.

3.1.12 Recreation

Greers Ferry Lake supports a variety of recreational activities, including camping, boating, fishing, swimming, hiking, and visiting attractions like the dam and visitors center. The lake receives about 5.5 million visitors annually. Designated parks and recreation areas are managed by the Corps, except for Fairfield Bay Park, which is leased to the city of Fairfield Bay, and Sandy Beach, which is leased to the city of Heber Springs. Boaters on the lake use speedboats, cabin cruisers, runabouts, sailboats, PWC, fishing boats, houseboats, pontoon boats, rowboats, windsurfers, canoes, and kayaks. All areas of the lake are well visited by boaters.

3.2 LAKE OUACHITA

A complete description of the project history, authorized purposes and physical features of the Lake Ouachita project can be found in Section B of the Water Storage Reallocation Report.

3.2.1 Land Use

Lake Ouachita manages land and water resources for a mix of different uses, including agriculture (minimal extent), timber, fish, wildlife, watershed protection, and outdoor recreation. The natural resources component of project management employs the multiple-use management concept and incorporates a mix of resource uses similar to that employed on U.S. Forest Service lands.

3.2.2 Climate

The climate around Lake Ouachita is generally characterized by hot summers and moderately cool winters, averaging 81° Fahrenheit (F) in the summer and 44° F in the winter. The average rainfall is 55 inches and is typically well distributed throughout the year. Average snowfall is four inches, but can vary greatly from year to year.

3.2.3 Topography, Physiography and Soils

The Ouachita Mountains region was internally subjected to intense geologic pressures as evidenced by the beds of tilted (> 20 degrees) highly fractured and folded rocks. Sandstones, shales, chert, and novaculites are the predominate rock formations. Limestones and, at widely scattered places, igneous rocks are also present. Relief ranges from almost vertical bluffs to broad flats. Relief is the result of the compression and uplift of Paleozoic rocks and the subsequent erosion and entrenchment of streams and drainage channels into the land surface.

Most of the soils formed in material of weathered, consolidated bedrock of the Ordovician through Pennsylvanian periods of the Paleozoic era (500 to 280 million years BP, respectively). The soils are composed of heterogeneous mixtures of sand, silt, and clay derived from weathered sandstone and shale. The softer, less resistant shale, chert, and impure sandstone are more susceptible to erosion and compaction, and form most of the basins, valley floors, and lower hills. The harder, more resistant novaculite and relatively pure layers of sandstone form the mountains, ridges, and peaks.

Coordination has been initiated with the NRCS regarding potential impacts to rare or unique soils (including Prime Farmland) in the project area resulting from implementation of the proposed project. In a letter dated 11 May 2006 the NRCS stated that the proposed pipeline and water intake structure would not impact any Prime Farmland soils. The NRCS further stated that practices to help prevent erosion should be considered when installing the proposed improvements. Agency coordination is included in Appendix A.

3.2.4 Water Resources

Lake Ouachita is the largest lake in Arkansas, extending approximately 35 miles along the Ouachita River channel. The lake contains over 2,000,000 AF of water storage at normal power pool. The surface acreage averages from approximately 40,000 to 48,300 acres throughout the year. Surface elevations fluctuate an average of 12.5 feet each year. This fluctuation results from the lake operation for flood control and hydropower generation.

Water quality data has been collected at intervals for Lake Ouachita over the last three decades. Both the type and frequency of data collection have varied. The available data indicate that the lake's overall water quality is exceptional and has not declined. In recent years, there has been a slight improvement in clarity (turbidity) in Lake Ouachita. Mean nutrient and turbidity levels indicate that the lake is oligotrophic. This environmental classification is assigned to lakes with low nutrient levels, low turbidity, and high clarity.

The Arkansas Department of Health (ADH) and the ADEQ have both indicated that the overall water quality conditions in Lake Ouachita are exceptional.

Water from Lake Ouachita is considered relatively pristine with reduced nutrient levels, low temperature (typically 50°–55° F), and high dissolved oxygen (8.5 to 9.5 mg/l).

Storage for water supply has been reallocated once since the construction of Blakely Mountain Dam – Lake Ouachita. This water supply agreement was executed in February 14, 1996, between the North Garland County Regional Water District (NGCRWD) and the United States Government. The agreement was for 1,575 AF (current yield analysis data requires 1,659 AF to provide 1 mgd) of storage to provide a yield of 1 mgd (Appendix A, Water Supply Storage Reallocation Report). Currently, a second request by the NGCRWD for 3 mgd is being processed by the Vicksburg District. This will require the reallocation of about 4,977 AF of storage (Appendix A, Water Supply Storage Reallocation Report). Based on the past reallocation, it is assumed that the second reallocation request would be made from the flood control pool, and after dependable yield mitigation storage is accounted for, 33,303 AF would be available for MAWA. A flood control pool reallocation pool would allow MAWA to purchase 33,303 AF of storage in Lake Ouachita.

The current proposed reallocation by the Mid-Arkansas Water Alliance for 33,303 AF would not cause the Corps' reallocation limit of 50,000 AF to be exceeded.

3.2.5 Cultural Resources

Cultural resource surveys have been conducted on USACE owned land in the vicinity of Blakely Mountain Dam along Lake Ouachita and the Ouachita River where a major portion of the proposed new Lake Ouachita water intake pump station and pipeline for the city of Hot Springs will be constructed. To date, no significant cultural resources have been identified within the surveyed area that may potentially be impacted by the construction of the pump station and pipeline.

Coordination has been initiated with the Arkansas SHPO regarding potential impacts to cultural resources in the project area resulting from implementation of the proposed project. In a letter dated 10 May 2006, the SHPO responded that the agency had no objection to the proposed water reallocation at Lake Ouachita. The SHPO stated that no cultural resources are known to occur in the vicinity of the proposed pipeline and water intake structure; however, the SHPO stated that archaeological sites are known to occur in similar environments elsewhere. The letter further stated that if any cultural remains, including but not limited to Native American pottery, stone tools, bones, old bottles or china, are discovered during project implementation, work in the area of discovery should cease and the SHPO should be contacted immediately. Agency coordination is included in Appendix A.

3.2.6 Biological Resources

3.2.6.1 Vegetation

Lake Ouachita is located within the proclaimed boundaries of the Ouachita National Forest. Of the 81,984 acres within the Lake Ouachita area, 61,581 acres are USACE fee title land and 20,391 acres are Forest Service land, including 15,629 acres of Public Domain and 4,762 acres of Weeks Law land. Since the inception of Lake Ouachita, the jurisdictional responsibility over the Public Domain land was in question. Pursuant to an August 13, 1964, agreement between the Secretaries of the Army and Department of Agriculture, the USACE and the Forest Service signed an agreement on June 28, 1985, realigning land management jurisdiction on Lake Ouachita in Garland and Montgomery counties, Arkansas. This resulted in an interchange of land between the USACE and the Forest Service to improve public service, increase management efficiency and reduce costs. Under this interchange, the Forest Service transferred 12,000 acres of Public Domain and Weeks Law land to the USACE and gave the USACE management responsibility for all lands from the water's edge up to elevation 610 feet NGVD. The USACE transferred 10,000 acres of land above elevation 610 feet NGVD to the Forest Service. A joint management plan was developed and signed in 1986, allowing coordinated management of all project lands between elevations 578 and 610 feet NGVD. Under this joint plan, the Forest Service and the USACE coordinate closely on all rules, regulations, and proposals pertinent to these lands, in recognition of the desirability of uniformity and consistency in managing these lands for public use and resource protection.

Lake Ouachita has 20,747 acres of forestlands. Tree density, composition, and quality vary from area to area. A number of forest types exist, but the three main types are shortleaf pine, white oak-red oak-hickory, and shortleaf pine-oak forests. The majority of the project is characterized by second-growth hardwoods that occur within the upland pine stands.

Prior to 1990, forest management at the lake was primarily limited to removal of timber for construction purposes and salvage of damaged timber. Most of the forested land surrounding the lake had been originally harvested from the early 1920s to the mid-1930s and had naturally regenerated to form the 70- to 80-year-old pine and oak-pine stands which are common on project lands. Due to the lack of forest management, stands were stagnated, drastically overstocked, and overmature. Natural mortality and waste of timber was high and wildlife habitat was generally poor.

An intensive forest management program was initiated at the lake in 1990. This program targeted the improvement of existing stands through selective timber harvesting, prescribed burning, and vegetation management treatments. The goals of the program have been the improvement of forest growth and vigor and the enhancement of wildlife habitat.

3.2.6.2 Fish and Wildlife

The fish and wildlife resources associated with Lake Ouachita are considered significant. The fishery is managed primarily by the AGFC. The lake supports a high quality sport fishery including largemouth and smallmouth bass, walleye, sunfish, crappie, catfish, striped bass, and

rainbow trout. The largest predator in the project area is the black bear. Raccoons, squirrels, opossum, and other mammals common to rural Arkansas are found in natural areas in the project area. Migratory waterfowl use the lake and tributary habitats seasonally and, in some cases, year-round. Important terrestrial game species include white-tailed deer, squirrel, turkey, quail, dove rabbit, and furbearers. The lake also provides habitat for many amphibians, reptiles, and invertebrate species.

3.2.6.3 Threatened and Endangered Species

Table 9 presents information about federally listed species in the Lake Ouachita project area.

Table 9. Federally Listed Species for the Lake Ouachita Project Area

Common Name	Scientific Name	Status	Occurrence
Fat pocketbook	<i>Potamilus capax</i>	E	Statewide
Bald eagle	<i>Haliaeetus leucocephalus</i>	T	Garland and Montgomery
Haperella	<i>Ptilimnium nodosum</i>	E	Garland and Montgomery
Arkansas fatmucket	<i>Lampsilis powelli</i>	T	Montgomery

Source: USFWS, 1997.

The fat pocketbook is discussed in Section 3.1.6.3 above. Primary threats to the species are dredging operations and water impoundments.

The bald eagle is also discussed in Section 3.1.6.3 above. Lake Ouachita contains wintering areas for the bald eagle. Bald eagles typically migrate to the lake each year in late October and remain until the end of March. Weather, photoperiodism, and a shrinking food supply stimulate eagle migration. In past years, up to 120 bald eagles have been counted on established survey routes during the winter eagle survey. In 1992, a bald eagle nest was discovered on USFWS land, adjacent to USACE land on Lake Ouachita. Two additional nests have been identified on or near the shoreline of Lake Ouachita since 1992.

Harperella is an annual herb that occurs in the southeastern United States. The species typically occurs in two habitat types: (1) rocky or gravel shoals and margins of clear, swift-flowing stream sections; and (2) edges of intermittent pineland ponds in the coastal plain. This plant tolerates and may actually require a very specific and unusual water regime, which includes moderately intensive spring floods that may reduce or eliminate competing vegetation. Primary threats include alterations of the water regime within the species' habitat resulting from impoundments, water withdrawal, and drainage or deepening of ponds. Other factors such as siltation, pollution, and shoreline development also threaten populations.

The Arkansas fatmucket is found only in the Ouachita, Saline, and Caddo river systems. Specifically, the Arkansas fatmucket occurs in the Ouachita River upstream of Lake Ouachita in Montgomery and Polk counties, and in the South Fork of the Ouachita River upstream of Lake Ouachita in Montgomery County. A 1988 survey of the species' habitat area found 151 individuals. The species prefers deep pools and backwater areas that possess sand, sand-gravel, sand-cobble, or sand-rock with sufficient flow to periodically remove organic detritus, leaves, and other debris, and is not typically found in riffles or impoundments. The species experienced severe population declines from the construction of impoundments within its historic range. Primary threats include water quality degradation from channelization and maintenance projects, as well as gravel mining.

Coordination has been initiated with the USFWS and the AGFC regarding potential impacts to threatened and endangered species in the project area resulting from implementation of the proposed project. In a letter dated 26 April 2006, the AGFC indicated that it had no objections to the proposed project at Lake Ouachita; however, the agency stated its desire to conduct a separate review of the proposed pipeline and intake structure locations before the initiation of construction activities. Agency coordination is included in Appendix A.

3.2.6.4 Floodplains and Wetlands

As with Greers Ferry Lake, wetlands are rare at Lake Ouachita because the steep shorelines are not conducive to wetland formation or sustenance. Lacustrine littoral wetlands occur in isolated pockets along the lakeshore in some locations, and palustrine wetland communities are also located adjacent to lake tributaries. These wetlands are not well defined and exhibit a relatively low diversity of wildlife because the steep shorelines do not allow large transitional zones between shoreline and open-water habitat. Floodplains are located along lake tributaries in the Lake Ouachita watershed.

Coordination has been initiated with FEMA regarding potential impacts to floodplains in the project area resulting from implementation of the proposed project. In a response dated 20 April 2006, FEMA requested that the local floodplain administrator be contacted for the review and possible permit requirements for the project. Agency coordination is included in Appendix A.

3.2.7 Hazardous, Toxic, and Radioactive Wastes

A limited HTRW investigation was performed for the Lake Ouachita project area in general accordance with guidance from ER 1165-2-132 and ASTM Standard E 1527-00. The goal of this effort is to identify recognized environmental condition (REC) sites or potential REC sites in connection with the study area. The following is a summary of the initial investigation.

An environmental database search was completed by Banks and the complete report is provided in Appendix B. The environmental database report developed by Banks includes reports on each site identified with information about the cause(s) for listing and the site's current status. This information is utilized to determine which, if any, sites warrant scrutiny for the potential presence of HTRW.

Seven federal and four state databases were reviewed, including the following:

Federal Databases:

- NPL - National Priority List. The EPA's list of confirmed or proposed Superfund sites (updated April 2006).
- CERCLIS – The EPA’s Comprehensive Environmental Response, Compensation and Liability Information System (updated March 2006).
- NFRAP - A CERCLIS designation indicating that to the best of the EPA’s knowledge, assessment of a site has been completed and the EPA has determined no further remedial action is planned (updated March 2006).
- RCRA TSD – The EPA’s list of Resource Conservation and Recovery Information System (RCRIS) - Treatment, Storage and Disposal facilities (updated April 2006).
- RCRA CORRACTS - RCRIS – The EPA’s list of Corrective Action Sites (updated April 2006).
- RCRAGN - RCRIS – The EPA’s list of large and small quantity hazardous waste generators (updated April 2006).
- ERNS – The EPA’s list of emergency response actions (Emergency Response Notification System) (updated December 2005).

State Databases:

- STATE SITES – The ADEQ list of facilities and/or locations recognized with potential or existing environmental contamination (updated quarterly).
- SWL - Solid waste landfills and transfer stations maintained by ADEQ (updated December 2004).
- RUST - The ADEQ list of all registered underground or above storage tanks (updated May 2006).
- LUST – The ADEQ list of all leaking underground storage tanks (updated May 2006).

3.2.7.1 Limitations

This limited HTRW assessment was conducted in general accordance with guidelines set forth by Part 7 of ER 1165-2-132 and ASTM Standard E 1527-00. Accordingly, no guarantee is made or intended that all site conditions were observed or that all records were reviewed.

Much of the information provided in the report was compiled from public records and other sources maintained by third parties. Although reasonable care was exercised in its preparation, The USACE cannot be held responsible for errors, omissions, or inaccurate information from third parties.

Finally, any changes in project actions from those provided the USACE may render the recommendations and conclusions presented in this report void.

3.2.7.2 Findings

The results of the search for potential REC sites as outlined in the environmental database report are discussed in this section.

Environmental Database Review

A thorough search of Federal, state, and local government environmental databases was conducted to obtain and review records and documents that would aid in identifying known or potential environmental concerns in or near the study area.

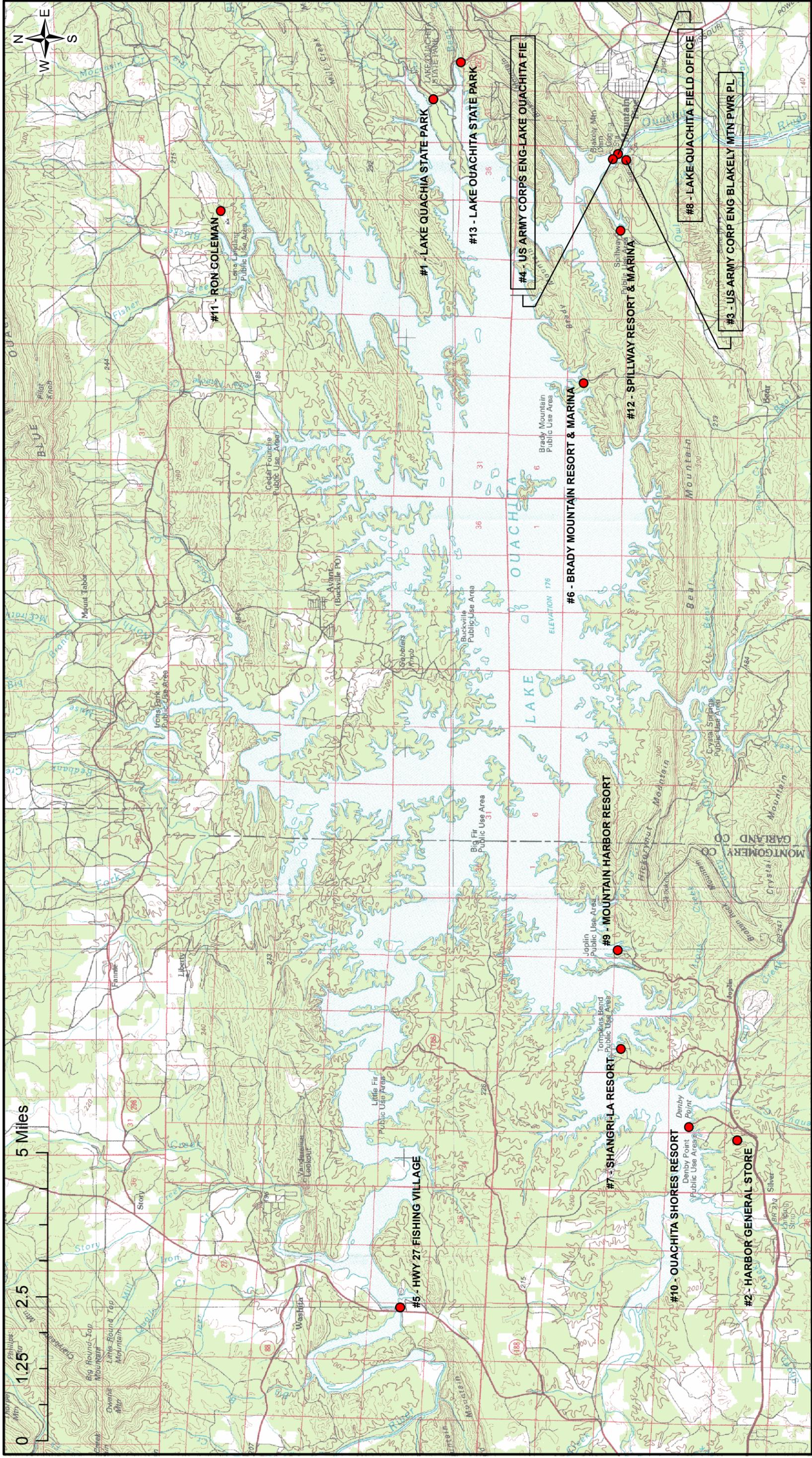
Table 10 provides the results of the search for potential REC sites listed in federal and state environmental databases as part of the environmental records review for the study area. In addition to plottable sites, a search for orphan sites (sites that are only identified as being within the same ZIP code[s] as the property) was conducted. A map of all plottable sites is presented in Figure 5. The Banks report is provided in Appendix B.

Table 10. Environmental Database Research Results Summary for Lake Ouachita

Database	Radius (mi)	Site	1/8 mile	1/4 mile	1/2 mile	>1/2 mile	Orphan	Total
NPL	1.00	---	---	---	---	---	---	---
CERCLIS	0.50	---	---	---	---		---	---
NFRAP	0.50	---	---	---			---	---
<i>RCRA:</i>								
TSD	0.50	---	---	---	---		---	---
COR	1.00	---	---	---	---	---	---	---
GEN	0.25	2	---	---			---	2
ERNS	0.15	---	---	---			---	---
<i>State:</i>								
State Sites	1.00	---	---	---	---	---	---	---
SWL	0.50	---	---	---	---		1	1
RUST	0.25	12	2	---			8	22
LUST	0.50	2	---	---	---		---	2
<i>Totals</i>	---	16	2	---	---	---	9	27

Notes:
 --- indicates no sites/items were found.
 LUST and UST values represent facilities, some of which contain multiple tanks.
 Some sites are listed in multiple databases.
 Shaded areas indicate search not required per ASTM Standard E1527-00.

Source: Banks Information Solutions, Inc., 2006.



POTENTIAL REC SITES

Lake Ouachita



Figure: 5
 Date: June 2006
 Scale: 1:100,000
 Source: Banks, USGS
 Map Author: D. Shearer 27309CL02

MAWA Water Supply Storage Reallocation Study

100K USGS Topographic Map Series: Lake Ouachita (1982); Banks Information Solutions, Inc. Environmental FirstSearch Report Lake Ouachita (2006)

National Priorities List (NPL) Database

The NPL is the EPA's database of uncontrolled or abandoned hazardous waste sites identified for priority remedial actions under the Superfund program. A site must meet or surpass a predetermined hazard ranking system score, be chosen as a state's top priority site, or meet three specific criteria set jointly by the DHHS and the EPA in order to become an NPL site.

Research of the EPA's NPL database, last updated April 2006, indicates no such sites are located within one mile of the study area.

Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) and No Further Remedial Action Planned (NFRAP) Databases

The CERCLIS database is a comprehensive listing of known or suspected uncontrolled or abandoned hazardous waste sites. These sites have either been investigated or are currently under investigation by the EPA for the release or threatened release of hazardous substances. Once a site is placed in CERCLIS, it may be subjected to several levels of review and evaluation and may ultimately be placed on the NPL.

The NFRAP Report, also known as the CERCLIS Archive, contains information pertaining to sites that have been removed from the EPA's CERCLIS database. NFRAP sites may be sites where, following an initial investigation, either no contamination was found, contamination was removed quickly without need for the site to be placed on the NPL, or contamination was not serious enough to require Superfund action or NPL consideration.

Initial research of the CERCLIS and NFRAP databases, last updated March 2006, indicated no such sites are located within one-half mile of the study area.

Resource Conservation and Recovery Act (RCRA) Treatment, Storage, and Disposal (TSD) Sites

RCRA TSDs are facilities that treat, store and/or dispose of hazardous waste.

Research of the database, last updated April 2006, indicates no such sites are located within one-half mile of the study area.

RCRA CORRACTS Database

The EPA's RCRA database contains information concerning RCRA facilities that have conducted, or are currently conducting, a corrective action. A Corrective Action Order is issued pursuant to RCRA Section 3008(h) when a release of hazardous waste or constituents into the environment occurs from a RCRA facility. Corrective actions may also be imposed as a requirement for receiving and maintaining a transportation/storage/disposal facility (TSDF) permit.

Research of the EPA's RCRA CORRACTS database, last updated April 2006, indicates no such sites are located within one mile of the study area.

RCRA Generator Database

The EPA's RCRA Generator Database provides a list of Large Quantity Generators and Small Quantity Generators. Large Quantity Generators are defined as facilities that generate at least 1,000 kilograms per month of non-acutely hazardous waste or one kilogram per month of acutely hazardous waste. Small Quantity Generators generate less than 1,000 kilograms per month of non-acutely hazardous waste.

Research of the EPA's Generator database, last updated April 2006, indicates two potential REC sites located within one-quarter mile of the study area.

Facility Name: USACE Blakely Mtn Pwr Plant
Facility Location: 1111 Blakely Mtn Rd
Distance/Direction: Onsite

Facility Name: USACE Lake Ouachita Field Office
Facility Location: Blakely Dam
Distance/Direction: Onsite

The USACE Blakely Mountain Power Plant is a conditionally exempt small quantity generator that produces less than 100 kilograms per month of ignitable waste spent halogenated and non-halogenated solvents used for degreasing. No violations or enforcement actions are listed for the facility, and the facility does not appear in any corrective actions database. For these reasons, and based on a lack of evidence to the contrary, it is believed that the facility has had little, if any, impact on environmental conditions in the study area.

The USACE Lake Ouachita Field Office is a conditionally exempt small quantity generator that produces less than 100 kilograms per month of ignitable waste spent non-halogenated solvents. No violations or enforcement actions are listed for the facility, and the facility does not appear in any corrective actions database. For these reasons, and based on a lack of evidence to the contrary, it is believed that the facility has had little, if any, impact on environmental conditions in the study area.

Emergency Response Notification System (ERNS) Database

ERNS is a national database that is used to store information on the sudden and/or accidental release of hazardous substances, including petroleum, into the environment. The ERNS reporting system contains preliminary information on specific releases, including spill location, substance released, and responsible parties.

Research of the database, last updated December 2005, indicates no ERNS incidents are listed as having occurred within 0.15 mile of the study area.

State Environmental Databases Reviewed

State Equivalent NPL Database

This database is maintained by ADEQ. The database provides a listing of hazardous waste generators.

Research of the State Sites database indicated no such sites potentially located within one mile of the study area.

Solid Waste Landfill Facilities (SWL) Databases

The listing of solid waste landfills maintained by ADEQ related to solid waste and landfill disposal facilities was reviewed.

Research of this database, last updated December 2004, initially indicated one orphan site potentially located within one-half mile of the study area. Subsequent research indicates that the site is located within the ASTM-recommended search radius.

Facility Name: USACE Lake Ouachita Waste TS
Facility Location: 1201 Blakely Dam Rd
Distance/Direction: Onsite

The USACE operates a solid waste transfer station at 1201 Blakely Dam Road. No violations or enforcement actions are listed for the facility, and the facility does not appear in any corrective actions database. For these reasons, and based on a lack of evidence to the contrary, it is believed that the facility has had little, if any, impact on environmental conditions in the study area.

Leaking Underground Storage Tank (LUST) Database

Initial queries of this ADEQ database, last updated May 2006, indicated two potential REC sites (some with multiple listings) located within one-half mile of the study area. The facilities are cross-listed in multiple databases.

Facility Name: Lake Ouachita State Park
Facility Location: End of Hwy 227
Distance/Direction: Onsite
Other Databases: RUST

Facility Name: Harbor General Store
Facility Location: 5402 Hwy 270
Distance/Direction: Onsite
Other Databases: RUST

The Lake Ouachita State Park facility is cross-listed in the RUST database. Two 99-gallon water USTs are listed for the facility; both USTs are listed as Permanently Out of Service. No information regarding petroleum USTs is provided in the database, although it is evident from the facility's listing in the LUST database that petroleum products were stored on the facility at some point. The facility reported a petroleum release in October 1991 from a ruptured fuel line. The released product could not be recovered because of rainfall. The system was shut down and subsequently repaired. Because this incident involved the release of a small quantity of product that appears to have been successfully remediated, and lacking any evidence to the contrary, it is believed that this facility has had little, if any, impact on environmental conditions in the study area.

The Harbor General Store is also cross-listed in the RUST database. The database lists two 10,000 gallon USTs for the facility, both of which are designated as In Use. A leak was discovered at the facility in 2004 during a routine compliance inspection. ADEQ directed the owner to recover the free product and begin coordinating remediation activities. The owner subsequently issued a letter stating his refusal to recover the product or conduct any assessment. An assessment was eventually conducted that detected a small amount of product in the UST tankhold. This product was extracted via vacuum truck in November 2004. A second vacuum truck extraction occurred in December 2004. In January 2005 a Limited Site Assessment reported that the product had migrated offsite. Offsite monitoring wells were installed to monitor the status of petroleum contamination in the vicinity of the facility. The site is currently under remediation. Based on the above information, it is believed that the site may have adversely impacted environmental conditions in the study area.

Registered Underground Storage Tank (RUST) Database

Initial queries of this ADEQ database, last updated May 2006, indicated 14 potential REC sites located within 0.25 mile of the study area and eight orphan sites potentially located within the ASTM-recommended search radius. Two of the plottable sites are cross-listed in multiple databases.

Facility Name: Lake Ouachita State Park
Facility Location: End of Hwy 227
Distance/Direction: Onsite
Other Databases: LUST

Facility Name: Harbor General Store
Facility Location: 5402 Hwy 270
Distance/Direction: Onsite
Other Databases: LUST

The Lake Ouachita State Park facility is discussed in the LUST subsection above. Based on the information presented in that subsection, and lacking any evidence to the contrary, it is believed that this facility has had little, if any, impact on environmental conditions in the study area.

The Harbor General Store facility is discussed in the LUST subsection above. Based on the information presented in that subsection, it is believed that the site may have adversely impacted environmental conditions in the study area.

The remaining plottable and orphan sites do not appear to be listed in the LUST database or other corrective action databases. For these reasons, and based on a lack of evidence to the contrary, it is believed that these facilities have had little, if any, impact on environmental conditions in the study area.

3.2.7.3 Conclusions

Based on the site reconnaissance, records review, interviews, and best engineering judgment, conditions in the study area are likely to present a potential for special actions associated with state or Federal environmental regulations regarding the handling, storage, or disposal of hazardous materials. Accordingly, this assessment has revealed evidence of REC in connection with the study area. Table 11 provides a list of sites that may have adversely impacted environmental conditions in the study area.

Table 11. List of Potential REC Sites That May Have Adversely Impacted Environmental Conditions in the Study Area (Lake Ouachita)

Site Name	Street Address	Database	Distance/Direction From Project Area
<i>Plottable Sites (within ASTM-recommended search radii)</i>			
Harbor General Store	5402 Hwy 270	LUST, RUST	Onsite

Source: Banks Information Solutions/GEC, 2006.

The proposed project involves the construction of a new intake structure just north of Blakely Mountain Dam, which will convey raw water through a 36-inch pipeline a distance of approximately 5.6 miles in a south-southwesterly direction to the Ouachita Water Treatment Facility northwest of the city of Hot Springs.

The potential REC site identified in the limited HTRW investigation is located approximately 15 miles from the site of the proposed improvements. No other improvements or activities resulting in the disturbance of any facilities or lands are proposed for the project. Consequently, although potential REC sites have been identified in the study area, it is not believed that any of these sites would be affected by project implementation. No actions associated with the proposed project would result in the disturbance of these sites and the consequent release of hazardous waste into the surrounding environment.

3.2.8 Air Quality

Air quality around Lake Ouachita is good. Due to the absence of heavy industry, low population densities, and the generally rural character of the area, air pollution is not a problem. Localized pollution in the form of automobile exhausts and particulate matter occurring primarily as a result of auto traffic on unpaved roads does occur at the lake. Automobile traffic in the project area is much greater during the summer recreational season, and some degradation of air quality is likely to occur during this period.

Table 12 presents the air quality values provided by the EPA AirData database for Garland and Montgomery counties for the interval 2001-2005. Only partial NAAQS data was available for each county.

Table 12. Air Quality Values for Garland and Montgomery Counties, Arkansas

Year	CO (ppm) 2 nd max 8-hr	NO ₂ (ppm) Annual mean	SO ₂ (ppm) Annual mean	O ₃ (ppm) 2 nd max 1- hr	PM _{2.5} (µg/m ³) Annual mean	PM ₁₀ (µg/m ³) Annual mean
<i>Garland County</i>						
2001	---	---	---	---	13.1	---
2002	---	---	---	---	9.9	---
2003	---	---	---	---	11.7	---
2004	---	---	---	---	10.9	---
2005	---	---	---	---	14.3	---
<i>Montgomery County</i>						
2001	---	---	---	0.07	---	---
2002	---	---	---	0.084	---	---
2003	---	---	---	0.072	---	---
2004	---	---	---	0.076	---	---
2005	---	---	---	0.07	---	---
NAAQS*	9 ppm	0.053 ppm	0.03 ppm	0.12 ppm	50.0 µg/m ³	50.0 µg/m ³

* National Ambient Air Quality Standards

Source: EPA Air Quality Online Database, 2006.

The Clean Air Act of 1977, as amended, requires Federal facilities to comply with all Federal, state, interstate, and local requirements regarding the control and abatement of air pollution in the same manner as any non-governmental entity, including any requirement for permits. No particular Federal requirements are involved that are not already incorporated into Arkansas State law. According to the ADEQ, the entire state of Arkansas is in compliance with all EPA ambient air quality standards. Only ozone concentrations occasionally approach the limit of the standard. The Conformity Rule of the Clean Air Act of 1977 (CAA), as amended, states that all Federal actions must conform to appropriate State Implementation Plans (SIPs). This rule took effect on January 31, 1994, and at present applies only to Federal actions in non-attainment areas (those

not meeting the National Ambient Air Quality Standards for the criteria pollutants in the CAA). The state of Arkansas, including Lake Ouachita, is considered an attainment area and is therefore exempt from the Conformity Rule of the CAA.

3.2.9 Noise

Noise levels around Lake Ouachita are consistent with those found normally associated with outdoor water recreational activities. These noises emanate from boats, jet skis and other recreational vehicles and equipment. No industrial noise source exists on the lake shores.

3.2.10 Socioeconomics

Please refer to Section 3.1.10 for a complete socioeconomic profile of the counties surrounding Lake Ouachita.

3.2.11 Environmental Justice

Please refer to Section 3.1.11 for a discussion on Environmental Justice as it relates to the proposed project.

3.2.12 Recreation

Lake Ouachita supports a variety of recreational activities, including camping, boating, fishing, swimming, hiking, and visiting attractions like the dam and visitors center. There are 20,000 acres of land at the project, which are open to the public for hunting. There are 21 recreation areas with 150 picnic sites, 1,106 campsites, 24 boat ramps and 13 swimming beaches.

4.0 ENVIRONMENTAL CONSEQUENCES

4.1 LAND USE

The proposed action of providing approximately 18,730 AF of flood control storage from Greers Ferry Lake and 33,303 AF of flood control storage from Lake Ouachita to MAWA for municipal and industrial (M&I) purposes and the construction of a new pump station and approximately 5.6-mile raw water pipeline at Lake Ouachita would not significantly change the present land use of the existing area. This action however, could potentially cause an increase in urbanization due to the increased M&I water supply.

If the reallocation was taken from the conservation (hydropower) pool the impacts to land use would be identical to those from the flood control pool.

The No-Action Alternative would result in no change to land use.

4.2 WATER RESOURCES

Reallocation of flood storage in Greers Ferry Lake and Lake Ouachita would result in the conservation pools being raised 0.6 and 0.82 feet, respectively. In reality, however, the lake elevations will not change perceptibly due to the operation of the reservoirs for flood control, hydropower, and other purposes including withdrawals for water supply. A new water intake pump station is proposed to be located at the southeast end of Lake Ouachita, near Blakely Mountain Dam. Raw water will be pumped approximately 5.6 miles to the existing Ouachita Water Treatment Facility for treatment and supply to the City of Hot Springs municipal water system. The quantity of water to be withdrawn is approximately 30 mgd. This amount is not expected to affect lake levels or water storage quantities significantly.

Reallocation of conservation (hydropower) storage in Greers Ferry Lake and Lake Ouachita would result in a reduction in hydropower storage and yields. During the drought of record, this would result in a reduction in lake level of about one foot over a period of one year. This is not considered a significant change from current conditions.

Future demands for water could increase due to a potential for increased urbanization that could result from increased M&I water supply sources such as this action.

The No-Action Alternative could result in water users utilizing already stressed systems such as groundwater or pumping from streams to obtain needed water.

4.3 CULTURAL RESOURCES

Cultural resource investigations of the areas surrounding Greers Ferry Lake and Lake Ouachita indicate that no significant cultural resources would be affected by the water storage supply

reallocation from the lake or the No-Action Alternative since the lake level would remain relatively unchanged.

Prior to construction for the new pump station and 5.6-mile pipeline route on the southeast end of Lake Ouachita, cultural resource surveys of areas not previously surveyed should be completed and coordinated with the State Historic Preservation Officer (SHPO). The majority of the currently proposed area for this project is on USACE land that has been previously surveyed. To date, no significant resources have been discovered on USACE land in the areas of the proposed project.

4.4 BIOLOGICAL RESOURCES

4.4.1 Vegetation

The proposed action of flood control storage reallocation or conservation storage reallocation would have no affect on any vegetation located around Greers Ferry Lake or Lake Ouachita because the lake levels would remain relatively unchanged. Minor permanent vegetation impacts would likely occur due to the construction of the new pump station at Lake Ouachita and minor temporary impacts during construction of the 5.6-mile raw water pipeline to the water treatment facility. Grasses and low herbaceous vegetation disturbed by the pipeline construction would be expected to recover following the cessation of construction activities for the pipeline; however, the pipeline right-of-way would likely be maintained to be free of woody vegetation and tall herbaceous plants.

The No-Action Alternative would not result in any impacts to vegetation in the area around Greers Ferry Lake or Lake Ouachita.

4.4.2 Fish and Wildlife

Storage reallocation from either the flood control or conservation pools is not expected to impact any fish or wildlife populations or habitat located around either Greers Ferry Lake or Lake Ouachita, since the level of the lakes would remain relatively unchanged. The new water intake structure at the southeast end of Lake Ouachita will incorporate a fish/debris screen to prevent large objects from being sucked into the pump. Some fish fry and other small and juvenile aquatic creatures will inevitably be sucked through the screen and be killed. However, the numbers that will be eliminated compared to the remaining populations in the lake are insignificant. A very minor amount of shoreline littoral and bank habitat will likely be lost by the construction of the pump station at the lake edge.

Approximately 33.2 acres of land are inclusive for the in the 5.6-mile raw water pipeline route, in addition to the 3.0 acres proposed for the pump station site, for a total of approximately 36.2 acres of potential wildlife habitat that may be cleared or disturbed for construction of this project. However, it is possible that not all of this acreage is high quality habitat, as approximately three-fourths of the pipeline route follows existing roads and will likely be placed either within an existing right-of-way or adjacent to it. In any case, there is ample habitat adjacent to any that is

lost, to absorb any wildlife displaced by the construction of the new pump station and the 5.6-mile pipeline.

The No-Action Alternative would not result in any impacts to fish and wildlife resources in the area around Greers Ferry Lake or Lake Ouachita since no significant change in water levels would occur due to the operation of the lakes.

4.4.3 Threatened and Endangered Species

No threatened or endangered species that occur in the vicinity of Greers Ferry Lake or Lake Ouachita would be impacted by changing water levels since the lake levels would be relatively unchanged. Once design plans for the new Lake Ouachita pump station and pipeline are finalized, surveys of the construction areas should be conducted and coordinated with federal and state wildlife agencies to ensure no critical habitat will be impacted.

The No-Action Alternative would not result in any impacts to threatened or endangered species in the area around Greers Ferry Lake or Lake Ouachita.

4.4.4 Floodplains and Wetlands

Storage reallocation would have no effect on any wetlands that exist along the shores of Greers Ferry Lake or Lake Ouachita, since the actual elevation of the lake should remain relatively unchanged due to the operation of the lake for flood control, hydropower and other purposes including water supply. According to National Wetland Inventory (NWI) maps, the preferred alternative placement of the new pump station on the southeastern shore of Lake Ouachita and the route for the raw water pipeline to the treatment plant do not appear to affect any jurisdictional wetlands. However, the map provided at this early stage in that project's planning shows the pipeline crossing three streams. Following plan finalization, a wetland survey should be conducted to determine if any jurisdictional wetlands will be affected. Permit(s) from the U.S. Army Corps of Engineers may be necessary. Additionally, if any construction will take place in a floodplain, a permit may be required from the local Floodplain Administrator.

The No-Action Alternative would not result in any impacts to floodplains or wetlands in the area around Greers Ferry Lake or Lake Ouachita.

4.5 HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE

Upon consideration of hazardous substance data reviewed for sites and conditions located in proximity to both lakes, it has been determined that no action presented in this EA would have any impacts on any hazardous, toxic, or radioactive waste in the area. For the new City of Hot Springs water intake facility on Lake Ouachita, it is currently anticipated that the pumps will be electrically powered. New electrical transformers that may be needed for the electric motors are no longer manufactured with polychlorinated biophenyls (PCB) (a carcinogen) oil.

The No-Action Alternative would have no effect on HTRW in the project area.

4.6 AIR QUALITY

The water reallocation from Greers Ferry Lake and Lake Ouachita could cause a minor increase in fossil fuel emissions if additional power is bought from a fossil fuel energy production plant to compensate for lost hydropower generation. Fewer adverse impacts to air quality are expected from the proposed action (reallocation from the flood control pool) than reallocation from the conservation pool, because the proposed action would cause the least impact to hydropower generation.

The question has been raised in previous reallocations whether air pollutants would be increased because of increased fossil fuel energy production required to make up the loss in hydropower capacity. This increase would not be substantial as shown in the following calculations. However, if electricity were purchased from a source of energy production that does not require fossil fuel combustion, there would be no impact on air quality.

The proposed action of reallocation of storage from the flood control or from the conservation pool will decrease both dependable capacity and energy available from the Greers Ferry Lake and Lake Ouachita hydropower plants. This power would have to be provided by alternative sources such as other hydropower plants, combustion power plants (gas, coal), or nuclear power plants. If the increased power generation were provided by combustion power plants, the increase in emissions could potentially affect the air quality of the project area and region. Assuming the weight of pollutants emitted by a fossil fuel generation plant to be proportional to power production, the increase in pollutants for this increase in power production would be insignificant based on the following analysis. To analyze this potential impact, the following tables reflect information gathered from the Department of Energy and the EPA. Table 13 presents emission averages from power generation in different regions of the country.

Table 13. Project Regional Generation Mixes and Emissions (lbs/kWh)

	SO₂	NO_x	CO₂
New England	0.007	0.002	0.691
New York/New Jersey	0.005	0.002	1.014
Midwest	0.008	0.005	1.731
South Atlantic	0.007	0.004	1.429
West	0.001	0.000	1.002
Northwest	0.000	0.001	0.244
National	0.006	0.004	1.276

Source: Energy Information Agency, *Annual Outlook for U.S. Electric Power*, DOE/EIA-0474(91), 7/91.

Assuming that annual combined energy losses for both Greers Ferry Lake and Lake Ouachita equal 8,414,962 kWh for the flood control pool and 10,810,704 kWh for the conservation pool and taking the national emissions averages from combustion power plants for comparison purposes, Table 14 reflects the annual increase in emissions that would occur because of the reallocations, if the potential loss of power were generated by combustion power generation.

Table 14. Emissions Expected from Action Alternatives

	SO₂ (0.006 lbs/kWh)	NO_x (0.004 lbs/kWh)	CO₂ (1.276 lbs/kWh)
Flood Control Pool	50,489.8 lbs. 25.2 tons	33,659.8 lbs. 16.8 tons	10,737,491.0 lbs. 5,368.7 tons
Conservation Pool	64,864.2 lbs. 32.4 tons	43,242.8 lbs. 21.6 tons	13,794,458.0 lbs. 6,897.2 tons

Data from the EPA's E-GRID2002 database in Table 15 includes information for Arkansas for the year 2000.

Table 15. 2000 State Total Emissions

	Annual SO₂ (tons)	Annual NO_x (tons)	Annual CO₂ (tons)	Ozone Season NO_x (tons)
Arkansas	76,510.44	53,543.84	32,085,814.14	27,054.83

Table 16 shows the anticipated percentage of increase in emissions from the reallocations for the state of Arkansas.

Table 16. Expected Increased Emissions Percentages

REALLOCATION SOURCE	ARKANSAS Percent Annual Increase in Emissions		
	SO₂	NO_x	CO₂
Flood Control Pool	0.032	0.031	0.016
Conservation Pool	0.042	0.040	0.021

The data presented in the previous table shows the annual increase of pollutant emissions expected to result if the power generation that would be lost because of the proposed reallocation were generated by a combustion power plant. The excess emissions would not significantly increase the health risks to humans associated with exposure to the pollutants. Therefore, the impact to the air quality of the project area and region is considered to be insignificant.

The No-Action Alternative would have no impact to air quality.

4.7 NOISE

The only noise anticipated from the proposed action would be the temporary noise generated by construction equipment during the building of the new pump station and pipeline at Lake Ouachita. No increase in permanent noise sources would result from the proposed action.

The No-Action Alternative would have no impact to the noise environment.

4.8 SOCIOECONOMICS

Reallocation of the remaining discretionary storage for MAWA will most likely not lead to any immediate increase in economic activity. The reallocation is for the immediate and future water supply needs of the study area; the water supply reallocation is estimated to allow the study area to continue its economic trends into the future.

As described below, there would be a small decrease in the amount of electricity that could be generated from the waters of the lake if some of the water is used for water supply. This decrease should not be significant as described in the storage reallocation report. The reallocation of water from the flood control storage would cause less impact on power generation than a reallocation from the conservation storage, since most hydropower is generated utilizing water from conservation storage.

4.8.1 Greers Ferry Lake

Flood Control Benefits Foregone. A reallocation from the flood control pool adversely affects project operation for hydropower operation and when the flood control pool becomes full. Therefore, reallocating flood control storage would affect flood control benefits during the rare, low-frequency flood events, because high-frequency events can be held by the remaining flood control storage and released in a fashion that will not cause flooding downstream. At the top of the flood control pool, the lake has a surface area of 40,000 acres. A reallocation of 18,730 AF would reduce the current amount of flood control storage by 2.0 percent.

To measure the value of flood benefits foregone due to this reduction in available flood control storage, the SUPER model used by the Little Rock District, USACE would need to run historic data against the proposed reallocation. As an alternative, an estimate of flood control benefits foregone using annual flood losses prevented since the project was completed was utilized in the preparation of the storage reallocation report. Table 5 of the storage reallocation report lists annual flood damages prevented factored to 2004 price levels using the Index of Prices Received by Farmers for all farm products. This Index was used because the flood damages prevented were predominately agricultural in nature. As Table 4 of the storage reallocation report indicates, there will be \$41,331 estimated average annual revenues foregone by hydropower due to the reallocation of 18,730 AF of flood control storage.

To date, 33,052.8 AF of flood control storage has been reallocated, or is pending approval, to water supply storage including this reallocation. This number includes the specific Congressional reallocation authorized by Section 524 of the Water Resources Development Act

of 1996, which does not count against the USACE discretionary authority. The cumulative effects of these reallocations are estimated to reduce the flood control benefits by approximately \$28,990 annually.

Although this method of quantifying flood control benefits foregone overestimates their value, it at least provides an amount against which the other reallocation alternatives can be measured. The actual benefits foregone are likely to be smaller, but attempting to more accurately quantify the benefits foregone would only be worth the required cost and effort in the event that another reallocation option demonstrates fewer benefits foregone.

Effects on Hydropower Generation. Reallocating 18,730 AF of flood control storage would have an effect on hydropower generation, based on current data provided by the Hydropower Analysis Center (HAC), Northwestern Division (NWD), USACE. Hydropower would also be affected by a reduction in secondary energy due to the reduced amount of water to be evacuated from flood control storage. The hydropower firm yield would be reduced by 4.504 mgd due to this reallocation. Although this amount will not be included in the water supply agreement, it is used to estimate the reallocation effects on hydropower. Instead, the results presented in the NWD report were used to estimate the effects of reallocating 18,730 AF from flood control storage.

By using data provided by HAC, Table 3 of the storage reallocation report shows that a reduction in yield of 30.53 mgd would result in benefit losses in the form of lost energy and capacity losses of 4,345 megawatt-hours (MWh) and 3 kilowatts (kW) from the flood pool and 5,318 MWh and 60 kW from the conservation pool, respectively.

As shown in Table 5 of the storage reallocation report, a net annual reduction in flood control benefits of \$17,400 results from the reallocation of flood control storage to water supply storage. Annual benefits foregone due to the reallocation of flood control storage to water supply storage is \$139,160. Total losses with a reallocation from flood control storage would be \$157,770.

The hydropower revenue that would be lost because of the storage reallocation was evaluated on the basis of current rate levels and projected over the new period of analysis. Revenues foregone are based on the current rates of the marketing agency, which in the case of the White River projects is the Southwestern Power Administration (SWPA). The rates in effect as of 13 July 2004 were:

Energy charge:	10.80 mills/kWh
Capacity charge:	\$32.94/kW-year

These values were applied to estimates of annual capacity and energy losses resulting from reallocation of storage to determine the annual value of hydropower revenue foregone.

If hydropower revenues are reduced as a result of a reallocation, the power marketing agency would be credited for the amount of revenues to the Treasury foregone as a result of the reallocation assuming uniform annual repayment. In instances where existing contracts between the power marketing agency and its customer would result in a cost to the Federal Government to

acquire replacement power to fulfill the obligations of contracts, an additional credit to the power marketing agency can be made for such costs incurred during the remaining period of the contracts. Such credits can be made for replacement costs when the costs are incurred and documented by the power marketing agency.

Table 17 reflects the current and cumulative impacts (reduction in yield) to hydropower from the reallocation of flood control storage.

Table 17. Greers Ferry Lake Cumulative Reallocations

User	Yield (MGD)	Storage (AF)	New Cons. Pool Elevation
Community Water Systems Phase I	0.185	228.0	461.19
Community Water Systems Phase II	3.100	4,047.7	461.19
Community Water Systems Phase III	3.500	4,329.7	461.25
Red Apple Inn and Country Club	0.053	65.6	461.26
Thunderbird Country Club	0.045	55.7	461.26
Heber Springs II	2.860	3,554.1	461.37
Tannenbaum Golf Course	0.073	90.3	461.38
Clinton II	1.800	2,179.7	461.44
MAWA	15.000	18,730.0	462.04
Totals	26.616	33,280.8	

Source: Appendix A, Water Supply Storage Reallocation Report.

4.8.2 Lake Ouachita

Flood Control Benefits Foregone. A reallocation from the flood control pool adversely affects project operation for hydropower operation and when the flood control pool becomes full. Therefore, reallocating flood control storage would affect flood control benefits during the rare, low-frequency flood events, because high-frequency events can be held by the remaining flood control storage and released in a fashion that will not cause flooding downstream. At the top of the flood control pool, the lake has a surface area of 48,300 acres. A reallocation of 33,303 AF would reduce the current amount of flood control storage by 5.4 percent.

To measure the value of flood benefits foregone due to this reduction in available flood control storage, an estimate of flood control benefits foregone using annual flood losses prevented since the project was completed was utilized in the preparation of the storage reallocation report. Table 15 of the storage reallocation report lists annual flood damages prevented factored to 2004 price levels using the Index of Prices Received by Farmers for all farm products. This Index was used because the flood damages prevented were predominately agricultural in nature. As Table 14 of the storage reallocation report indicates, there will be \$114,795 estimated average annual revenues foregone by hydropower due to the reallocation of 33,303 AF of flood control storage.

To date, including this reallocation, 39,939.4 AF of flood control storage has been reallocated to water supply storage. The cumulative effects of these reallocations are estimated to reduce the flood control benefits by approximately \$59,060 annually.

Effects on Hydropower Generation. Reallocating 33,303 AF of flood control storage would have an effect on hydropower generation, based on calculations produced by HAC. Hydropower would also be affected by a reduction in secondary energy due to the reduced amount of water to be evacuated from flood control storage. The hydropower firm yield would be reduced by 14.434 mgd due to this reallocation. Although this amount will not be included in the water supply agreement, it is used to estimate the reallocation effects on hydropower. Instead, the results presented in the NWD report were used to estimate the effects of reallocating 33,303 AF from flood control storage.

By using data provided by HAC, Table 13 of the storage reallocation report shows that a reduction in yield of 20.0 mgd would result in benefit losses in the form of lost energy and capacity losses of 4,069 megawatt-hours (MWh) and 1,162 kilowatts (kW) from the flood pool and 5,491 MWh and 1,802 kW from the conservation pool, respectively.

As shown in Table 15 of the storage reallocation report, a net annual reduction in flood control benefits of \$49,550 results from the reallocation of flood control storage to water supply storage. Annual benefits foregone due to the reallocation of flood control storage to water supply storage is \$221,855. Total losses with a reallocation from flood control storage would be \$271,225.

The hydropower revenue that would be lost because of the storage reallocation was evaluated on the basis of current rate levels and projected over the new period of analysis. Revenues foregone are based on the current rates of the marketing agency, which in the case of the White River projects is the Southwestern Power Administration (SWPA). The rates in effect as of 13 July 2004 were:

Energy charge:	10.80 mills/kWh
Capacity charge:	\$32.94/kW-year

These values were applied to estimates of annual capacity and energy losses resulting from reallocation of storage to determine the annual value of hydropower revenue foregone.

If hydropower revenues are reduced as a result of a reallocation, the power marketing agency would be credited for the amount of revenues to the Treasury foregone as a result of the reallocation assuming uniform annual repayment. In instances where existing contracts between the power marketing agency and its customer would result in a cost to the Federal Government to acquire replacement power to fulfill the obligations of contracts, an additional credit to the power marketing agency can be made for such costs incurred during the remaining period of the contracts. Such credits can be made for replacement costs when the costs are incurred and documented by the power marketing agency.

Table 18 reflects the current and cumulative impacts (reduction in yield) to hydropower from the reallocation of flood control storage.

Table 18. Lake Ouachita Cumulative Reallocations

User	Yield (MGD)	Storage (AF)	New Cons. Pool Elevation
North Garland County Regional Water District I	1.0	1,659.1	578.04
North Garland County Regional Water District II	3.0	4,977.3	578.16
MAWA	20.0	33,303.0	578.98
Totals	24.0	39,939.4	

Source: Appendix A, Water Supply Storage Reallocation Report.

Under the No-Action Alternative, it is expected that there will be no disruption to the socioeconomics of the study area. Populations, income, poverty, and economic activity are expected to continue along their current trends. Economic and population growth may be somewhat inhibited by the lack of available water supply.

4.9 RECREATION

As a whole for both lakes, recreational resources should not be impacted by either the proposed action, reallocation from the conservation pool, or the No-Action alternative since water levels will not change perceivably from current conditions. The proposed new water intake pump station at Lake Ouachita will likely have a small exclusion zone surrounding the intake pipe in the lake. This would result in the loss of this area for recreational use. However, in consideration of the amount of area remaining available for recreation use, this loss would be insignificant.

4.10 CUMULATIVE IMPACTS

Cumulative impacts are defined in 40 CFR 1508.7 as those impacts that result from:

...the incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or nonfederal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

Cumulative impacts result when the effects of an action are added to or interact with other effects in a delineated geographic space and within a defined time period. The combination of these effects, and any resulting environmental degradation, is the focus of cumulative impact analysis. The concept of cumulative impacts considers all disturbances, direct or indirect, because cumulative impacts result in the compounding of the effects of all actions over time. Consequently, the cumulative impacts of an action can be viewed as the total effects on a resource, ecosystem, or community of the proposed action and all other actions affecting that item regardless of the entity (i.e., federal, non-federal, or private) responsible for the actions.

Activities that may result in cumulative impacts include, but are not limited to, the addition of materials to the environment from multiple sources, repeated removal of materials or organisms from the environment, and repeated environmental changes over large areas and long periods. Complicated cumulative effects occur when stresses of different types combine to produce a single effect or suite of effects. Large, contiguous habitats can be fragmented, making it difficult for organisms to locate and maintain populations in disjunct habitat fragments. Cumulative impacts may also occur when the timing of perturbations is so close in space that their effects overlap.

In assessing cumulative impacts, consideration should be given to the following items:

- The degree to which the proposed action affects public health and safety;
- Unique characteristics of the geographic area;
- The degree to which the possible effects on the human environment are highly controversial; and
- Whether the action is related to other actions with individually insignificant but cumulatively significant impacts on the environment.

Council on Environmental Quality (CEQ) regulations explicitly state that cumulative impacts must be evaluated and with direct and indirect effects of alternatives in NEPA documents. By mandating the assessment of cumulative impacts, the regulations ensure that the range of actions considered in NEPA documents includes not only the proposed action but also all past, present, or reasonably foreseeable future actions that could contribute to cumulative impacts. With this guidance in mind, the following section discusses actions that have been identified that when combined with the current proposed action of water reallocation from Greers Ferry Lake and Lake Ouachita could have a cumulative effect on the environment.

4.10.1 Geographic and Temporal Boundaries

This analysis begins with the establishment of a set of geographic and temporal boundaries within which the cumulative effects of past, present, and reasonably foreseeable future actions will be assessed. Defining these boundaries is an important process in refining the scope of the cumulative impact assessment.

4.10.1.1 Geographic Boundaries

Greers Ferry Lake- The geographic boundaries for the Greers Ferry Lake project area include the lake itself, the surrounding shoreline, and the upland habitat and communities immediately adjacent to the shoreline.

The Greers Ferry Lake begins at the Greers Ferry Dam, which is located at river mile 79.0 on the Little Red River. The lake is about two miles northeast of Heber Springs, Arkansas, about 50 air miles northeast of Little Rock, Arkansas, and about 115 air miles northwest of Memphis, Tennessee. The lake area contains over 30,000 acres of water surface and extends in a westerly direction upstream from the dam approximately 50 miles into Cleburne and Van Buren counties, Arkansas.

Lake Ouachita - The geographic boundaries for the Lake Ouachita project area include the lake itself, the surrounding shoreline, and the upland habitat and communities immediately adjacent to the shoreline. Additionally, the boundaries include the corridor for the proposed pipeline to transport water from the lake to the City of Hot Springs.

Lake Ouachita begins at the Blakely Mountain Dam, which is located 13 miles northwest of Hot Springs, Arkansas, on the Ouachita River. The surface acreage averages from approximately 40,000 to 48,000 acres throughout the year. The lake extends approximately 35 miles along the old Ouachita River channel in Garland and Montgomery counties, Arkansas.

4.10.1.2 Temporal Boundaries

Greers Ferry Lake - The cumulative impacts from past actions at Greers Ferry Lake involve predominantly the impoundment of the Little Red River and subsequent reallocations of water from the lake. Because significant impacts to natural resources and human communities began with the impoundment of the lake, the temporal boundary for cumulative impact is considered to have begun in 1964. Because the lake was created under the authority of the Water Supply Act of 1958, it will remain an authorized project until Congress determines otherwise. Consequently, the lake's status must be considered indefinite and no future temporal boundary can be established for cumulative impacts assessment.

Lake Ouachita - The cumulative impacts from past actions at Lake Ouachita involve predominantly the impoundment of the Ouachita River and subsequent reallocations of water from the lake. Because significant impacts to area resources began with the impoundment of the lake, the temporal boundary for cumulative impact is considered to have begun in 1953. As with Greer's Ferry Lake, Lake Ouachita was created under the authority of the Water Supply Act of 1958 and will remain an authorized project until Congress determines otherwise. The lake's status must therefore be considered indefinite and no future temporal boundary can be established for cumulative impacts assessment.

4.10.2 Past Actions

4.10.2.1 Past Engineering Projects

Greers Ferry Lake - The only significant engineering project undertaken for Greers Ferry Lake was the creation of the lake by the construction of Greers Ferry Dam and the impoundment of the Little Red River, which was completed in July 1964. The creation of Greers Ferry Lake altered aquatic and terrestrial habitat in the project area, converting the area within the lake's

footprint from a riverine to a lacustrine environment. The creation of the lake significantly transformed environmental and economic conditions in the region. Human communities and industries in the footprint of the lake were forced to relocate. Cultural resources within the lake footprint were inundated. The main stem of the Little Red River was transformed from a lotic (free-flowing) aquatic habitat to a lentic (static) aquatic habitat. Additionally, the surrounding uplands were likewise converted to a lotic aquatic habitat. This habitat conversion restricted the habitat diversity in the region but increased the available aquatic habitat, resulting in the proliferation of a number of game fish species. The increase in fish species together with the increased area for water sports led to an increase in recreation opportunities and activities in the region, which in turn led to the growth of communities to support recreation at the lake. Therefore, the creation of Greer's Ferry Lake resulted in a net benefit to socioeconomic conditions in the project area.

Lake Ouachita- The only significant engineering project at Lake Ouachita was the creation of the lake by the construction of Blakely Mountain Dam and the impoundment of the Ouachita River, which was completed in the spring of 1953. As with Greers Ferry Lake, the creation of Lake Ouachita altered aquatic and terrestrial habitat in the project area, converting lotic aquatic habitat and terrestrial upland and wetland habitat to lentic aquatic habitat. Human communities and industries within the lake footprint were forced to relocate, and cultural resources within the footprint were inundated. The increase in available aquatic habitat fostered the proliferation of game fish species and an increase in water sport activities. The increase in recreation opportunities and activities in the region then led to the growth of communities around the lake, resulting ultimately in a net benefit to socioeconomic conditions in the project area.

4.10.2.2 Past Water Reallocations

Greers Ferry Lake- There have been numerous M&I water supply reallocations from Greers Ferry Lake since the project's inception. The USACE has reallocated 11,586 AF within its authority and 4,550 AF by direction of Congress for M&I water supply storage at Greers Ferry Lake. A summary of past water supply reallocations is provided below.

Past water allocations/reallocations for the Community Water System are as follows:

- The initial water supply agreement with the Community Water System (CWS) was approved by the Assistant Secretary of the Army for Civil Works on 29 April 1971. The agreement provided that the user shall have the right to utilize 0.0314 percent of the storage space in the project between elevations 461 and 435 feet above National Geodetic Vertical Datum (NGVD), estimated to be 225 AF. Current yield calculations indicate that 229 AF of storage will provide 0.185 mgd.
- A water supply agreement with CWS was approved by the Assistant Secretary of the Army for Civil Works on 17 February 1995. This second agreement with CWS provided that the user shall have the right to utilize 0.524 percent of the storage space in the project between elevations 461.19 and 435.0 feet NGVD, estimated to be

3818.8 AF. This reallocation of flood control storage to conservation storage for water supply use brought CWS's total storage to 4,047.8 AF.

- CWS signed a third reallocation agreement in September 1998 for storage in Greers Ferry Lake to provide for the expansion of their facilities to serve parts of White and Lonoke counties. Their desired yield was 3.5 million gallons per day or 4,329.7 AF of storage. This amount of storage is 0.59 percent of the usable storage between elevations 461.26 and 435.0 feet NGVD. Reallocations of storage for water supply use bring CWS's total storage to 8,377.4 AF.

Other past water allocations/reallocations for Greers Ferry Lake are as follows:

- Construction of the Greers Ferry Dam Project, which was completed in 1964, inundated the water intake structure of the city of Heber Springs. Under Contract DA-03-CIVENG-59-184, the city's 0.835-mgd water supply pump station was relocated from the bank of the Little Red River to a point above elevation 491 to allow for construction of the project. A provision of the relocation contract allows Heber Springs to perpetually withdraw 0.835 mgd without additional cost to the city. The relocation contract did not specify a storage amount, but subsequent computations have determined the required storage for this yield is 1,033 AF.
- An initial water supply agreement with the city of Clinton, Arkansas was approved by the Assistant Secretary of the Army for Civil Works on 4 November 1970. The agreement provided that the user shall have the right to utilize 0.126 percent of the storage space in the project between elevations 461 and 435 feet NGVD, estimated to be 913 AF.
- The Little Rock District Engineer executed a water supply agreement with the RAICC on 17 June 1996. The agreement provided that the user shall have the right to utilize 65.6 AF or 0.004 percent of the usable storage space in the Greers Ferry Lake project between elevations 435.00 and 487.00 feet NGVD.
- Thunderbird Country Club, Incorporated signed a water supply agreement for 55.7 AF on 10 March 1998.
- Silver Ridge Development, Incorporated signed a water supply agreement for 90.306 AF on 14 November 1998.

Lake Ouachita - Storage for water supply has been reallocated only once since the construction of Blakely Mountain Dam – Lake Ouachita. This water supply agreement was executed on February 14, 1996, between the North Garland County Regional Water District (NGCRWD) and the United States Government. The agreement was for 1,575 AF (current yield analysis data requires 1,659 AF to provide 1 mgd) of storage to provide a yield of 1 mgd.

4.10.3 Present Actions

4.10.3.1 Current and Pending Engineering Projects

Greers Ferry Lake – Community Water System Public Water Authority of the State of Arkansas (PWA) and Lonoke/White PWA have obtained a permit to construct an intake structure on the southern portion of Greers Ferry Lake near Cove Creek. The intake will initially handle seven million gallons per day (mgd) peak flow and be capable of 30 mgd. The entire project consists of an intake structure, treatment plant and 60 miles of transmission line to various communities in Lonoke and White counties Arkansas.

Lake Ouachita – A new raw water intake station and force main from Lake Ouachita will be routed within the southern border of the Ouachita National Forest except for a small segment that parallels an existing cross-country pipeline route to Lake Winona. The route roughly parallels a route that was established in the 1975 report titled *Central Arkansas Water Study* prepared for the Mid-Arkansas Regional Water Distribution District. This line would branch to provide Hot Springs Village with raw water service. The branch could terminate at Lake Lago or the WTP for Hot Springs Village.

4.10.3.2 Current and Pending Water Reallocations

Greers Ferry Lake – The reallocation requested by MAWA for 18,730 AF would not surpass the USACE reallocation limit of 50,000 AF. Although the reallocation authority is for storage and not safe yield, the intent and actual calculations are based on using the safe yield requested by the customer to determine the amount of storage that will provide that yield. As stated in the Water Supply Handbook, IWR Report 96-PS-4 (Revised), page 2-3, "Repayment agreements for storage space will base the amount of storage to be provided on the yield required by the non-Federal sponsor."

At the writing of the current storage reallocation report, there are three reports pending approval for reallocation from storage in Greers Ferry Lake: (1) the City of Heber Springs (Congressional Flood Pool Reallocation, 3,525.135 AF); (2) the City of Clinton (Discretionary Flood Pool Reallocation, 2,161.952 AF; and (3) White River Minimum Flows (Congressional Reallocation, pool yet to be determined). Table 19 lists the current and pending water users at Greers Ferry Lake.

Table 19. Current and Pending Water Supply Users at Greers Ferry Lake

Water Supply User	Current Yield MGD	Current Yield AF
MAWA	15.000	18,730.000
Searcy County (pending)	4.075	5,041.060
Clinton (pending)	1.762	2,179.717
Tannenbaum	0.073	90.306
City of Heber Springs (pending)	2.873	3,554.102

Water Supply User	Current Yield MGD	Current Yield AF
Thunderbird	0.045	55.668
CWS3	3.500	4,329.745
Red Apple Inn	0.053	65.565
CWS2	3.087	3,818.835
CWS1	0.185	228.858
Clinton	0.738	912.958
City of Heber Springs	0.835	1,032.953
Hydropower	573.569	709,545.575
Total	605.795	749,411.392

Source: Appendix A, Water Supply Storage Reallocation Report.

Lake Ouachita – Currently, a second request by the NGCRWD for 3 mgd is being processed by the Vicksburg District. This will require the reallocation of about 4,977.261 AF of storage. Based on the past reallocation, it is assumed that the second reallocation request would be made from the flood control pool, and after dependable yield mitigation storage is accounted for, 33,303 AF would be available for MAWA. A flood control pool reallocation would allow MAWA to purchase 33,303 AF of storage in Lake Ouachita.

This reallocation is requested by MAWA for 33,303 AF and would not surpass the USACE reallocation limit of 50,000 AF. As with Greers Ferry Lake, the intent and actual calculations for Lake Ouachita are based on using the safe yield requested by the customer to determine the amount of storage that will provide that yield.

4.10.4 Reasonably Foreseeable Future Actions

4.10.4.1 Future MAWA Water Delivery System

Currently, MAWA intends to use the existing infrastructure to supply water from Greers Ferry Lake and Lake Ouachita (understanding that the new pump station and pipeline for the city of Hot Springs is included in this documentation as part of the current action). No additional treatment facilities or linework are currently planned and are, therefore, not considered part of this reallocation.

With the population of central Arkansas area expected to continue increasing at the current rate, it is reasonable to expect that MAWA would seek additional storage at some future time. Another reallocation would most likely require additional infrastructure (pumping plants, treatment facilities, pipelines, etc.).

Potential impacts from future infrastructure will require detailed analysis and documentation of compliance with federal laws such as the NEPA, Endangered Species Act (ESA), and the National Historic Preservation Act (NHPA), among others, before any construction begins, if any

federal agencies are involved or any federal funds are utilized to plan or construct these improvements.

Potential impacts, depending on the amount of the reallocation of storage and/or the exact location of water treatment facilities, pipeline routes, etc. could have impacts on most of the resources identified in this EA, such as land use, water resources, biological resources, cultural resources, and floodplains and wetlands. Permits such as that required under Section 404 of the Clean Water Act for impact to wetlands would almost certainly be required for any pipeline crossings of streams and other water bodies.

4.10.5 Cumulative Impacts Assessment

Table 20 summarizes the cumulative impacts resulting from the proposed action and any reasonably foreseeable future actions related to the proposed action. Cumulative impacts are assessed individually for each resource area identified in Section 3.0 above.

4.10.6 Summary and Conclusion

The most significant environmental impacts, in consideration of cumulative effects, undoubtedly occurred at the time of construction of the Blakely Mountain and Greers Ferry dams and the creation of Lake Ouachita and Greers Ferry Lake in the 1950s and 1960s, respectively.

Future reallocations, depending on size, areas impacted, and design features, could result in adverse cumulative impacts (at least potentially) to almost all of the resources evaluated above. Minor temporary impacts to biological and water resources and soils will likely result from the construction of the new pump station and pipeline. Potential impacts to cultural resources could result from pipeline and pump station construction, should any such resources be disturbed by construction activities. Minor permanent cumulative impacts to air quality, the noise environment, and HTRW sources would occur should diesel power be selected for the pump.

With the increase in availability of water from municipal and industrial use will likely come an increase in development and population in the project areas. These actions could result in minor adverse impacts to land use, water resources, cultural resources, biological resources, air quality, and the noise environment. However, beneficial impacts may occur to the socioeconomic structure and recreational opportunities and facilities as a result of the proposed action and reasonably foreseeable future actions.

Table 20. Cumulative Impacts Assessment

Resource Area	Past Actions	Proposed Action Reallocation/ Present Actions	Reasonably Foreseeable Future Actions	Cumulative Impact
Land Use	These actions resulted in the removal of some lands from agricultural or industrial use due to submersion. Some lands were also removed by increased urbanization of lands surrounding the lakes.	Potential increase in urbanization due to availability of additional M&I water supply.	Potential increase in urbanization due to availability of additional M&I water supply.	Lands inundated by the formation of the lakes have been eliminated from human use. Otherwise, no change from current conditions.
Topography, Physiography, and Soils	Submersion of upland terrestrial soils from lake creation converted upland soils to aquatic soils. Some area soils were converted to urban environment because of an increase in urbanization resulting from additional M&I water supply.	Potential conversion of soils to urban environment could result if urbanization increases because of additional M&I water supply. Minor impacts to area soils in the footprint of the proposed pipeline and pump station would result from construction of said structures.	Potential conversion of soils to urban environment could result if urbanization increases because of additional M&I water supply.	Soils inundated by the formation of the lakes have been converted from terrestrial to aquatic soils. Some soils in the vicinity of the lakes have been converted to urban environment because of increased urbanization of areas surrounding the lakes.
Water Resources	These actions have increased the quantity of water available in the project areas by creating Greers Ferry Lake and Lake Ouachita. Increase in water needs from increase in urbanization due to availability of M&I water supply.	These actions have reduced, to a minor amount, the quantity of water in Greers Ferry Lake and Lake Ouachita available for other purposes. Potential increase in future water needs from potential increase in urbanization due to availability of additional M&I water supply. Temporary local increase in turbidity in lake and stream waters due to intake and pipeline construction activities. Stream and/or wetlands pipeline crossings may require Section 404 permits.	Future pipeline crossings of streams and other water bodies could potentially require Section 404 permits. Temporary local increase in turbidity in lake and/or stream waters due to construction activities.	Congressional approval may be required for future water reallocations at Greers Ferry Lake or Lake Ouachita should they exceed the Corps' limit of 50,000 AF.
Cultural Resources	Submersion of some cultural resources caused by increase in water levels resulting from lake creation.	No adverse effects anticipated from water reallocations due to no change in water levels. Potential adverse effect due to construction depending upon WTP locations and route of pipelines. Cultural resources investigations would be required to obtain necessary clearances prior to construction.	Potential adverse effect due to construction depending upon future WTP locations and route of pipelines. Cultural resources investigations would be required to obtain necessary clearances prior to construction. Possibility of minor cultural resource disturbance from potential increase in urbanization due to availability of additional M&I water supply.	Original formation of lakes likely resulted in loss of some cultural resources. Cultural resources investigations and mitigation would negate any impacts to cultural resources due to the construction of the pump station and pipeline.
Biological Resources	Habitat disturbance resulting from the conversion of lotic aquatic and terrestrial upland and wetland habitat to lentic aquatic habitat. Increase in aquatic habitat and, in particular, fishery resources.	Possibility of minor habitat disturbance from potential increase in urbanization due to availability of additional M&I water supply. Water intake and pipeline construction will result in minor habitat disturbance and loss. Coordination with state and federal agencies would insure no significant impacts.	Possibility of minor habitat disturbance from future water treatment plant and pipeline construction. Coordination with state and federal agencies would insure no significant impacts to valuable habitat.	Original formation of lakes converted significant amounts of land from wildlife habitat to aquatic habitat. Only minor construction related habitat disturbance due to new water intake and pipeline. No endangered or threatened species would be impacted.

Table 20 (cont'd). Cumulative Impacts Assessment

Resource Area	Past Actions	Proposed Action Reallocation/ Present Actions	Reasonably Foreseeable Future Actions	Cumulative Impact
HTRW	None	None	HTRW investigations would be performed prior to construction.	None, currently.
Air Quality	Increases in air emissions due to additional thermal (coal, etc.) generation of electricity resulting from a small loss in hydropower generation.	Minor increases in air emissions due to additional thermal (coal, etc.) generation of electricity resulting from a small loss in hydropower generation.	Temporary increase in dust during construction. Temporary increase in emissions from construction equipment.	Potential minor increase in emissions if other sources of electrical generation are required to mitigate hydropower losses.
Noise	Temporary increases in noise emissions from construction activities.	Minor temporary increase due to construction of new pump station and pipelines.	None	None
Socio-economic	Creation of significant amount of hydropower benefits. Benefit to local growth potential because of a reliable water supply.	Loss of an insignificant amount of hydropower benefits. Benefit to local growth potential because of a reliable water supply.	Benefit to local economic growth potential because of a reliable water supply distribution.	Cumulative impacts to hydropower production could result from future water reallocations as a result of decreased storage. Whether this impact would be significant depends upon the size of future reallocations and is in fact regulated by the authority given to the Chief of Engineers in paragraph 4-32d(1) of ER 1105-2-100, Policy and Planning, which states that the Commander, USACE is authorized to reallocate up to 15 percent or 50,000 AF, whichever is less, of the total storage capacity allocated to all authorized project purposes, provided the reallocation has no severe effect on other authorized purposes and will not involve major structural or operational changes.
Recreation	No adverse impacts to any recreation resources.	No significant adverse impacts to any recreational resources.	No significant adverse impacts to any recreational resources.	No adverse cumulative impacts to recreation.

5.0 CONCLUSIONS

This EA has evaluated the proposed action of reallocating storage from Greers Ferry Lake and Lake Ouachita to water supply. This EA considered and evaluated the reallocation of storage from the flood control pool, the conservation pool (hydropower pool) and the No-Action Alternative. Consideration was given to alternatives such as water withdrawal from groundwater, existing surface water sources, streams, and construction of a new water supply lake. These alternatives were not viable either economically or environmentally and would not meet the needs of the sponsor. To the extent possible at this early stage of planning, expected impacts from the construction of a new raw water intake pump facility and delivery pipeline have been evaluated as part of the proposed action.

The proposed action, the reallocation from the flood control pool, results in fewer potentially adverse impacts to the environment than the other alternatives presented in this EA. The proposed action would have a slight flood damage benefit reduction, but that reduction is not substantial when the existing current reductions are considered. There have been no significant impacts to the natural or human environment identified as a result of this assessment of the proposed Mid-Arkansas Water Alliance Water Supply Storage Reallocation.

6.0 COORDINATION

The following Agencies and individuals were coordinated with during the preparation of this EA:

Allan Mueller, Arkansas Field Supervisor, U.S. Fish and Wildlife Service, Arkansas Field Office, 1500 Museum Road, Suite 105, Conway, AR 72032

Michael P. Jansky, Regional Environmental Review Coordinator, U.S. Environmental Protection Agency, Region VI, 6EN-XP, 1445 Ross Avenue, Suite 1200, Dallas, TX 75202-2733

Ken Gruenwald, Director, Arkansas Historic Preservation Program, 1500 Tower Building, 323 Center Street, Little Rock, AR 72201

George Rheinhardt, Arkansas Forestry Commission, 3821 W. Roosevelt Road, Little Rock, AR 72204-6396

Marcus C. Devine, Director, Arkansas Department of Environmental Quality, Water Division, 8001 National Drive, P.O. Box 8913, Little Rock, AR 72219-8913

Scott Henderson, Director, Arkansas Game and Fish Commission, 2 Natural Resources Drive, Little Rock, AR 72205

Karen Smith, Director, Arkansas Natural Heritage Commission, 1500 Tower Building, 323 Center Street, Little Rock, AR 72201

John E. Terry, District Chief, U.S. Geological Survey, 401 Hardin Road, Little Rock, AR 72211

Mike Nedd, State Director, Bureau of Land Management, 7450 Boston Boulevard, Springfield, VA 22153

Michael Deihl, Administrator, Southwestern Power Administration, One West Third Street, Room 1400, Tulsa, OK 74103-3519

Ted Coombes, Executive Director, Southwestern Power Resources Association, P.O. Box 471827, Tulsa, OK 74147

Ron Castleman, AR Regional Director, FEMA, Region VI, Federal Regional Center, 800 North Loop 288, Denton, TX 76210

Earl Smith, Chief, Arkansas Soil and Water Conservation Commission, Water Resource Management Division, 101 E. Capitol, Suite 350, Little Rock, AR 72201

Richard W. Davies, Executive Director, Department of Parks and Tourism, #1 Capitol Mall, Rm 4A-900, Little Rock, AR 72201

Faye Boozman, Director, Department of Health, 4815 West Markham, Little Rock, AR 72205

Kalven L. Trice, State Conservationist, U.S. Department of Agriculture, Natural Resources Conservation Service, 700 West Capitol Ave., Room 3416, Federal Building, Little Rock, AR 72201

Steve Filipek, State Stream Team Coordinator, Arkansas Game and Fish Commission, 915 Sevier St., Benton, AR 72015

Earnest Quintana, Regional Director, National Park Service, Midwest Regional Office, 1709 Jackson St, Omaha, NE 68102

7.0 LIST OF PREPARERS

Jim Ellis, NEPA Specialist, Environmental Section, Planning, Environmental, and Regulatory Division, U. S. Army Corps of Engineers, Little Rock District

Johnathan Long, P.E., Study Manager, Planning Section, Planning, Environmental, and Regulatory Division, U. S. Army Corps of Engineers, Little Rock District

Michael Collis, Economist, Environmental Section, Planning, Environmental, and Regulatory Division, U. S. Army Corps of Engineers, Little Rock District

Chris Davies, Archeologist, Environmental Section, Planning, Environmental, and Regulatory Division, U. S. Army Corps of Engineers, Little Rock District

Patrick MacDanel, Environmental Department, G.E.C., Inc., Baton Rouge, Louisiana

Joseph Wyble, Environmental Department, G.E.C., Inc., Baton Rouge, Louisiana

Cade E. (Eddy) Carter, P.E., Environmental Department, G.E.C., Inc., Baton Rouge, Louisiana

Appendix A

CORRESPONDENCE



FEMA

**FEDERAL EMERGENCY MANAGEMENT AGENCY
REGION VI
MITIGATION DIVISION**

PUBLIC NOTICE REVIEW

We have no comments to offer We offer the following comments

**WE WOULD REQUEST THAT THE LOCAL
FLOODPLAIN ADMINISTRATOR BE CONTACTED FOR
THE REVIEW AND POSSIBLE PERMIT REQUIREMENTS
FOR THIS PROJECT**

REVIEWER _____ MITIGATION DIVISION

DATE 4-20-06

United States Department of Agriculture



Natural Resources Conservation Service
Room 3416, Federal Building
700 West Capitol Avenue
Little Rock, Arkansas 72201-3225

MAY 11 2000

Mr. Patrick S. MacDanel
Gulf Engineers & Consultants
P.O. Box 8410
Baton Rouge, Louisiana 70809-1910

Dear Mr. MacDanel:

This letter is in response to your request for comments on the improvements for Mid-Arkansas Water Alliance, Water Supply Storage Reallocation on Greers Ferry Lake and Lake Quachita, Arkansas. Since these changes will not result in a noticeable change in lake volume or water levels, there are no concerns about the usage of the water. The pipeline planned at Lake Ouachita is mainly through hilly areas that are not Prime Farmland or through areas that no longer meet the definition due to development. Practices that help prevent erosion should be considered when installing this pipeline. Attached is copy of for CPA-106 for your use.

Should you have any questions or need additional information, please call me at (501) 301-3172.

Sincerely,

A handwritten signature in cursive script that reads "Edgar Mersiofsky".

EDGAR P. MERSIOFSKY
Assistant State Soil Scientist

Attachments

**FARMLAND CONVERSION IMPACT RATING
FOR CORRIDOR TYPE PROJECTS**

PART I (To be completed by Federal Agency)		3. Date of Land Evaluation Request 4/11/06	4. Sheet 1 of <u>1</u>
1. Name of Project Mid-Arkansas Water Alliance		5. Federal Agency Involved USACE-LRD	
2. Type of Project Rainwater Transmission Main		6. County and State Garland County, Arkansas	
PART II (To be completed by NRCS)		1. Date Request Received by NRCS	2. Person Completing Form
3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form). YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>		4. Acres Irrigated Average Farm Size	
5. Major Crop(s)	6. Farmable Land in Government Jurisdiction Acres: _____ % _____		7. Amount of Farmland As Defined in FPPA Acres: _____ % _____
8. Name Of Land Evaluation System Used	9. Name of Local Site Assessment System	10. Date Land Evaluation Returned by NRCS	

PART III (To be completed by Federal Agency)	Alternative Corridor For Segment			
	Corridor A	Corridor B	Corridor C	Corridor D
A. Total Acres To Be Converted Directly				
B. Total Acres To Be Converted Indirectly, Or To Receive Services				
C. Total Acres In Corridor	0	0	0	0

PART IV (To be completed by NRCS) Land Evaluation Information				
A. Total Acres Prime And Unique Farmland				
B. Total Acres Statewide And Local Important Farmland				
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted				
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value				

PART V (To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)

PART VI (To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))	Maximum Points				
1. Area in Nonurban Use	15				
2. Perimeter in Nonurban Use	10				
3. Percent Of Corridor Being Farmed	20				
4. Protection Provided By State And Local Government	20				
5. Size of Present Farm Unit Compared To Average	10				
6. Creation Of Nonfarmable Farmland	25				
7. Availability Of Farm Support Services	5				
8. On-Farm Investments	20				
9. Effects Of Conversion On Farm Support Services	25				
10. Compatibility With Existing Agricultural Use	10				
TOTAL CORRIDOR ASSESSMENT POINTS	160	0	0	0	0

PART VII (To be completed by Federal Agency)					
Relative Value Of Farmland (From Part V)	100				
Total Corridor Assessment (From Part VI above or a local site assessment)	160	0	0	0	0
TOTAL POINTS (Total of above 2 lines)	260	0	0	0	0

1. Corridor Selected:	2. Total Acres of Farmlands to be Converted by Project:	3. Date Of Selection:	4. Was A Local Site Assessment Used? YES <input type="checkbox"/> NO <input type="checkbox"/>
-----------------------	---	-----------------------	--

5. Reason For Selection:

Signature of Person Completing this Part: _____ DATE _____

NOTE: Complete a form for each segment with more than one Alternate Corridor

CORRIDOR - TYPE SITE ASSESSMENT CRITERIA

The following criteria are to be used for projects that have a linear or corridor - type site configuration connecting two distant points, and crossing several different tracts of land. These include utility lines, highways, railroads, stream improvements, and flood control systems. Federal agencies are to assess the suitability of each corridor - type site or design alternative for protection as farmland along with the land evaluation information.

(1) How much land is in nonurban use within a radius of 1.0 mile from where the project is intended?

More than 90 percent - 15 points
90 to 20 percent - 14 to 1 point(s)
Less than 20 percent - 0 points

(2) How much of the perimeter of the site borders on land in nonurban use?

More than 90 percent - 10 points
90 to 20 percent - 9 to 1 point(s)
Less than 20 percent - 0 points

(3) How much of the site has been farmed (managed for a scheduled harvest or timber activity) more than five of the last 10 years?

More than 90 percent - 20 points
90 to 20 percent - 19 to 1 point(s)
Less than 20 percent - 0 points

(4) Is the site subject to state or unit of local government policies or programs to protect farmland or covered by private programs to protect farmland?

Site is protected - 20 points
Site is not protected - 0 points

(5) Is the farm unit(s) containing the site (before the project) as large as the average - size farming unit in the County ?

(Average farm sizes in each county are available from the NRCS field offices in each state. Data are from the latest available Census of Agriculture, Acreage or Farm Units in Operation with \$1,000 or more in sales.)
As large or larger - 10 points
Below average - deduct 1 point for each 5 percent below the average, down to 0 points if 50 percent or more below average - 9 to 0 points

(6) If the site is chosen for the project, how much of the remaining land on the farm will become non-farmable because of interference with land patterns?

Acreage equal to more than 25 percent of acres directly converted by the project - 25 points
Acreage equal to between 25 and 5 percent of the acres directly converted by the project - 1 to 24 point(s)
Acreage equal to less than 5 percent of the acres directly converted by the project - 0 points

(7) Does the site have available adequate supply of farm support services and markets, i.e., farm suppliers, equipment dealers, processing and storage facilities and farmer's markets?

All required services are available - 5 points
Some required services are available - 4 to 1 point(s)
No required services are available - 0 points

(8) Does the site have substantial and well-maintained on-farm investments such as barns, other storage building, fruit trees and vines, field terraces, drainage, irrigation, waterways, or other soil and water conservation measures?

High amount of on-farm investment - 20 points
Moderate amount of on-farm investment - 19 to 1 point(s)
No on-farm investment - 0 points

(9) Would the project at this site, by converting farmland to nonagricultural use, reduce the demand for farm support services so as to jeopardize the continued existence of these support services and thus, the viability of the farms remaining in the area?

Substantial reduction in demand for support services if the site is converted - 25 points
Some reduction in demand for support services if the site is converted - 1 to 24 point(s)
No significant reduction in demand for support services if the site is converted - 0 points

(10) Is the kind and intensity of the proposed use of the site sufficiently incompatible with agriculture that it is likely to contribute to the eventual conversion of surrounding farmland to nonagricultural use?

Proposed project is incompatible to existing agricultural use of surrounding farmland - 10 points
Proposed project is tolerable to existing agricultural use of surrounding farmland - 9 to 1 point(s)
Proposed project is fully compatible with existing agricultural use of surrounding farmland - 0 points



The Department of Arkansas Heritage

Mike Huckabee, Governor
Cathie Matthews, Director

Arkansas Arts Council

Arkansas Natural Heritage Commission

Delta Cultural Center

Historic Arkansas Museum

Mosaic Templars Cultural Center

Old State House Museum



Arkansas Historic Preservation Program

1500 Tower Building
323 Center Street
Little Rock, AR 72201
(501) 324-9880
fax: (501) 324-9184
tdd: (501) 324-9811

e-mail: info@arkansaspreservation.org
website:
www.arkansaspreservation.org

An Equal Opportunity Employer



May 10, 2006

Mr. Patrick S. MacDanel
Senior Environmental Scientist/Wildlife Biologist
Gulf Engineers & Consultants
Post Office Box 84010
Baton Rouge, Louisiana 70884-4010

RE: Multi County - General
Section 106 Review - COE
Water Supply Reallocation, Greer's Ferry Lake and Lake Ouachita
AHPP Tracking No: 59920

Dear Mr. MacDanel:

My staff has reviewed the documentation submitted regarding the above referenced undertaking. It is our opinion that reallocation of water storage at Greers Ferry Lake and Lake Ouachita will have no adverse effect on historic properties. Although the conservation pool at each lake will be slightly higher, we do not believe that the effects of shoreline erosion will be worsened and areas previously unaffected will remain so.

With regard to the construction of the intake structure and pipeline at Lake Ouachita, our records do not show any cultural resources within this area. However, archeological sites are known to occur in similar environments elsewhere. If cultural remains, such as Native American pottery, stone tools, bones, old bottles or china are discovered during project implementation, work in the area of discovery should stop and this office should be contacted immediately.

Thank you for the opportunity to comment on this undertaking. If you have any questions, please contact Steve Imhoff of my staff at (501) 324-9880.

Sincerely,

Ken Grunewald
Deputy State Historic Preservation Officer

cc: Mr. Robert Cast, Caddo Tribe of Oklahoma
Mr. Christopher G. Davies, Little Rock District Corps of Engineers
Dr. Ann M. Early, Arkansas Archeological Survey
Mr. Anthony Whitehorn, Osage Nation
Ms. Carrie V. Wilson, Quapaw Tribe of Oklahoma

Arkansas Game and Fish Commission

2 Natural Resources Drive Little Rock, Arkansas 72205

Scott Henderson
Director

Mike Gibson
Deputy Director



David Goad
Deputy Director

Loren Hitchcock
Deputy Director

April 26, 2006

Patrick S. MacDanel
Gulf Engineering and Consultants
P. O. Box 84010
Baton Rouge, LA 70888-4010

Dear Mr. MacDanel:

Biologists from our agency have reviewed the Programmatic Environmental Assessment evaluating water supply storage reallocation at Greers Ferry Lake and Lake Ouachita, which are located in Van Buren, Cleburne, Montgomery, and Garland Counties, Arkansas.

Our agency has no objections to the proposed project; however, we would like to conduct a separate review of the proposed pipeline and intake structure before construction is started.

Sincerely,

A handwritten signature in blue ink that reads "Michael D. Gibson".

Michael D. Gibson
Deputy Director



A R K A N S A S
Department of Environmental Quality

4/24/05

Mr. Patrick S. MacDanel
Gulf Engineers & Consultants
P.O. Box 84010
Baton Rouge, LA 70884-4010

RE: Preparation of a Programmatic Environmental Assessment
For Mid-Arkansas Water Alliance, Water Supply Storage Reallocation
Greers Ferry Lake and Lake Ouachita, Arkansas

Dear Mr. MacDanel:

The Arkansas Department of Environmental Quality has reviewed the information submitted in the referenced project. We have no comments or concerns, at this time.

If you have any questions or concerns, please contact me at (501) 682-0947.

Sincerely,

A handwritten signature in cursive script that reads "Nathaniel P. Nehus".

Nathaniel P. Nehus
Chief Ecologist



Arkansas Department of Health and Human Services



Division of Health

Paul K. Halverson, DrPH, Director

Engineering Section – Environmental Health Branch – Center for Local Public Health

Postal Address P. O. Box 1437, Slot H-37 Little Rock, AR 72203-1437 1-501-661-2623 TDD: 1-800-234-4399
Physical Address for UPS or Fedex 4815 West Markham St., Slot H-37 Little Rock, AR 72205 Fax: 1-501-661-2032

June 5, 2006

Patrick S. MacDanel
Gulf Engineers & Consultants
P.O. Box 84010
Baton Rouge, LA 70844-4010

Re: Mid-Arkansas Water Alliance, Water Supply Storage Reallocation
Greers Ferry Lake and Lake Ouachita

Dear Mr. MacDanel,

This is in response to your letter of April 6 to former Department of Health Director Dr. Faye Boozman regarding the reallocation of storage at Greers Ferry Lake and Lake Ouachita for the Mid-Arkansas Water Alliance. The reallocation request is for additional municipal and industrial water supply storage amounting to 15 MGD in Greers Ferry Lake and 20 MGD Lake Ouachita.

The Arkansas Department of Health & Human Services (ADHHS) supports the MAWA request as being in accord with previous water supply master plans for the central Arkansas area, and aligned with state efforts to promote regionalization of water sources, treatment, and distribution. That support is subject to the following conditions.

1. Any proposed water supply intake site on either lake must be approved in advance by the ADHHS.
2. ADHHS regulations regarding a water supply intake will require restrictions on lake uses in the immediate area of the intake (300 ft radius) as well as restrictions on the use of the property adjacent to the intake.
3. All engineering plans and specifications for the proposed project must be approved in advance by the ADHHS.

Should you have any questions regarding these comments, feel free to contact our office. Please be advised that the Department of Health and the Department of Human Services were merged last year and correspondence should be directed to the above address.

Sincerely,

Robert Hart, P.E., Chief Engineer
Engineering Section

Cc: Charles McGrew, Center for Local Public Health
Mid-Arkansas Water Alliance, 501 West Markham Street, Suite B, Little Rock, AR 72201

Appendix B

ENVIRONMENTAL DATABASE REPORTS

Greers Ferry Lake



Banks Information Solutions, Inc.

Environmental FirstSearch™ Report

TARGET PROPERTY:

GREERS FERRY LAKE

HIGDEN AR 72067

Job Number: 0620-02

PREPARED FOR:

GEC, INC.

P.O. Box 84010

Baton Rouge, LA 70884

06-20-06



Tel: (512) 478-0059

Fax: (512) 478-1433

Environmental FirstSearch

Search Summary Report

Target Site: GREERS FERRY LAKE
HIGDEN AR 72067

FirstSearch Summary

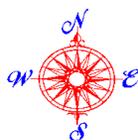
Database	Sel	Updated	Radius	Site	1/8	1/4	1/2	1/2>	ZIP	TOTALS
NPL	Y	04-10-06	1.00	0	0	0	0	0	0	0
CERCLIS	Y	03-08-06	0.50	0	0	0	0	-	1	1
NFRAP	Y	03-08-06	0.50	0	0	0	0	-	0	0
RCRA TSD	Y	04-16-06	0.50	0	0	0	1	-	0	1
RCRA COR	Y	04-16-06	1.00	0	0	0	1	0	0	1
RCRA GEN	Y	04-16-06	0.25	0	0	1	-	-	4	5
ERNS	Y	12-31-05	0.15	1	0	0	-	-	2	3
State Sites	Y	NA	1.00	0	0	0	0	0	0	0
SWL	Y	12-09-04	0.50	0	0	0	0	-	1	1
REG UST/AST	Y	05/15/06	0.25	3	5	3	-	-	20	31
Leaking UST	Y	05/15/06	0.50	3	1	0	0	-	0	4
- TOTALS -				7	6	4	2	0	28	47

Notice of Disclaimer

Due to the limitations, constraints, inaccuracies and incompleteness of government information and computer mapping data currently available to Banks Information Solutions, Inc., certain conventions have been utilized in preparing the locations of all federal, state and local agency sites residing in Banks Information Solutions, Inc.'s databases. All EPA NPL and state landfill sites are depicted by a rectangle approximating their location and size. The boundaries of the rectangles represent the eastern and western most longitudes; the northern and southern most latitudes. As such, the mapped areas may exceed the actual areas and do not represent the actual boundaries of these properties. All other sites are depicted by a point representing their approximate address location and make no attempt to represent the actual areas of the associated property. Actual boundaries and locations of individual properties can be found in the files residing at the agency responsible for such information.

Waiver of Liability

Although Banks Information Solutions, Inc. uses its best efforts to research the actual location of each site, Banks Information Solutions, Inc. does not and can not warrant the accuracy of these sites with regard to exact location and size. All authorized users of Banks Information Solutions, Inc.'s services proceeding are signifying an understanding of Banks Information Solutions, Inc.'s searching and mapping conventions, and agree to waive any and all liability claims associated with search and map results showing incomplete and or inaccurate site locations.



Environmental FirstSearch

1 Mile Radius from Area
Single Map:

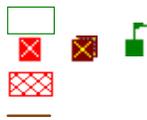


GREERS FERRY LAKE , HIGDEN AR 72067



Source: 2002 U.S. Census TIGER Files

- Area Polygon
- Identified Site, Multiple Sites, Receptor
- NPL, Brownfield, Solid Waste Landfill (SWL) or Hazardous Waste
- Railroads





Environmental FirstSearch

.5 Mile Radius from Area
ASTM: CERCLIS, NFRAP, RCRATSD, LUST, SWL



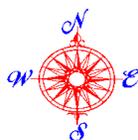
GREERS FERRY LAKE , HIGDEN AR 72067



Source: 2002 U.S. Census TIGER Files

- Area Polygon
- Identified Site, Multiple Sites, Receptor
- NPL, Brownfield, Solid Waste Landfill (SWL) or Hazardous Waste
- Railroads





Environmental FirstSearch

.15 Mile Radius from Area

ASTM: ERNS

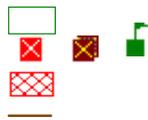


GREERS FERRY LAKE , HIGDEN AR 72067



Source: 2002 U.S. Census TIGER Files

- Area Polygon
- Identified Site, Multiple Sites, Receptor
- NPL, Brownfield, Solid Waste Landfill (SWL) or Hazardous Waste
- Railroads



**Environmental FirstSearch
Site Information Report**

Request Date: 06-20-06
Requestor Name: davide
Standard: ASTM

Search Type: AREA
Job Number: 0620-02
Filtered Report

TARGET ADDRESS: GREERS FERRY LAKE
 HIGDEN AR 72067

Demographics

Sites: 47	Non-Geocoded: 28	Population: NA
Radon: 0.7 - 6.6 PCI/L		

Site Location

	<u>Degrees (Decimal)</u>	<u>Degrees (Min/Sec)</u>	<u>UTMs</u>
Longitude:	-92.204256	-92:12:15	Easting: 572119.618
Latitude:	35.557337	35:33:26	Northing: 3934944.499
			Zone: 15

Comment

Comment: GREERS FERRY LAKE PERIMETER SEARCH
--

Additional Requests/Services

Adjacent ZIP Codes: 1 Mile(s)	Services:
--------------------------------------	------------------

<u>ZIP Code</u>	<u>City Name</u>	<u>ST</u>	<u>Dist/Dir</u>	<u>Sel</u>	<u>Requested?</u>	<u>Date</u>
72028	CHOCTAW	AR	0.00 --	Y	Sanborns	No
72031	CLINTON	AR	0.00 --	Y	Aerial Photographs	No
72044	EDGEMONT	AR	0.00 --	Y	Historical Topos	No
72088	FAIRFIELD BAY	AR	0.00 --	Y	City Directories	No
72130	PRIM	AR	0.00 --	Y	Title Search	No
72131	QUITMAN	AR	0.00 --	Y	Municipal Reports	No
72153	SHIRLEY	AR	0.00 --	Y	Online Topos	No
72530	DRASCO	AR	0.00 --	Y		
72543	HEBER SPRINGS	AR	0.00 --	Y		
72581	TUMBLING SHOALS	AR	0.00 --	Y		

Environmental FirstSearch Sites Summary Report

TARGET SITE: GREERS FERRY LAKE
HIGDEN AR 72067

JOB: 0620-02
GREERS FERRY LAKE PERIMETER SEARCH

TOTAL: 47 **GEOCODED:** 19 **NON GEOCODED:** 28 **SELECTED:** 47

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	Page No.
	CERCLIS	SENTINEL WOOD TREATERS ARD983285222/NOT PROPOSED	1745 HEBER SPRING RD NOETH HEBER SPRINGS AR 72543	NON GC	1
1	ERNS	AROMATIQUE 324236	3421 HWY 25 HEBER SPRINGS AR 72543	0.00 --	3
	ERNS	444548/HIGHWAY RELATED	ELLEN RD LAKESHORE HILLS SU HIGDEN AR	NON GC	4
	ERNS	444506/HIGHWAY RELATED	LAKE SHORES HILL NO.2 HIGDEN AR	NON GC	5
2	LUST	FAIRFIELD BAY MARINA 71-009	POB 1370 FAIRFIELD BAY AR 72088	0.00 --	6
3	LUST	HEBER SPRINGS PUBLIC SCHOOL BU 12-016	800 WEST MOORE STREET HEBER SPRINGS AR 72543	0.00 --	7
2	LUST	FAIRFIELD BAY MARINA 71-007	P.O. BOX 1370 FAIRFIELD BAY AR 72088	0.00 --	8
8	LUST	J & N COVE CREEK GROCERY 12-010	4 COVE CREEK ROAD QUITMAN AR 72131	0.05 NW	9
14	RCRA	SENTINEL INDUSTRIES INC ARD990742165/TSD	1745 HEBER SPRINGS RD N TUMBLING SHOAL AR 72581	0.33 SE	10
14	RCRACOR	SENTINEL INDUSTRIES, INC. ARD990742165/CA	1745 HEBER SPRINGS ROAD NOR TUMBLING SHOAL AR 72581	0.33 SE	13
11	RCRAGN	TRAVIS BOATING CENTERS ARD035513431/VGN	2001 HWY 25 N HEBER SPRINGS AR 72543	0.14 SE	17
	RCRAGN	UNITED PLASTICS TECHNOLOGY, INC. ARR000014944/VGN	1741 HEBER SPRINGS RD N TUMBLING SHOAL AR 72581	NON GC	18
	RCRAGN	US ARMY CORPS ENG-GREERS FERRY PWR AR0960012532/VGN	4M N HEBER SPRINGS HWY 25 HEBER SPRINGS AR 72543	NON GC	19
	RCRAGN	GREERS FERRY GLASS WORKS ARR000007484/VGN	5902 HEBER SPRINGS RD QUITMAN AR 72131	NON GC	20
	RCRAGN	FORMER UNITED PLASTICS TECHNOLOGY, ARR000014936/SGN	1060 HEBER SPRINGS RD S HEBER SPRINGS AR 72543	NON GC	21
	SWL	NORTH CENTRAL ARK LF AUTHORITY 0218-SR-2/CLOSED	5453 HOLLY MOUNTAIN ROAD AR 72031	NON GC	22
3	UST	HEBER SPRINGS PUBLIC SCHOOLS 12001632	2300 LAKEVIEW HEBER SPRINGS AR 72543	0.00 --	23
4	UST	COMMUNITY WATER SYSTEM, INC. 12001642	299 LAKESHORE DRIVE GREERS FERRY AR 72067	0.00 --	26
5	UST	LACEY S NARROWS MARINA 12001610	7674 EDGEMONT ROAD HIGDEN AR 72067	0.00 --	27
6	UST	QUIK MART #9 12000049	2114 HIGHWAY 25 NORTH HEBER SPRINGS AR 72543	0.03 SE	33
7	UST	NORTH ARKANSAS FARM SUPPLY 12001601	3201 HWY 25 NORTH HEBER SPRINGS AR 72543	0.04 SE	36

Environmental FirstSearch Sites Summary Report

TARGET SITE: GREERS FERRY LAKE
HIGDEN AR 72067

JOB: 0620-02
GREERS FERRY LAKE PERIMETER SEARCH

TOTAL: 47 **GEOCODED:** 19 **NON GEOCODED:** 28 **SELECTED:** 47

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	Page No.
8	UST	J & N COVE CREEK GROCERY 12001618	4 COVE CREEK ROAD QUITMAN AR 72131	0.05 NW	39
9	UST	GREERS FERRY, CITY OF 12001624	8739 EDGEMONT ROAD GREERS FERRY AR 72067	0.08 SE	44
10	UST	WAYNE EVANS GENERAL CONTRACTOR 12001616	16000 EDEN ISLE PIKE HEBER SPRINGS AR 72543	0.10 NE	47
11	UST	RED RIVER MARINE 12001630	2001 HWY 25N-B HEBER SPRINGS AR 72543	0.14 SE	48
12	UST	TRI-OAKS INC. # 2 PHILLIPS 66 12001505	4559 GREERS FERRY ROAD GREERS FERRY AR 72067	0.14 SE	51
13	UST	J.B. S PIT STOP 12001626	7604 GREERS FERRY ROAD GREERS FERRY AR 72067	0.23 SE	52
	UST	CHARCOAL JOHNS 12000029	7TH & WALNUT HEBER SPRINGS AR 72543	NON GC	57
	UST	US ARMY CORPS OF ENGINEERS 12000044	PO BOX 310 HEBER SPRINGS AR 72543	NON GC	62
	UST	COMMUNITY WATER 12000043	LAKE SHORE DRIVE HIGDEN AR 72067	NON GC	65
	UST	JERRY S PLACE 12000063	6729 HEBER SPRINGS RD N DRASCO AR 72530	NON GC	67
	UST	JOHNSON S READY MIX CONCRETE 12001617	230 HEBER SPRINGS ROAD WEST HEBER SPRINGS AR 72543	NON GC	69
	UST	CONCORD PUBLIC SCHOOL 12000081	10920 HEBER SPRINGS RD NORT HEBER SPRINGS AR 72543	NON GC	71
	UST	GOODWIN & DAUGHTERS 71000052	301 DAVE CREEK PARKWAY FAIRFIELD BAY AR 72088	NON GC	73
	UST	QUITMAN PUBLIC SCHOOLS BUS SHO 12001650	6403 HEBER SPRINGS ROAD WES QUITMAN AR 72131	NON GC	77
	UST	QUITMAN PUBLIC SCHOOL (BUS SHO 12000071	6275 HEBER SPRINGS RD. WEST QUITMAN AR 72131	NON GC	78
	UST	MORGAN S AFFILIATED FOODS 12001611	6099 HEBER SPRINGS ROAD QUITMAN AR 72131	NON GC	83
	UST	GHENT S SERVICE STATION 12000017	5940 HEBER SPRINGS ROAD WES QUITMAN AR 72131	NON GC	86
	UST	GATEWAY COUNTRY JUNCTION 12000060	2324 HEBER SPRINGS RD WEST QUITMAN AR 72131	NON GC	92
	UST	FLASH MARKET #24 18001608	RE:12001501 QUITMAN AR 72131	NON GC	98
	UST	FLASH MARKET #24 12001501	6030 HEBER SPRINGS RD WEST QUITMAN AR 72131	NON GC	99

***Environmental FirstSearch
Sites Summary Report***

TARGET SITE: GREERS FERRY LAKE
HIGDEN AR 72067

JOB: 0620-02
GREERS FERRY LAKE PERIMETER SEARCH

TOTAL: 47 **GEOCODED:** 19 **NON GEOCODED:** 28 **SELECTED:** 47

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	Page No.
UST		CONOCO FOOD MART #120 12001629	6199 HEBER SPRINGS RD WEST QUITMAN AR 72131	NON GC	103
UST		SHILOH GAS & TOBACCO 12001504	8394 EDGEMONT RD GREERS FERRY AR 72067	NON GC	108
UST		WESTSIDE PUBLIC SCHOOL 12000038	7925 GREERS FERRY ROAD GREERS FERRY AR 72067	NON GC	109
UST		CLINTON SCHOOL 71000015	SCHOOL STREET CLINTON AR 72031	NON GC	111
UST		EDGEMONT GROCERY 12001652	10249 EDGEMONT RD EDGEMONT AR 72044	NON GC	113
UST		GREERS FERRY EXXON 12000013	GREERS FERRY, AR GREERS FERRY AR 72543	NON GC	116

**Environmental FirstSearch
Site Detail Report**

TARGET SITE: GREERS FERRY LAKE
HIGDEN AR 72067

JOB: 0620-02
GREERS FERRY LAKE PERIMETER SEARCH

RCRA GENERATOR SITE

SEARCH ID: 21

DIST/DIR: NON GC

MAP ID:

NAME: UNITED PLASTICS TECHNOLOGY, INC.
ADDRESS: 1741 HEBER SPRINGS RD N
TUMBLING SHOALS AR 72581
CLEBURNE
CONTACT: FRANK WIMBERLEY

REV: 4/16/06
ID1: ARR000014944
ID2:
STATUS: VGN
PHONE: 501-250-0238

SITE INFORMATION

UNIVERSE INFORMATION:

SNC: N - NO
BOYSNC: N - NO
GPRA PERMIT: N - NO
GPRA POSTCLOSURE: N - NO
GPRA CA: N - NO
GPRA CME: N - NO
PERM PROG: ----

PREM WRKLD: ----
CLOSURE WRKLD: ----
P C WRKLD: ----
SUBJCA: N - NO
SUBJCA TSD 3004: N - NO

SUBJCA NON TSD: N - NO
CA WRKLD: N - NO
GEN STATUS: CEG - CONDITIONALLY EXEMPT SMALL QUANTITY GENERATORS: GENERATES LESS THAN
100 KG/MONTH OF HAZARDOUS WASTE

NAIC INFORMATION

ENFORCEMENT INFORMATION:

VIOLATION INFORMATION:

***Environmental FirstSearch
Site Detail Report***

TARGET SITE: GREERS FERRY LAKE
HIGDEN AR 72067

JOB: 0620-02
GREERS FERRY LAKE PERIMETER SEARCH

RCRA GENERATOR SITE

SEARCH ID: 18

DIST/DIR: NON GC

MAP ID:

NAME: GREERS FERRY GLASS WORKS
ADDRESS: 5902 HEBER SPRINGS RD
QUITMAN AR 72131
CLEBURNE
CONTACT: ROBERT MALLIS

REV: 4/16/06
ID1: ARR000007484
ID2:
STATUS: VGN
PHONE: 5015892947

SITE INFORMATION

CONTACT INFORMATION: ROBERT MALLIS
5902 HEBER SPRINGS RD
QUITMAN AR 72131

PHONE: 5015892947

UNIVERSE INFORMATION:

SNC: N - NO
BOYSNC: N - NO
GPRA PERMIT: N - NO
GPRA POSTCLOSURE: N - NO
GPRA CA: N - NO
GPRA CME: N - NO
PERM PROG: ----

PREM WRKLD: ----
CLOSURE WRKLD: ----
P C WRKLD: ----
SUBJCA: N - NO
SUBJCA TSD 3004: N - NO

SUBJCA NON TSD: N - NO
CA WRKLD: N - NO
GEN STATUS: CEG - CONDITIONALLY EXEMPT SMALL QUANTITY GENERATORS: GENERATES LESS THAN
100 KG/MONTH OF HAZARDOUS WASTE

NAIC INFORMATION

ENFORCEMENT INFORMATION:

VIOLATION INFORMATION:

HAZARDOUS WASTE INFORMATION:

Corrosive waste

**Environmental FirstSearch
Site Detail Report**

TARGET SITE: GREERS FERRY LAKE
HIGDEN AR 72067

JOB: 0620-02
GREERS FERRY LAKE PERIMETER SEARCH

RCRA GENERATOR SITE

SEARCH ID: 19

DIST/DIR: NON GC

MAP ID:

NAME: FORMER UNITED PLASTICS TECHNOLOGY, INC.
ADDRESS: 1060 HEBER SPRINGS RD S
HEBER SPRINGS AR 72543
CLEBURNE
CONTACT: FRANK WIMBERLEY

REV: 4/16/06
ID1: ARR000014936
ID2:
STATUS: SGN
PHONE: 501-250-0238

SITE INFORMATION

CONTACT INFORMATION: FRANK WIMBERLEY
HEBER SPRINGS RD N
TUMBLING SHOALS AR 72581

PHONE: 501-250-0238

UNIVERSE INFORMATION:

SNC: N - NO
BOYSNC: N - NO
GPRA PERMIT: N - NO
GPRA POSTCLOSURE: N - NO
GPRA CA: N - NO
GPRA CME: N - NO
PERM PROG: ----
PREM WRKLD: ----
CLOSURE WRKLD: ----
P C WRKLD: ----
SUBJCA: N - NO
SUBJCA TSD 3004: N - NO
SUBJCA NON TSD: N - NO
CA WRKLD: N - NO
GEN STATUS: SQG - SMALL QUANTITY GENERATOR: GENERATES 100 - 1000 KG/MONTH OF HAZARDOUS WASTE

NAIC INFORMATION

ENFORCEMENT INFORMATION:

VIOLATION INFORMATION:

***Environmental FirstSearch
Site Detail Report***

TARGET SITE: GREERS FERRY LAKE
HIGDEN AR 72067

JOB: 0620-02
GREERS FERRY LAKE PERIMETER SEARCH

SOLID WASTE LANDFILL SITE

SEARCH ID: 24

DIST/DIR: NON GC

MAP ID:

NAME: NORTH CENTRAL ARK LF AUTHORITY
ADDRESS: 5453 HOLLY MOUNTAIN ROAD
CLINTON AR 72031

REV: 12/01/04
ID1: 0218-SR-2
ID2: 71-00025
STATUS: CLOSED
PHONE: (501) 745-5801

CONTACT:

SITE DETAILS

PERMIT NUMBER: 0218-SR-2
FACILITY NUMBER: 71-00025
PERMIT CLASS: Class 1 Municipal SW LF
PERMIT STATUS: Active Permit
FACILITY STATUS: Closed
SITE PHONE: (501) 745-5801
OWNER NAME: North Central Ark LF Authority
OWNER PHONE: (501) 745-2443
OWNER ADDRESS: P.O. Box 60
RSWMD: 16
LATITUDE: 35402315344
LONGITUDE: 92253807254

NOTE: Lat/Longi given by ADEQ in Deg.(1st 2 digits), Min.(3rd + 4th digits), Sec.(5th + 6th digits) ie 12 34 56.12345

**Environmental FirstSearch
Site Detail Report**

TARGET SITE: GREERS FERRY LAKE
HIGDEN AR 72067

JOB: 0620-02
GREERS FERRY LAKE PERIMETER SEARCH

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 45

DIST/DIR: NON GC

MAP ID:

NAME: US ARMY CORPS OF ENGINEERS
ADDRESS: PO BOX 310
HEBER SPRINGS AR 72543

REV: 05/15/06
ID1: 12000044
ID2: 000860
STATUS:
PHONE: 5013622416

CONTACT: WILLIAM C. GARNER

INTERNAL LINING:	No	CATHODIC PROT SYSTEM:	No
ELECTRICAL ISOLATION:	No	CP UNKNOWN:	No
OTHER CP DESC:			

SPILL & OVERFLOW PROTECTION (SO) INFORMATION

SO INSTALLED:		SPILL BASIN:	No
AUTO SHUTOFF VALVE:	No	AUTO FLOW RESTRICTOR:	No
AUTO HI LEVEL ALARM:	No	SO UNKNOWN:	Yes
SO DESC:			

PIPING (PP) MATERIAL INFORMATION:

BARE STEEL:	No	GALVANIZED STEEL:	No
FBR GLASS REINFORCED PLASTIC:	No	COPPER:	No
DOUBLE WALLED:	No	SECONDARY CONTAINMENT:	No
PP UNKNOWN:	Yes	PP DESC:	

PIPING (PP) TYPE:

SUCTION; PVC:	No	SUCTION; TCV:	No
PRESSURE:	No	GRAVITY:	No
REPAIR DATE:		UNKNOWN:	Yes
OTHER PP TYPE DESC:			

PIPE RELEASE DETECTION (PRD) INFORMATION

VAPOR MONITORING:	No	GROUNDWATER MONITORING:	No
LINE TIGHTNESS TEST:	No	AUTO LEAK DETECTOR:	No
INTERSTITIAL MONITORING:	No	UNKNOWN:	Yes
OTHER PRD DESCRIPTION:			

Environmental FirstSearch
Site Detail Report

TARGET SITE: GREERS FERRY LAKE
HIGDEN AR 72067

JOB: 0620-02
GREERS FERRY LAKE PERIMETER SEARCH

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 25

DIST/DIR: NON GC

MAP ID:

NAME: COMMUNITY WATER
ADDRESS: LAKE SHORE DRIVE
HIGDEN AR 72067

REV: 05/15/06
ID1: 12000043
ID2: 000384
STATUS:
PHONE: 5018257964

CONTACT: JOHN THOMPSON

SO DESC:

PIPING (PP) MATERIAL INFORMATION:

BARE STEEL:	No	GALVANIZED STEEL:	No
FBR GLASS REINFORCED PLASTIC:	No	COPPER:	No
DOUBLE WALLED:	No	SECONDARY CONTAINMENT:	No
PP UNKNOWN:	Yes	PP DESC:	

PIPING (PP) TYPE:

SUCTION; PVC:	No	SUCTION; TCV:	No
PRESSURE:	No	GRAVITY:	No
REPAIR DATE:		UNKNOWN:	Yes
OTHER PP TYPE DESC:			

PIPE RELEASE DETECTION (PRD) INFORMATION

VAPOR MONITORING:	No	GROUNDWATER MONITORING:	No
LINE TIGHTNESS TEST:	No	AUTO LEAK DETECTOR:	No
INTERSTITIAL MONITORING:	No	UNKNOWN:	Yes
OTHER PRD DESCRIPTION:			

Environmental FirstSearch
Site Detail Report

TARGET SITE: GREERS FERRY LAKE
HIGDEN AR 72067

JOB: 0620-02
GREERS FERRY LAKE PERIMETER SEARCH

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 40

DIST/DIR: NON GC

MAP ID:

NAME: JERRY S PLACE
ADDRESS: 6729 HEBER SPRINGS RD N
DRASCO AR 72530

REV: 05/15/06
ID1: 12000063
ID2: 007059
STATUS:
PHONE: 8706683632

CONTACT: JERRY LILES

SO DESC:

PIPING (PP) MATERIAL INFORMATION:

BARE STEEL:	No	GALVANIZED STEEL:	Yes
FBR GLASS REINFORCED PLASTIC:	No	COPPER:	No
DOUBLE WALLED:	No	SECONDARY CONTAINMENT:	No
PP UNKNOWN:	No	PP DESC:	

PIPING (PP) TYPE:

SUCTION; PVC:	No	SUCTION; TCV:	Yes
PRESSURE:	No	GRAVITY:	No
REPAIR DATE:		UNKNOWN:	No
OTHER PP TYPE DESC:			

PIPE RELEASE DETECTION (PRD) INFORMATION

VAPOR MONITORING:	No	GROUNDWATER MONITORING:	Yes
LINE TIGHTNESS TEST:	No	AUTO LEAK DETECTOR:	No
INTERSTITIAL MONITORING:	No	UNKNOWN:	No
OTHER PRD DESCRIPTION:			

Environmental FirstSearch
Site Detail Report

TARGET SITE: GREERS FERRY LAKE
HIGDEN AR 72067

JOB: 0620-02
GREERS FERRY LAKE PERIMETER SEARCH

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 44

DIST/DIR: NON GC

MAP ID:

NAME: JOHNSON S READY MIX CONCRETE
ADDRESS: 230 HEBER SPRINGS ROAD WEST
HEBER SPRINGS AR 72543

REV: 05/15/06
ID1: 12001617
ID2: 005835
STATUS:
PHONE: 5013622008

CONTACT: HARLEY JOHNSON

SO DESC:

PIPING (PP) MATERIAL INFORMATION:

BARE STEEL:	Yes	GALVANIZED STEEL:	No
FBR GLASS REINFORCED PLASTIC:	No	COPPER:	No
DOUBLE WALLED:	No	SECONDARY CONTAINMENT:	No
PP UNKNOWN:	No	PP DESC:	

PIPING (PP) TYPE:

SUCTION; PVC:	Yes	SUCTION; TCV:	No
PRESSURE:	No	GRAVITY:	No
REPAIR DATE:		UNKNOWN:	No
OTHER PP TYPE DESC:			

PIPE RELEASE DETECTION (PRD) INFORMATION

VAPOR MONITORING:	No	GROUNDWATER MONITORING:	Yes
LINE TIGHTNESS TEST:	No	AUTO LEAK DETECTOR:	No
INTERSTITIAL MONITORING:	No	UNKNOWN:	No
OTHER PRD DESCRIPTION:			

Environmental FirstSearch Site Detail Report

TARGET SITE: GREERS FERRY LAKE
HIGDEN AR 72067

JOB: 0620-02
GREERS FERRY LAKE PERIMETER SEARCH

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 31

DIST/DIR: NON GC

MAP ID:

NAME: GOODWIN & DAUGHTERS
ADDRESS: 301 DAVE CREEK PARKWAY
FAIRFIELD BAY AR 72088

REV: 05/15/06
ID1: 71000052
ID2: 007478
STATUS:
PHONE: 5018846640

CONTACT: VICKI MAHAN

INTERNAL LINING:	No	CATHODIC PROT SYSTEM:	Yes
ELECTRICAL ISOLATION:	Yes	CP UNKNOWN:	No
OTHER CP DESC:			

SPILL & OVERFLOW PROTECTION (SO) INFORMATION

SO INSTALLED:		SPILL BASIN:	Yes
AUTO SHUTOFF VALVE:	No	AUTO FLOW RESTRICTOR:	Yes
AUTO HI LEVEL ALARM:	No	SO UNKNOWN:	No
SO DESC:			

PIPING (PP) MATERIAL INFORMATION:

BARE STEEL:	No	GALVANIZED STEEL:	No
FBR GLASS REINFORCED PLASTIC:	Yes	COPPER:	No
DOUBLE WALLED:	No	SECONDARY CONTAINMENT:	No
PP UNKNOWN:	No	PP DESC:	

PIPING (PP) TYPE:

SUCTION; PVC:	No	SUCTION; TCV:	No
PRESSURE:	Yes	GRAVITY:	No
REPAIR DATE:		UNKNOWN:	No
OTHER PP TYPE DESC:			

PIPE RELEASE DETECTION (PRD) INFORMATION

VAPOR MONITORING:	No	GROUNDWATER MONITORING:	No
LINE TIGHTNESS TEST:	No	AUTO LEAK DETECTOR:	Yes
INTERSTITIAL MONITORING:	No	UNKNOWN:	No
OTHER PRD DESCRIPTION:			

GENERAL TANK INFORMATION

TANK NUMBER:	3	TANK INSTALLED DATE:	1/1/1991
TANK STATUS:	In Use	STATUS DATE:	
STATUS DETAILS:		TANK COMMENT:	
TANK CAPACITY:	6000 gal.	TANK REPAIR DATE:	
SITE ASSESSMENT DATE:		SITE ASSESSMENT LEAK CHK:	

TANK CONTENTS

EMPTY:	No	DIESEL:	No
KEROSENE:	No	GAS:	Yes
USED OIL:	No	NEW OIL:	No
UNKNOWN:	No	HAZARDOUS:	
MIXTURE DESCRIPTION:		OTHER CONTENTS DESC:	

MATERIAL(S) OF CONSTRUCTION

STEEL:	No	EPOXY:	Yes
COMPOSITE:	No	FBR GLASS REINFORCED PLASTIC:	No
CONCRETE:	No	INTERNAL LINER:	No
EXTERNAL LINER:	No	DOUBLE WALLED:	No
JACKET:	No	UNKNOWN:	No
OTHER MAT:			

TANK RELEASE DETECTION (RD) INFORMATION

RD INSTALLED: 6/21/1990

MANUAL GAUGE:

- Continued on next page -

Environmental FirstSearch Site Detail Report

TARGET SITE: GREERS FERRY LAKE
HIGDEN AR 72067

JOB: 0620-02
GREERS FERRY LAKE PERIMETER SEARCH

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 31

DIST/DIR: NON GC

MAP ID:

NAME: GOODWIN & DAUGHTERS
ADDRESS: 301 DAVE CREEK PARKWAY
FAIRFIELD BAY AR 72088

REV: 05/15/06
ID1: 71000052
ID2: 007478
STATUS:
PHONE: 5018846640

CONTACT: VICKI MAHAN

TIGHTNESS TEST:	No	INVENTORY CONTROLS:	Yes
AUTO TK GAUGE:	No	VAPOR MONITOR:	Yes
GROUNDWATER MONITORING:	Yes	INTERSTITIAL-DBL WALL:	No
UNKNOWN:	No	OTHER RD DESC:	

TANK CORROSION PROTECTION (CP) INFORMATION

CP INSTALLED:	6/21/1990	ASPHALT COATING:	No
DIELECTRIC COATING:	Yes	EXTERNAL FRP:	No
INTERNAL LINING:	No	CATHODIC PROT SYSTEM:	Yes
ELECTRICAL ISOLATION:	Yes	CP UNKNOWN:	No
OTHER CP DESC:			

SPILL & OVERFLOW PROTECTION (SO) INFORMATION

SO INSTALLED:		SPILL BASIN:	Yes
AUTO SHUTOFF VALVE:	No	AUTO FLOW RESTRICTOR:	Yes
AUTO HI LEVEL ALARM:	No	SO UNKNOWN:	No
SO DESC:			

PIPING (PP) MATERIAL INFORMATION:

BARE STEEL:	No	GALVANIZED STEEL:	No
FBR GLASS REINFORCED PLASTIC:	Yes	COPPER:	No
DOUBLE WALLED:	No	SECONDARY CONTAINMENT:	No
PP UNKNOWN:	No	PP DESC:	

PIPING (PP) TYPE:

SUCTION; PVC:	No	SUCTION; TCV:	No
PRESSURE:	Yes	GRAVITY:	No
REPAIR DATE:		UNKNOWN:	No
OTHER PP TYPE DESC:			

PIPE RELEASE DETECTION (PRD) INFORMATION

VAPOR MONITORING:	No	GROUNDWATER MONITORING:	No
LINE TIGHTNESS TEST:	No	AUTO LEAK DETECTOR:	Yes
INTERSTITIAL MONITORING:	No	UNKNOWN:	No
OTHER PRD DESCRIPTION:			

***Environmental FirstSearch
Site Detail Report***

TARGET SITE: GREERS FERRY LAKE
HIGDEN AR 72067

JOB: 0620-02
GREERS FERRY LAKE PERIMETER SEARCH

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 39

DIST/DIR: NON GC

MAP ID:

NAME: QUITMAN PUBLIC SCHOOLS BUS SHO
ADDRESS: 6403 HEBER SPRINGS ROAD WEST
QUITMAN AR 72131

REV: 05/15/06
ID1: 12001650
ID2: 001832
STATUS:
PHONE: 5015893156

CONTACT: RANDY TRAMMELL

OWNER INFORMATION

OWNER ID NUMBER: 001832
OWNER NAME: QUITMAN PUBLIC SCHOOLS
OWNER ADDRESS 1: 6403 HEBER SPRGS, P.O. BOX 178
QUITMAN AR 72131
OWNER ADDRESS 2:
PHONE: 5015893156

UNDERGROUND STORAGE TANK DETAILS

Environmental FirstSearch Site Detail Report

TARGET SITE: GREERS FERRY LAKE
HIGDEN AR 72067

JOB: 0620-02
GREERS FERRY LAKE PERIMETER SEARCH

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 38

DIST/DIR: NON GC

MAP ID:

NAME: QUITMAN PUBLIC SCHOOL (BUS SHO
ADDRESS: 6275 HEBER SPRINGS RD. WEST
QUITMAN AR 72131

REV: 05/15/06
ID1: 12000071
ID2: 001832
STATUS:
PHONE: 5015893156

CONTACT: RANDY TRAMMELL

INTERNAL LINING:	No	CATHODIC PROT SYSTEM:	No
ELECTRICAL ISOLATION:	No	CP UNKNOWN:	Yes
OTHER CP DESC:			

SPILL & OVERFLOW PROTECTION (SO) INFORMATION

SO INSTALLED:		SPILL BASIN:	No
AUTO SHUTOFF VALVE:	No	AUTO FLOW RESTRICTOR:	No
AUTO HI LEVEL ALARM:	No	SO UNKNOWN:	Yes
SO DESC:			

PIPING (PP) MATERIAL INFORMATION:

BARE STEEL:	No	GALVANIZED STEEL:	No
FBR GLASS REINFORCED PLASTIC:	No	COPPER:	No
DOUBLE WALLED:	No	SECONDARY CONTAINMENT:	No
PP UNKNOWN:	Yes	PP DESC:	

PIPING (PP) TYPE:

SUCTION; PVC:	No	SUCTION; TCV:	No
PRESSURE:	No	GRAVITY:	No
REPAIR DATE:		UNKNOWN:	Yes
OTHER PP TYPE DESC:			

PIPE RELEASE DETECTION (PRD) INFORMATION

VAPOR MONITORING:	No	GROUNDWATER MONITORING:	No
LINE TIGHTNESS TEST:	No	AUTO LEAK DETECTOR:	No
INTERSTITIAL MONITORING:	No	UNKNOWN:	Yes
OTHER PRD DESCRIPTION:			

GENERAL TANK INFORMATION

TANK NUMBER:	3	TANK INSTALLED DATE:	1/1/1941
TANK STATUS:	Permanently Out	STATUS DATE:	
STATUS DETAILS:		TANK COMMENT:	
TANK CAPACITY:	999 gal.	TANK REPAIR DATE:	
SITE ASSESSMENT DATE:		SITE ASSESSMENT LEAK CHK:	

TANK CONTENTS

EMPTY:	Yes	DIESEL:	No
KEROSENE:	No	GAS:	No
USED OIL:	No	NEW OIL:	No
UNKNOWN:	No	HAZARDOUS:	
MIXTURE DESCRIPTION:		OTHER CONTENTS DESC:	

MATERIAL(S) OF CONSTRUCTION

STEEL:	Yes	EPOXY:	No
COMPOSITE:	No	FBR GLASS REINFORCED PLASTIC:	No
CONCRETE:	No	INTERNAL LINER:	No
EXTERNAL LINER:	No	DOUBLE WALLED:	No
JACKET:	No	UNKNOWN:	No
OTHER MAT:			

TANK RELEASE DETECTION (RD) INFORMATION

RD INSTALLED:		MANUAL GAUGE:	- Continued on next page -
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Environmental FirstSearch Site Detail Report

TARGET SITE: GREERS FERRY LAKE
HIGDEN AR 72067

JOB: 0620-02
GREERS FERRY LAKE PERIMETER SEARCH

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 38

DIST/DIR: NON GC

MAP ID:

NAME: QUITMAN PUBLIC SCHOOL (BUS SHO
ADDRESS: 6275 HEBER SPRINGS RD. WEST
QUITMAN AR 72131

REV: 05/15/06
ID1: 12000071
ID2: 001832
STATUS:
PHONE: 5015893156

CONTACT: RANDY TRAMMELL

COMPOSITE:	No	FBR GLASS REINFORCED PLASTIC:	No
CONCRETE:	No	INTERNAL LINER:	No
EXTERNAL LINER:	No	DOUBLE WALLED:	No
JACKET:	No	UNKNOWN:	No
OTHER MAT:	STI-P3		

TANK RELEASE DETECTION (RD) INFORMATION

RD INSTALLED:		MANUAL GAUGE:	No
TIGHTNESS TEST:	No	INVENTORY CONTROLS:	No
AUTO TK GAUGE:	No	VAPOR MONITOR:	No
GROUNDWATER MONITORING:	No	INTERSTITIAL-DBL WALL:	No
UNKNOWN:	Yes	OTHER RD DESC:	

TANK CORROSION PROTECTION (CP) INFORMATION

CP INSTALLED:		ASPHALT COATING:	No
DIELECTRIC COATING:	No	EXTERNAL FRP:	No
INTERNAL LINING:	No	CATHODIC PROT SYSTEM:	No
ELECTRICAL ISOLATION:	No	CP UNKNOWN:	Yes
OTHER CP DESC:			

SPILL & OVERFLOW PROTECTION (SO) INFORMATION

SO INSTALLED:		SPILL BASIN:	Yes
AUTO SHUTOFF VALVE:	No	AUTO FLOW RESTRICTOR:	No
AUTO HI LEVEL ALARM:	No	SO UNKNOWN:	No
SO DESC:			

PIPING (PP) MATERIAL INFORMATION:

BARE STEEL:	No	GALVANIZED STEEL:	No
FBR GLASS REINFORCED PLASTIC:	No	COPPER:	No
DOUBLE WALLED:	No	SECONDARY CONTAINMENT:	No
PP UNKNOWN:	Yes	PP DESC:	

PIPING (PP) TYPE:

SUCTION; PVC:	Yes	SUCTION; TCV:	No
PRESSURE:	No	GRAVITY:	No
REPAIR DATE:		UNKNOWN:	No
OTHER PP TYPE DESC:			

PIPE RELEASE DETECTION (PRD) INFORMATION

VAPOR MONITORING:	No	GROUNDWATER MONITORING:	No
LINE TIGHTNESS TEST:	No	AUTO LEAK DETECTOR:	No
INTERSTITIAL MONITORING:	No	UNKNOWN:	Yes
OTHER PRD DESCRIPTION:			

Environmental FirstSearch
Site Detail Report

TARGET SITE: GREERS FERRY LAKE
HIGDEN AR 72067

JOB: 0620-02
GREERS FERRY LAKE PERIMETER SEARCH

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 37

DIST/DIR: NON GC

MAP ID:

NAME: MORGAN S AFFILIATED FOODS
ADDRESS: 6099 HEBER SPRINGS ROAD
QUITMAN AR 72131

REV: 05/15/06
ID1: 12001611
ID2: 005589
STATUS:
PHONE: 5015892680

CONTACT: JOHNNY MORGAN

INTERNAL LINING:	No	CATHODIC PROT SYSTEM:	No
ELECTRICAL ISOLATION:	No	CP UNKNOWN:	No
OTHER CP DESC:			

SPILL & OVERFLOW PROTECTION (SO) INFORMATION

SO INSTALLED:		SPILL BASIN:	No
AUTO SHUTOFF VALVE:	No	AUTO FLOW RESTRICTOR:	No
AUTO HI LEVEL ALARM:	No	SO UNKNOWN:	Yes
SO DESC:			

PIPING (PP) MATERIAL INFORMATION:

BARE STEEL:	No	GALVANIZED STEEL:	Yes
FBR GLASS REINFORCED PLASTIC:	No	COPPER:	No
DOUBLE WALLED:	No	SECONDARY CONTAINMENT:	No
PP UNKNOWN:	No	PP DESC:	

PIPING (PP) TYPE:

SUCTION; PVC:	No	SUCTION; TCV:	No
PRESSURE:	No	GRAVITY:	No
REPAIR DATE:		UNKNOWN:	Yes
OTHER PP TYPE DESC:			

PIPE RELEASE DETECTION (PRD) INFORMATION

VAPOR MONITORING:	No	GROUNDWATER MONITORING:	No
LINE TIGHTNESS TEST:	No	AUTO LEAK DETECTOR:	No
INTERSTITIAL MONITORING:	No	UNKNOWN:	Yes
OTHER PRD DESCRIPTION:			

Environmental FirstSearch Site Detail Report

TARGET SITE: GREERS FERRY LAKE
HIGDEN AR 72067

JOB: 0620-02
GREERS FERRY LAKE PERIMETER SEARCH

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 36

DIST/DIR: NON GC

MAP ID:

NAME: GHENT S SERVICE STATION
ADDRESS: 5940 HEBER SPRINGS ROAD WEST
QUITMAN AR 72131

REV: 05/15/06
ID1: 12000017
ID2: 009555
STATUS:
PHONE: 5015893212

CONTACT: DONNIE GHENT

INTERNAL LINING:	No	CATHODIC PROT SYSTEM:	No
ELECTRICAL ISOLATION:	No	CP UNKNOWN:	No
OTHER CP DESC:			

SPILL & OVERFLOW PROTECTION (SO) INFORMATION

SO INSTALLED:		SPILL BASIN:	Yes
AUTO SHUTOFF VALVE:	No	AUTO FLOW RESTRICTOR:	Yes
AUTO HI LEVEL ALARM:	No	SO UNKNOWN:	No
SO DESC:			

PIPING (PP) MATERIAL INFORMATION:

BARE STEEL:	No	GALVANIZED STEEL:	Yes
FBR GLASS REINFORCED PLASTIC:	No	COPPER:	No
DOUBLE WALLED:	No	SECONDARY CONTAINMENT:	No
PP UNKNOWN:	No	PP DESC:	COATED

PIPING (PP) TYPE:

SUCTION; PVC:	Yes	SUCTION; TCV:	No
PRESSURE:	No	GRAVITY:	No
REPAIR DATE:		UNKNOWN:	No
OTHER PP TYPE DESC:			

PIPE RELEASE DETECTION (PRD) INFORMATION

VAPOR MONITORING:	Yes	GROUNDWATER MONITORING:	Yes
LINE TIGHTNESS TEST:	No	AUTO LEAK DETECTOR:	No
INTERSTITIAL MONITORING:	No	UNKNOWN:	No
OTHER PRD DESCRIPTION:			

GENERAL TANK INFORMATION

TANK NUMBER:	3	TANK INSTALLED DATE:	1/1/1990
TANK STATUS:	In Use	STATUS DATE:	
STATUS DETAILS:		TANK COMMENT:	
TANK CAPACITY:	4000 gal.	TANK REPAIR DATE:	
SITE ASSESSMENT DATE:		SITE ASSESSMENT LEAK CHK:	

TANK CONTENTS

EMPTY:	No	DIESEL:	No
KEROSENE:	No	GAS:	Yes
USED OIL:	No	NEW OIL:	No
UNKNOWN:	No	HAZARDOUS:	
MIXTURE DESCRIPTION:		OTHER CONTENTS DESC:	

MATERIAL(S) OF CONSTRUCTION

STEEL:	No	EPOXY:	Yes
COMPOSITE:	No	FBR GLASS REINFORCED PLASTIC:	No
CONCRETE:	No	INTERNAL LINER:	No
EXTERNAL LINER:	No	DOUBLE WALLED:	No
JACKET:	No	UNKNOWN:	No
OTHER MAT:			

TANK RELEASE DETECTION (RD) INFORMATION

RD INSTALLED:	1/1/1990	MANUAL GAUGE:	- Continued on next page -
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Environmental FirstSearch Site Detail Report

TARGET SITE: GREERS FERRY LAKE
HIGDEN AR 72067

JOB: 0620-02
GREERS FERRY LAKE PERIMETER SEARCH

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 35

DIST/DIR: NON GC

MAP ID:

NAME: GATEWAY COUNTRY JUNCTION
ADDRESS: 2324 HEBER SPRINGS RD WEST
HEBER SPRINGS AR 72543

REV: 05/15/06
ID1: 12000060
ID2: 008503
STATUS:
PHONE: 5015892505

CONTACT: BILL STOVALL

INTERNAL LINING:	No	CATHODIC PROT SYSTEM:	No
ELECTRICAL ISOLATION:	No	CP UNKNOWN:	No
OTHER CP DESC:	STIP-3		

SPILL & OVERFLOW PROTECTION (SO) INFORMATION

SO INSTALLED:		SPILL BASIN:	No
AUTO SHUTOFF VALVE:	No	AUTO FLOW RESTRICTOR:	No
AUTO HI LEVEL ALARM:	No	SO UNKNOWN:	Yes
SO DESC:			

PIPING (PP) MATERIAL INFORMATION:

BARE STEEL:	No	GALVANIZED STEEL:	No
FBR GLASS REINFORCED PLASTIC:	No	COPPER:	No
DOUBLE WALLED:	No	SECONDARY CONTAINMENT:	No
PP UNKNOWN:	Yes	PP DESC:	

PIPING (PP) TYPE:

SUCTION; PVC:	No	SUCTION; TCV:	No
PRESSURE:	No	GRAVITY:	No
REPAIR DATE:		UNKNOWN:	Yes
OTHER PP TYPE DESC:			

PIPE RELEASE DETECTION (PRD) INFORMATION

VAPOR MONITORING:	No	GROUNDWATER MONITORING:	No
LINE TIGHTNESS TEST:	No	AUTO LEAK DETECTOR:	No
INTERSTITIAL MONITORING:	No	UNKNOWN:	Yes
OTHER PRD DESCRIPTION:			

GENERAL TANK INFORMATION

TANK NUMBER:	3	TANK INSTALLED DATE:	1/1/1991
TANK STATUS:	Permanently Out	STATUS DATE:	4/22/1999
STATUS DETAILS:		TANK COMMENT:	
TANK CAPACITY:	1000 gal.	TANK REPAIR DATE:	
SITE ASSESSMENT DATE:		SITE ASSESSMENT LEAK CHK:	

TANK CONTENTS

EMPTY:	No	DIESEL:	No
KEROSENE:	No	GAS:	Yes
USED OIL:	No	NEW OIL:	No
UNKNOWN:	No	HAZARDOUS:	
MIXTURE DESCRIPTION:		OTHER CONTENTS DESC:	

MATERIAL(S) OF CONSTRUCTION

STEEL:	Yes	EPOXY:	No
COMPOSITE:	No	FBR GLASS REINFORCED PLASTIC:	No
CONCRETE:	No	INTERNAL LINER:	No
EXTERNAL LINER:	No	DOUBLE WALLED:	No
JACKET:	No	UNKNOWN:	No
OTHER MAT:	STIP-3		

TANK RELEASE DETECTION (RD) INFORMATION

RD INSTALLED:		MANUAL GAUGE:	- Continued on next page -
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Environmental FirstSearch Site Detail Report

TARGET SITE: GREERS FERRY LAKE
HIGDEN AR 72067

JOB: 0620-02
GREERS FERRY LAKE PERIMETER SEARCH

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 35

DIST/DIR: NON GC

MAP ID:

NAME: GATEWAY COUNTRY JUNCTION
ADDRESS: 2324 HEBER SPRINGS RD WEST
HEBER SPRINGS AR 72543

REV: 05/15/06
ID1: 12000060
ID2: 008503
STATUS:
PHONE: 5015892505

CONTACT: BILL STOVALL

TIGHTNESS TEST:	No	INVENTORY CONTROLS:	No
AUTO TK GAUGE:	No	VAPOR MONITOR:	No
GROUNDWATER MONITORING:	No	INTERSTITIAL-DBL WALL:	No
UNKNOWN:	Yes	OTHER RD DESC:	

TANK CORROSION PROTECTION (CP) INFORMATION

CP INSTALLED:		ASPHALT COATING:	No
DIELECTRIC COATING:	No	EXTERNAL FRP:	No
INTERNAL LINING:	No	CATHODIC PROT SYSTEM:	No
ELECTRICAL ISOLATION:	No	CP UNKNOWN:	No
OTHER CP DESC:	STIP-3		

SPILL & OVERFLOW PROTECTION (SO) INFORMATION

SO INSTALLED:		SPILL BASIN:	No
AUTO SHUTOFF VALVE:	No	AUTO FLOW RESTRICTOR:	No
AUTO HI LEVEL ALARM:	No	SO UNKNOWN:	Yes
SO DESC:			

PIPING (PP) MATERIAL INFORMATION:

BARE STEEL:	No	GALVANIZED STEEL:	No
FBR GLASS REINFORCED PLASTIC:	No	COPPER:	No
DOUBLE WALLED:	No	SECONDARY CONTAINMENT:	No
PP UNKNOWN:	Yes	PP DESC:	

PIPING (PP) TYPE:

SUCTION; PVC:	No	SUCTION; TCV:	No
PRESSURE:	No	GRAVITY:	No
REPAIR DATE:		UNKNOWN:	Yes
OTHER PP TYPE DESC:			

PIPE RELEASE DETECTION (PRD) INFORMATION

VAPOR MONITORING:	No	GROUNDWATER MONITORING:	No
LINE TIGHTNESS TEST:	No	AUTO LEAK DETECTOR:	No
INTERSTITIAL MONITORING:	No	UNKNOWN:	Yes
OTHER PRD DESCRIPTION:			

GENERAL TANK INFORMATION

TANK NUMBER:	4	TANK INSTALLED DATE:	5/1/1999
TANK STATUS:	In Use	STATUS DATE:	
STATUS DETAILS:		TANK COMMENT:	
TANK CAPACITY:	12000 gal.	TANK REPAIR DATE:	
SITE ASSESSMENT DATE:		SITE ASSESSMENT LEAK CHK:	N

TANK CONTENTS

EMPTY:	No	DIESEL:	No
KEROSENE:	No	GAS:	Yes
USED OIL:	No	NEW OIL:	No
UNKNOWN:	No	HAZARDOUS:	
MIXTURE DESCRIPTION:		OTHER CONTENTS DESC:	

MATERIAL(S) OF CONSTRUCTION

STEEL:	No	EPOXY:	
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- Continued on next page -

Environmental FirstSearch Site Detail Report

TARGET SITE: GREERS FERRY LAKE
HIGDEN AR 72067

JOB: 0620-02
GREERS FERRY LAKE PERIMETER SEARCH

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 35

DIST/DIR: NON GC

MAP ID:

NAME: GATEWAY COUNTRY JUNCTION
ADDRESS: 2324 HEBER SPRINGS RD WEST
HEBER SPRINGS AR 72543

REV: 05/15/06
ID1: 12000060
ID2: 008503
STATUS:
PHONE: 5015892505

CONTACT: BILL STOVALL

EMPTY:	No	DIESEL:	Yes
KEROSENE:	No	GAS:	Yes
USED OIL:	No	NEW OIL:	No
UNKNOWN:	No	HAZARDOUS:	
MIXTURE DESCRIPTION:		OTHER CONTENTS DESC:	

MATERIAL(S) OF CONSTRUCTION

STEEL:	No	EPOXY:	Yes
COMPOSITE:	No	FBR GLASS REINFORCED PLASTIC:	No
CONCRETE:	No	INTERNAL LINER:	No
EXTERNAL LINER:	No	DOUBLE WALLED:	No
JACKET:	No	UNKNOWN:	No
OTHER MAT:	STIP3		

TANK RELEASE DETECTION (RD) INFORMATION

RD INSTALLED:	5/1/1999	MANUAL GAUGE:	No
TIGHTNESS TEST:	Yes	INVENTORY CONTROLS:	Yes
AUTO TK GAUGE:	Yes	VAPOR MONITOR:	Yes
GROUNDWATER MONITORING:	Yes	INTERSTITIAL-DBL WALL:	No
UNKNOWN:	No	OTHER RD DESC:	

TANK CORROSION PROTECTION (CP) INFORMATION

CP INSTALLED:	5/1/1999	ASPHALT COATING:	No
DIELECTRIC COATING:	Yes	EXTERNAL FRP:	No
INTERNAL LINING:	No	CATHODIC PROT SYSTEM:	Yes
ELECTRICAL ISOLATION:	Yes	CP UNKNOWN:	No
OTHER CP DESC:			

SPILL & OVERFLOW PROTECTION (SO) INFORMATION

SO INSTALLED:		SPILL BASIN:	Yes
AUTO SHUTOFF VALVE:	No	AUTO FLOW RESTRICTOR:	Yes
AUTO HI LEVEL ALARM:	No	SO UNKNOWN:	No
SO DESC:			

PIPING (PP) MATERIAL INFORMATION:

BARE STEEL:	No	GALVANIZED STEEL:	No
FBR GLASS REINFORCED PLASTIC:	No	COPPER:	No
DOUBLE WALLED:	No	SECONDARY CONTAINMENT:	Yes
PP UNKNOWN:	No	PP DESC:	

PIPING (PP) TYPE:

SUCTION; PVC:	No	SUCTION; TCV:	No
PRESSURE:	Yes	GRAVITY:	No
REPAIR DATE:		UNKNOWN:	No
OTHER PP TYPE DESC:			

PIPE RELEASE DETECTION (PRD) INFORMATION

VAPOR MONITORING:	Yes	GROUNDWATER MONITORING:	Yes
LINE TIGHTNESS TEST:	Yes	AUTO LEAK DETECTOR:	Yes
INTERSTITIAL MONITORING:	No	UNKNOWN:	No
OTHER PRD DESCRIPTION:			

***Environmental FirstSearch
Site Detail Report***

TARGET SITE: GREERS FERRY LAKE
HIGDEN AR 72067

JOB: 0620-02
GREERS FERRY LAKE PERIMETER SEARCH

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 34

DIST/DIR: NON GC

MAP ID:

NAME: FLASH MARKET #24
ADDRESS: RE:12001501
QUITMAN AR 72131

REV: 05/15/06
ID1: 18001608
ID2: 002319
STATUS:
PHONE: 5015892933

CONTACT: BARBARA JACKSON

OWNER INFORMATION

OWNER ID NUMBER: 002319
OWNER NAME: FLASH MARKET INC
OWNER ADDRESS 1: ATTN: PAULA STANFIELD
WEST MEMPHIS AR 72303
OWNER ADDRESS 2: PO BOX 2389
PHONE: 8707322242

UNDERGROUND STORAGE TANK DETAILS

Environmental FirstSearch Site Detail Report

TARGET SITE: GREERS FERRY LAKE
HIGDEN AR 72067

JOB: 0620-02
GREERS FERRY LAKE PERIMETER SEARCH

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 33

DIST/DIR: NON GC

MAP ID:

NAME: FLASH MARKET #24
ADDRESS: 6030 HEBER SPRINGS RD WEST
QUITMAN AR 72301

REV: 05/15/06
ID1: 12001501
ID2: 002319
STATUS:
PHONE: 8707322242

CONTACT: DONNA SZCZECINA

INTERNAL LINING:	No	CATHODIC PROT SYSTEM:	Yes
ELECTRICAL ISOLATION:	No	CP UNKNOWN:	No
OTHER CP DESC:	STI-P3		

SPILL & OVERFLOW PROTECTION (SO) INFORMATION

SO INSTALLED:		SPILL BASIN:	Yes
AUTO SHUTOFF VALVE:	No	AUTO FLOW RESTRICTOR:	Yes
AUTO HI LEVEL ALARM:	No	SO UNKNOWN:	No
SO DESC:			

PIPING (PP) MATERIAL INFORMATION:

BARE STEEL:	No	GALVANIZED STEEL:	No
FBR GLASS REINFORCED PLASTIC:	Yes	COPPER:	No
DOUBLE WALLED:	No	SECONDARY CONTAINMENT:	No
PP UNKNOWN:	No	PP DESC:	

PIPING (PP) TYPE:

SUCTION; PVC:	No	SUCTION; TCV:	No
PRESSURE:	Yes	GRAVITY:	No
REPAIR DATE:		UNKNOWN:	No
OTHER PP TYPE DESC:			

PIPE RELEASE DETECTION (PRD) INFORMATION

VAPOR MONITORING:	No	GROUNDWATER MONITORING:	No
LINE TIGHTNESS TEST:	No	AUTO LEAK DETECTOR:	Yes
INTERSTITIAL MONITORING:	No	UNKNOWN:	No
OTHER PRD DESCRIPTION:			

GENERAL TANK INFORMATION

TANK NUMBER:	3	TANK INSTALLED DATE:	10/1/1999
TANK STATUS:	In Use	STATUS DATE:	
STATUS DETAILS:		TANK COMMENT:	
TANK CAPACITY:	10000 gal.	TANK REPAIR DATE:	
SITE ASSESSMENT DATE:		SITE ASSESSMENT LEAK CHK:	N

TANK CONTENTS

EMPTY:	No	DIESEL:	No
KEROSENE:	No	GAS:	Yes
USED OIL:	No	NEW OIL:	No
UNKNOWN:	No	HAZARDOUS:	
MIXTURE DESCRIPTION:		OTHER CONTENTS DESC:	

MATERIAL(S) OF CONSTRUCTION

STEEL:	No	EPOXY:	No
COMPOSITE:	No	FBR GLASS REINFORCED PLASTIC:	No
CONCRETE:	No	INTERNAL LINER:	No
EXTERNAL LINER:	No	DOUBLE WALLED:	No
JACKET:	No	UNKNOWN:	No
OTHER MAT:	STI-P3		

TANK RELEASE DETECTION (RD) INFORMATION

RD INSTALLED:	10/1/1999	MANUAL GAUGE:	- Continued on next page -
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Environmental FirstSearch Site Detail Report

TARGET SITE: GREERS FERRY LAKE
HIGDEN AR 72067

JOB: 0620-02
GREERS FERRY LAKE PERIMETER SEARCH

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 32

DIST/DIR: NON GC

MAP ID:

NAME: CONOCO FOOD MART #120
ADDRESS: 6199 HEBER SPRINGS RD WEST
QUITMAN AR 72131

REV: 05/15/06
ID1: 12001629
ID2: 000475
STATUS:
PHONE: 5012686107

CONTACT: STEVE LIGHTLE

SO DESC:

PIPING (PP) MATERIAL INFORMATION:

BARE STEEL:	No	GALVANIZED STEEL:	No
FBR GLASS REINFORCED PLASTIC:	Yes	COPPER:	No
DOUBLE WALLED:	No	SECONDARY CONTAINMENT:	No
PP UNKNOWN:	No	PP DESC:	

PIPING (PP) TYPE:

SUCTION; PVC:	No	SUCTION; TCV:	No
PRESSURE:	Yes	GRAVITY:	No
REPAIR DATE:		UNKNOWN:	No
OTHER PP TYPE DESC:			

PIPE RELEASE DETECTION (PRD) INFORMATION

VAPOR MONITORING:	No	GROUNDWATER MONITORING:	No
LINE TIGHTNESS TEST:	No	AUTO LEAK DETECTOR:	Yes
INTERSTITIAL MONITORING:	No	UNKNOWN:	No
OTHER PRD DESCRIPTION:			

GENERAL TANK INFORMATION

TANK NUMBER:	2	TANK INSTALLED DATE:	8/15/1995
TANK STATUS:	In Use	STATUS DATE:	
STATUS DETAILS:		TANK COMMENT:	
TANK CAPACITY:	8000 gal.	TANK REPAIR DATE:	
SITE ASSESSMENT DATE:		SITE ASSESSMENT LEAK CHK:	N

TANK CONTENTS

EMPTY:	No	DIESEL:	No
KEROSENE:	No	GAS:	Yes
USED OIL:	No	NEW OIL:	No
UNKNOWN:	No	HAZARDOUS:	
MIXTURE DESCRIPTION:		OTHER CONTENTS DESC:	

MATERIAL(S) OF CONSTRUCTION

STEEL:	No	EPOXY:	Yes
COMPOSITE:	No	FBR GLASS REINFORCED PLASTIC:	No
CONCRETE:	No	INTERNAL LINER:	No
EXTERNAL LINER:	No	DOUBLE WALLED:	No
JACKET:	No	UNKNOWN:	No
OTHER MAT:	STIP3		

TANK RELEASE DETECTION (RD) INFORMATION

RD INSTALLED:	4/26/1995	MANUAL GAUGE:	No
TIGHTNESS TEST:	Yes	INVENTORY CONTROLS:	Yes
AUTO TK GAUGE:	No	VAPOR MONITOR:	No
GROUNDWATER MONITORING:	No	INTERSTITIAL-DBL WALL:	No
UNKNOWN:	No	OTHER RD DESC:	

TANK CORROSION PROTECTION (CP) INFORMATION

CP INSTALLED:	4/26/1995	ASPHALT COATING:	No
DIELECTRIC COATING:	Yes	EXTERNAL FRP:	- Continued on next page -

Environmental FirstSearch Site Detail Report

TARGET SITE: GREERS FERRY LAKE
HIGDEN AR 72067

JOB: 0620-02
GREERS FERRY LAKE PERIMETER SEARCH

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 32

DIST/DIR: NON GC

MAP ID:

NAME: CONOCO FOOD MART #120
ADDRESS: 6199 HEBER SPRINGS RD WEST
QUITMAN AR 72131

REV: 05/15/06
ID1: 12001629
ID2: 000475
STATUS:
PHONE: 5012686107

CONTACT: STEVE LIGHTLE

INTERNAL LINING:	No	CATHODIC PROT SYSTEM:	Yes
ELECTRICAL ISOLATION:	Yes	CP UNKNOWN:	No
OTHER CP DESC:			

SPILL & OVERFLOW PROTECTION (SO) INFORMATION

SO INSTALLED:	4/26/1995	SPILL BASIN:	Yes
AUTO SHUTOFF VALVE:	No	AUTO FLOW RESTRICTOR:	Yes
AUTO HI LEVEL ALARM:	No	SO UNKNOWN:	No
SO DESC:			

PIPING (PP) MATERIAL INFORMATION:

BARE STEEL:	No	GALVANIZED STEEL:	No
FBR GLASS REINFORCED PLASTIC:	Yes	COPPER:	No
DOUBLE WALLED:	No	SECONDARY CONTAINMENT:	No
PP UNKNOWN:	No	PP DESC:	

PIPING (PP) TYPE:

SUCTION; PVC:	No	SUCTION; TCV:	No
PRESSURE:	Yes	GRAVITY:	No
REPAIR DATE:		UNKNOWN:	No
OTHER PP TYPE DESC:			

PIPE RELEASE DETECTION (PRD) INFORMATION

VAPOR MONITORING:	No	GROUNDWATER MONITORING:	No
LINE TIGHTNESS TEST:	No	AUTO LEAK DETECTOR:	Yes
INTERSTITIAL MONITORING:	No	UNKNOWN:	No
OTHER PRD DESCRIPTION:			

GENERAL TANK INFORMATION

TANK NUMBER:	3	TANK INSTALLED DATE:	8/15/1995
TANK STATUS:	In Use	STATUS DATE:	
STATUS DETAILS:		TANK COMMENT:	
TANK CAPACITY:	6000 gal.	TANK REPAIR DATE:	
SITE ASSESSMENT DATE:		SITE ASSESSMENT LEAK CHK:	N

TANK CONTENTS

EMPTY:	No	DIESEL:	No
KEROSENE:	No	GAS:	Yes
USED OIL:	No	NEW OIL:	No
UNKNOWN:	No	HAZARDOUS:	
MIXTURE DESCRIPTION:		OTHER CONTENTS DESC:	

MATERIAL(S) OF CONSTRUCTION

STEEL:	No	EPOXY:	Yes
COMPOSITE:	No	FBR GLASS REINFORCED PLASTIC:	No
CONCRETE:	No	INTERNAL LINER:	No
EXTERNAL LINER:	No	DOUBLE WALLED:	No
JACKET:	No	UNKNOWN:	No
OTHER MAT:			

TANK RELEASE DETECTION (RD) INFORMATION

RD INSTALLED:	4/26/1995	MANUAL GAUGE:	- Continued on next page -
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***Environmental FirstSearch
Site Detail Report***

TARGET SITE: GREERS FERRY LAKE
HIGDEN AR 72067

JOB: 0620-02
GREERS FERRY LAKE PERIMETER SEARCH

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 27

DIST/DIR: NON GC

MAP ID:

NAME: SHILOH GAS & TOBACCO
ADDRESS: 8394 EDGEMONT RD
GREERS FERRY AR 72067

REV: 05/15/06
ID1: 12001504
ID2: 009564
STATUS:
PHONE: 5018258576

CONTACT: JOHNNY BITTLE

OWNER INFORMATION

OWNER ID NUMBER: 009564
OWNER NAME: SECOND STAR INC.
OWNER ADDRESS 1: 7209 GREERS FERRY RD
GREERS FERRY AR 72067
OWNER ADDRESS 2:
PHONE: 5018256968

UNDERGROUND STORAGE TANK DETAILS

Environmental FirstSearch
Site Detail Report

TARGET SITE: GREERS FERRY LAKE
HIGDEN AR 72067

JOB: 0620-02
GREERS FERRY LAKE PERIMETER SEARCH

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 28

DIST/DIR: NON GC

MAP ID:

NAME: WESTSIDE PUBLIC SCHOOL
ADDRESS: 7925 GREERS FERRY ROAD
GREERS FERRY AR 72067

REV: 05/15/06
ID1: 12000038
ID2: 002935
STATUS:
PHONE: 5018256258

CONTACT: GAY F. HORTON

SO DESC:

PIPING (PP) MATERIAL INFORMATION:

BARE STEEL:	No	GALVANIZED STEEL:	No
FBR GLASS REINFORCED PLASTIC:	No	COPPER:	No
DOUBLE WALLED:	No	SECONDARY CONTAINMENT:	No
PP UNKNOWN:	Yes	PP DESC:	

PIPING (PP) TYPE:

SUCTION; PVC:	No	SUCTION; TCV:	No
PRESSURE:	No	GRAVITY:	No
REPAIR DATE:		UNKNOWN:	Yes
OTHER PP TYPE DESC:			

PIPE RELEASE DETECTION (PRD) INFORMATION

VAPOR MONITORING:	No	GROUNDWATER MONITORING:	No
LINE TIGHTNESS TEST:	No	AUTO LEAK DETECTOR:	No
INTERSTITIAL MONITORING:	No	UNKNOWN:	Yes
OTHER PRD DESCRIPTION:			

Environmental FirstSearch
Site Detail Report

TARGET SITE: GREERS FERRY LAKE
HIGDEN AR 72067

JOB: 0620-02
GREERS FERRY LAKE PERIMETER SEARCH

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 29

DIST/DIR: NON GC

MAP ID:

NAME: CLINTON SCHOOL
ADDRESS: SCHOOL STREET
CLINTON AR 72031

REV: 05/15/06
ID1: 71000015
ID2: 002433
STATUS:
PHONE: 5017454212

CONTACT: DON BOONE

SO DESC:

PIPING (PP) MATERIAL INFORMATION:

BARE STEEL:	No	GALVANIZED STEEL:	Yes
FBR GLASS REINFORCED PLASTIC:	No	COPPER:	No
DOUBLE WALLED:	No	SECONDARY CONTAINMENT:	No
PP UNKNOWN:	No	PP DESC:	

PIPING (PP) TYPE:

SUCTION; PVC:	No	SUCTION; TCV:	No
PRESSURE:	No	GRAVITY:	No
REPAIR DATE:		UNKNOWN:	Yes
OTHER PP TYPE DESC:			

PIPE RELEASE DETECTION (PRD) INFORMATION

VAPOR MONITORING:	No	GROUNDWATER MONITORING:	No
LINE TIGHTNESS TEST:	No	AUTO LEAK DETECTOR:	No
INTERSTITIAL MONITORING:	No	UNKNOWN:	Yes
OTHER PRD DESCRIPTION:			

Environmental FirstSearch
Site Detail Report

TARGET SITE: GREERS FERRY LAKE
HIGDEN AR 72067

JOB: 0620-02
GREERS FERRY LAKE PERIMETER SEARCH

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 30

DIST/DIR: NON GC

MAP ID:

NAME: EDGEMONT GROCERY
ADDRESS: 10249 EDGEMONT RD
EDGEMONT AR 72044

REV: 05/15/06
ID1: 12001652
ID2: 010267
STATUS:
PHONE: 870-999-9999

CONTACT: NONE SHOWN

INTERNAL LINING:	No	CATHODIC PROT SYSTEM:	No
ELECTRICAL ISOLATION:	No	CP UNKNOWN:	Yes
OTHER CP DESC:			

SPILL & OVERFLOW PROTECTION (SO) INFORMATION

SO INSTALLED:		SPILL BASIN:	No
AUTO SHUTOFF VALVE:	No	AUTO FLOW RESTRICTOR:	No
AUTO HI LEVEL ALARM:	No	SO UNKNOWN:	Yes
SO DESC:			

PIPING (PP) MATERIAL INFORMATION:

BARE STEEL:	No	GALVANIZED STEEL:	No
FBR GLASS REINFORCED PLASTIC:	No	COPPER:	No
DOUBLE WALLED:	No	SECONDARY CONTAINMENT:	No
PP UNKNOWN:	Yes	PP DESC:	

PIPING (PP) TYPE:

SUCTION; PVC:	No	SUCTION; TCV:	No
PRESSURE:	No	GRAVITY:	No
REPAIR DATE:		UNKNOWN:	Yes
OTHER PP TYPE DESC:			

PIPE RELEASE DETECTION (PRD) INFORMATION

VAPOR MONITORING:	No	GROUNDWATER MONITORING:	No
LINE TIGHTNESS TEST:	No	AUTO LEAK DETECTOR:	No
INTERSTITIAL MONITORING:	No	UNKNOWN:	Yes
OTHER PRD DESCRIPTION:			

**Environmental FirstSearch
Site Detail Report**

TARGET SITE: GREERS FERRY LAKE
HIGDEN AR 72067

JOB: 0620-02
GREERS FERRY LAKE PERIMETER SEARCH

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 43

DIST/DIR: NON GC

MAP ID:

NAME: GREERS FERRY EXXON
ADDRESS: GREERS FERRY, AR
GREERS FERRY AR 72543

REV: 05/15/06
ID1: 12000013
ID2: 000861
STATUS:
PHONE: 5013622467

CONTACT: DARRELL LOGAN

TIGHTNESS TEST:	No	INVENTORY CONTROLS:	No
AUTO TK GAUGE:	No	VAPOR MONITOR:	No
GROUNDWATER MONITORING:	No	INTERSTITIAL-DBL WALL:	No
UNKNOWN:	Yes	OTHER RD DESC:	

TANK CORROSION PROTECTION (CP) INFORMATION

CP INSTALLED:		ASPHALT COATING:	Yes
DIELECTRIC COATING:	No	EXTERNAL FRP:	No
INTERNAL LINING:	No	CATHODIC PROT SYSTEM:	No
ELECTRICAL ISOLATION:	No	CP UNKNOWN:	No
OTHER CP DESC:			

SPILL & OVERFLOW PROTECTION (SO) INFORMATION

SO INSTALLED:		SPILL BASIN:	No
AUTO SHUTOFF VALVE:	No	AUTO FLOW RESTRICTOR:	No
AUTO HI LEVEL ALARM:	No	SO UNKNOWN:	Yes
SO DESC:			

PIPING (PP) MATERIAL INFORMATION:

BARE STEEL:	No	GALVANIZED STEEL:	Yes
FBR GLASS REINFORCED PLASTIC:	No	COPPER:	No
DOUBLE WALLED:	No	SECONDARY CONTAINMENT:	No
PP UNKNOWN:	No	PP DESC:	

PIPING (PP) TYPE:

SUCTION; PVC:	No	SUCTION; TCV:	No
PRESSURE:	No	GRAVITY:	No
REPAIR DATE:		UNKNOWN:	Yes
OTHER PP TYPE DESC:			

PIPE RELEASE DETECTION (PRD) INFORMATION

VAPOR MONITORING:	No	GROUNDWATER MONITORING:	No
LINE TIGHTNESS TEST:	No	AUTO LEAK DETECTOR:	No
INTERSTITIAL MONITORING:	No	UNKNOWN:	Yes
OTHER PRD DESCRIPTION:			

Environmental FirstSearch Database Descriptions

NPL: *EPA* NATIONAL PRIORITY LIST - Database of confirmed, proposed or deleted Superfund sites.

CERCLIS: *EPA* COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY INFORMATION SYSTEM - Database of current and potential Superfund sites currently or previously under investigation.

NFRAP: *EPA* COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY INFORMATION SYSTEM ARCHIVED SITES - database of Archive designated CERCLA sites that, to the best of EPA's knowledge, assessment has been completed and has determined no further steps will be taken to list this site on the National Priorities List (NPL). This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

RCRA TSD: *EPA* RESOURCE CONSERVATION AND RECOVERY INFORMATION SYSTEM TREATMENT, STORAGE, and DISPOSAL FACILITIES. - Database of facilities licensed to store, treat and dispose of hazardous waste materials.

RCRA COR: *EPA* RESOURCE CONSERVATION AND RECOVERY INFORMATION SYSTEM SITES - Database of RCRA facilities with reported violations and subject to corrective actions.

RCRA GEN: *EPA* RESOURCE CONSERVATION AND RECOVERY INFORMATION SYSTEM SITES - Database of facilities that generate or transport hazardous waste or meet other RCRA requirements. LGN - Large Quantity Generators SGN - Small Quantity Generators VGN – Conditionally Exempt Generator. Included are RAATS (RCRA Administrative Action Tracking System) and CMEL (Compliance Monitoring & Enforcement List) facilities.

ERNS: *EPA/NRC* EMERGENCY RESPONSE NOTIFICATION SYSTEM - Database of emergency response actions. Data since January 2001 has been received from the National Response System database as the EPA no longer maintains this data.

STATE SITES: *ARDEQ* Listing of hazardous waste generators facility summary

SWL: *ARDEQ* listing of all landfills. This database gives information on all landfill permit holders regardless of the permit status or the facility

REG UST/AST: *ARDEQ* Listing of all known underground storage tanks

LEAKING UST: *ARDEQ* Listing of all known leaking underground storage tanks

RADON: *NTIS* NATIONAL RADON DATABASE - EPA radon data from 1990-1991 national radon project collected for a variety of zip codes across the United States.

Environmental FirstSearch Database Sources

NPL: *EPA* Environmental Protection Agency

Updated quarterly

CERCLIS: *EPA* Environmental Protection Agency

Updated quarterly

NFRAP: *EPA* Environmental Protection Agency.

Updated quarterly

RCRA TSD: *EPA* Environmental Protection Agency.

Updated quarterly

RCRA COR: *EPA* Environmental Protection Agency.

Updated quarterly

RCRA GEN: *EPA* Environmental Protection Agency.

Updated quarterly

ERNS: *EPA/NRC* Environmental Protection Agency

Updated semi-annually

STATE SITES: *ARDEQ* Arkansas Department of Environmental Quality

Updated quarterly

SWL: *ARDEQ* Arkansas Department of Environmental Quality

Updated annually

REG UST/AST: *ARDEQ* Arkansas Department of Environmental Quality

Updated quarterly

LEAKING UST: *ARDEQ* Arkansas Department of Environmental Quality

Updated quarterly

RADON: *NTIS* Environmental Protection Agency, National Technical Information Services

Updated periodically

Environmental FirstSearch
Street Name Report for Streets within 1 Mile(s) of Target Property

TARGET SITE: GREERS FERRY LAKE
HIGDEN AR 72067

JOB: 0620-02
GREERS FERRY LAKE PERIMETER SEARCH

Street Name	Dist/Dir	Street Name	Dist/Dir
3rd St	0.00 --	Lakeview Rd	0.00 --
Abbey Rd	0.00 --	Lakeview Ter	0.17 NW
Abdin Ln	0.00 --	Lakewind Cir	0.00 --
Achey Breaky Ln	0.15 SE	Lakewood Rd	0.72 NW
Adrienne Ave	0.48 NW	Launch Ramp Rd	0.00 --
Air Rd	0.00 --	Lazy Oaks Ln	0.96 SW
Apache Rd	0.00 --	Leech Dr	0.00 --
Apache Trl	0.00 --	Leech Rd	0.00 --
Apple Pl	0.00 --	Les Nelson Rd	0.00 --
Arapaho Trl	0.22 NW	Linn Rd	0.00 --
Ash Ave	0.49 NW	Lisa Blvd	0.00 --
Ash St	0.00 --	Little Piney Ln	0.29 NW
Autumn Ln	0.34 NW	Loblolly Cir	0.00 --
Autumn Woods	0.21 SE	Lochland Dr	0.00 --
Baid Mt Rd	0.00 --	Locust Dr	0.71 NW
Bald Mt Rd	0.47 SW	Loeschner St	0.00 --
Barnum Rd	0.21 SW	Lois Ln	0.93 SW
Bass St	0.35 SE	Long Hill Rd	0.04 SW
Bending Willow Rd	0.00 --	Long Rd	0.00 --
Betty Owens Rd	0.36 NW	Lookout Dr	0.38 NW
Big Piney Ln	0.34 NW	Loop Rd	0.00 --
Bingle Dr	0.00 --	Los Robles Dr	0.00 --
Birchwood Cir	0.23 NW	Lost Cove Rd	0.02 NW
Blackjack Dr	0.88 SW	Lucy Ln	0.18 NW
Blue Jay Way	0.37 NW	Lumberjack Cir	0.15 NW
Bluebird	0.25 NW	Lumberjack Ln	0.14 NW
Bluff St	0.00 --	Luna Trl	0.00 --
Bobby Rd	0.54 SE	Lynn Creek Dr	0.08 NW
Bold Mt Rd	0.00 --	Lynn Creek Pky	0.00 --
Bold Mt State Route	0.00 --	Lynn Rd	0.00 --
Bondair Rd	0.00 --	Madelyn Ln	0.00 --
Bosie Ct	0.15 NW	Main St	0.00 --
Brewer Rd	0.00 --	Mallard Dr	0.00 --
Bridwell Park Rd	0.00 --	Maple	0.00 --
Brierwood Dr	0.00 --	Mari Bett Ln	0.00 --
Broadview Ct	0.18 NW	Mariner Dr	0.73 NW
Brook Hollow Rd	0.00 --	Marty Ln	0.00 --
Brown Ln	0.00 --	Max Ln	0.00 --
Brush Dr	0.00 --	Maxwells Dr	0.14 NW
Buck Ln	0.65 NW	Mayflower	0.00 --
Buff St	0.00 --	Mayhand Dr	0.00 --
Burning Tree Rd	0.00 --	Meadow Ln	0.66 NW
Burnt Rock Falls Cir	0.88 NW	Meadow Look Way	0.18 SE
Burnt Rock Falls Dr	0.89 NW	Meadowcliff Cir	0.59 NW
Burnt Rock Falls Ln	0.94 NW	Meadowview Ln	0.96 NW
Burnt Rock Falls Rd	0.36 NW	Medra Ln	0.00 --
Camalodge Ln	0.33 NW	Memory Ln	0.00 --
Cammaron Cir	0.29 NW	Mett Beadford Cir	0.93 NW

Environmental FirstSearch
Street Name Report for Streets within 1 Mile(s) of Target Property

TARGET SITE: GREERS FERRY LAKE
HIGDEN AR 72067

JOB: 0620-02
GREERS FERRY LAKE PERIMETER SEARCH

Street Name	Dist/Dir	Street Name	Dist/Dir
Cardinal	0.21 NW	Mill Creek Rd	0.00 --
Carla Ln	0.00 --	Miller Point Rd NORT	0.40 SW
Carol Ave	0.00 --	Mimosa Ln	0.00 --
Casablanca Dr	0.00 --	Mitchell Rd	0.48 SW
Cedar Brook Rd	0.84 SE	Mockingbird Ln	0.59 NW
Cedar St	0.00 --	Mockingbird Rd	0.45 NW
Cedar Valley Cir	0.41 NW	Moonlight Ln	0.00 --
Cedar Valley Ct	0.45 NW	Moorland Dr	0.00 --
Cedar Valley Rd	0.00 --	Morgan Ln	0.00 --
Cedarwood Ln	0.77 SW	Mountain View No 1	0.00 --
Cemetery Rd	0.56 NW	Mountain View No 2	0.00 --
Central Ave	0.37 NE	Mt Rd	0.00 --
Chalet Cir	0.95 NW	Mystic Cir	0.00 --
Cherokee	0.00 --	Mystic Isle Rd	0.00 --
Cherokee Dr	0.00 --	Narrows Overlook Dr	0.00 --
Cherry St	0.00 --	Net Rd	0.95 NW
Choctaw Dr	0.00 --	Nixon Pass	0.00 --
Choctaw Pl	0.00 --	North Line Link	0.08 NW
Christopher Dr	0.00 --	O Brian Dr	0.62 SE
Church Camp Rd EAST	0.00 --	Oak Ln	0.40 SE
Circle Acres Rd	0.83 SW	Oak Ridge Rd	0.00 --
Clearmont Ct	0.00 --	Oak St	0.00 --
Clearmont Dr	0.00 --	Old Lake Rd	0.00 --
Cliff Cir	0.35 NW	Old Saw Mill Rd	0.97 NW
Cliff Ct	0.37 NW	Osage	0.00 --
Cliffview Dr	0.00 --	Overlook Dr	0.38 NW
Clover Ln	0.38 NW	Overview Ct	0.46 NW
Colby Creek Rd	0.34 SW	Owen Cir	0.36 NW
Collins Ct	0.29 NW	Owen Ln	0.34 NW
Columbus Dr	0.20 NW	Paradise Dr	0.00 --
Concho Rd	0.00 --	Paradise Point	0.00 --
Conn Ln	0.00 --	Park Ln	0.46 NE
Corsica Ct	0.00 --	Parker Ct	0.28 NW
County Road 1002	0.47 NW	Parkland Cir	0.66 NW
County Road 115	0.72 NW	Paw Paw Path	0.96 NW
County Road 190	0.00 --	Pearl Ct	0.81 NW
County Road 191	0.00 --	Penny Ln	0.00 --
County Road 192	0.05 NW	Penny Rd	0.53 SW
County Road 197	0.45 NW	Perch St	0.40 SE
County Road 21	0.32 NW	Percy Ln	0.00 --
County Road 23	0.03 SW	Pettit Dr	0.00 --
County Road 24	0.86 SE	Pike St	0.32 SE
County Road 289	0.00 --	Pine Hill Estates	0.37 NW
County Road 290	0.81 SW	Pine Hill Estates Rd	0.37 NW
County Road 298	0.28 SW	Pine Hill Rd	0.75 NW
County Road 309	0.00 --	Pine Needle Rd	0.37 NW
County Road 320	0.63 NE	Pine St	0.00 --
County Road 333	0.00 --	Pine Trl	0.34 SE

Environmental FirstSearch
Street Name Report for Streets within 1 Mile(s) of Target Property

TARGET SITE: GREERS FERRY LAKE
HIGDEN AR 72067

JOB: 0620-02
GREERS FERRY LAKE PERIMETER SEARCH

Street Name	Dist/Dir	Street Name	Dist/Dir
County Road 334	0.00 --	Pine Wood Estates	0.26 SW
County Road 336	0.00 --	Piney Ln Rd	0.23 SE
County Road 337	0.01 SW	Pioneer Rd	0.29 NW
County Road 347	0.00 --	Plum St	0.02 SE
County Road 348	0.00 --	Pointe Peaceful Rd	0.00 --
County Road 349	0.00 --	Polly Cir	0.23 NW
County Road 357	0.93 SW	Ponca Rd	0.00 --
County Road 358	0.96 SW	Potters Point Rd	0.00 --
County Road 54	0.00 --	Powell Ct	0.75 NW
County Road 619	0.41 SW	Prince Rd	0.00 --
County Road 621	0.86 SE	Prospect Dr	0.07 NW
County Road 623	0.00 --	Quail Tr	0.53 NW
County Road 652	0.00 --	Quiet Bend Dr	0.51 NW
County Road 653	0.00 --	Rabbit Ears Cir	0.78 NW
County Road 677	0.00 --	Rabbit Ears Ct	0.77 NW
County Road 678	0.41 SE	Rabbit Ears Ln	0.85 NW
County Road 682	0.00 --	Rabbit Ears Rd	0.82 NW
County Road 684	0.00 --	Rainbow Ct	0.95 NW
County Road 685	0.00 --	Randy Hts	0.00 --
County Road 93	0.89 NW	Reba Ln	0.00 --
County Road 94	0.00 --	Red Bird Rd	0.44 NW
Crockett Rd	0.00 --	Red Oak Rd	0.00 --
Crow	0.00 --	Redbud St	0.00 --
Daisy Dr	0.42 NW	Renae Blvd	0.00 --
Dana Ln	0.00 --	Reservoir Rd	0.00 --
Danny Dr	0.00 --	Rhonda Rd	0.00 --
Darlene Dr	0.36 SW	Rich Haven Cir	0.03 NW
Dave Creek Ln	0.38 NW	Richwood Cir	0.07 NW
Dave Creek Phwy	0.00 --	Ridgeview Dr	0.76 NW
Dave Creek Pky	0.00 --	Riverview Dr	0.14 NW
Dave Creek Pwky	0.00 --	Road Runner	0.00 --
Dave Crook Pky	0.22 NW	Roberts Rd	0.00 --
Davis Rd	0.00 --	Robin Hood Cir	0.06 NW
Daxton Cir	0.82 NW	Robin Ln	0.00 --
Debra St	0.00 --	Robinhood Trl	0.00 --
Decatur St	0.00 --	Rocky Ridge Ln	0.00 --
Deer Creek Dr	0.00 --	Rose Dr	0.63 SW
Devil s Fork Rd	0.00 --	Rosemary Ln	0.00 --
Diamond Bluff Rd	0.00 --	Rosewood Ct	0.00 --
Dog Trl	0.58 NW	Rosby Junction	0.00 --
Dog Wood Dr	0.00 --	Rushing Trail Rd	0.00 --
Dogwood	0.00 --	S Miller Point Rd	0.42 SW
Dogwood St	0.00 --	Salt Cave Dr	0.00 --
Doris Ln	0.76 SW	Salt Creek Rd	0.00 --
Doubles Dr	0.97 NW	Sandburg Dr	0.00 --
Dover Ln	0.19 NW	Sandlewood	0.00 --
Drake Dr	0.21 NW	Sandrif Rd	0.45 SW
Dundee Cir	0.00 --	Santa Lucia Dr	0.00 --

Environmental FirstSearch
Street Name Report for Streets within 1 Mile(s) of Target Property

TARGET SITE: GREERS FERRY LAKE
HIGDEN AR 72067

JOB: 0620-02
GREERS FERRY LAKE PERIMETER SEARCH

Street Name	Dist/Dir	Street Name	Dist/Dir
E Bondair Rd	0.00 --	School St	0.00 --
E Cliff Dr	0.49 NW	Seminole Rd	0.00 --
E Crest Cir	0.00 --	Shaded Acres Dr	0.65 NW
E Lakeside Drive Ter	0.89 NW	Shiloh Rd	0.07 NE
E Rdg Dr	0.00 --	Short Cut	0.00 --
Eagle Ridge Trce	0.75 NW	Silagy Dr	0.00 --
Eagle Shores Cir	0.00 --	Silver Cir	0.18 NW
Easom Ln	0.00 --	Silver Lake Rd	0.00 --
EAST Bondair Rd	0.00 --	Singer	0.00 --
East Cliff Dr	0.00 --	Sioux Trl	0.00 --
EAST Crest Cir	0.00 --	Ski King Dr	0.63 NW
EAST Lakeside Drive	0.89 NW	Sky King Ct	0.47 NW
EAST Rdg Dr	0.00 --	Sky King Dr	0.45 NW
Edgemont Rd	0.00 --	Skyline Dr	0.00 --
Edgewood Ct	0.34 NW	South Dr	0.02 NE
Egelton Rd	0.05 NW	SOUTH Miller Point R	0.42 SW
El Camido Real	0.00 --	Southwind Cir	0.00 --
Ellen Ln	0.55 SW	Spring	0.00 --
Elm Ln	0.95 NW	Spring Dr	0.04 SE
Emmet Bradford Cir	0.93 NW	Spring Hill Rd	0.00 --
Evergreen Ave	0.49 NW	Stanfield Rd	0.00 --
Factory Rd	0.87 NW	Star Light Cir	0.00 --
Fairhaven Dr	0.95 NW	Stark Ave	0.00 --
Farmers Cir	0.53 SW	Stark Rd	0.00 --
Fawn Pl	0.52 NW	State Highway 16	0.72 NW
Fayes Forest Rd	0.20 NW	State Highway 330	0.00 --
Fern Pl	0.50 NW	State Highway 336	0.00 --
Fern Trl	0.43 NW	State Highway 337	0.16 SE
Ferris Ln	0.00 --	State Highway 92	0.15 SW
Foot Hill Rd	0.34 SE	State Highway 95	0.00 --
Forest Rd	0.19 NW	Steve	0.49 NW
Fox Hollow Rd	0.19 NW	Stillwood	0.76 NW
Gayes Dr	0.27 NW	Strawberry Field	0.00 --
Genie Ln	0.00 --	Sue Ln	0.00 --
Gilbert St	0.00 --	Sugar Ln Rd	0.17 SE
Glenwood Ct	0.00 --	Sugar Loaf Dr	0.00 --
Glenwood Dr	0.29 NW	Sugar Loaf Rd	0.34 NW
Glenwood Ln	0.33 NW	Sun Dr	0.00 --
Glenwood Loop	0.00 --	Sunflower Dr	0.00 --
Gr Tree Rd	0.03 SE	Sunnyside Ave	0.00 --
Granada Cir	0.00 --	Sunrise Cir	0.00 --
Grand Isle Dr	0.00 --	Sunset Dr	0.00 --
Grasshopper Ln	0.00 --	Sunset Point Dr	0.00 --
Green Hill Rd	0.46 NW	Sycamore	0.82 NW
Greenwood Dr	0.15 NW	Sylvan Dr	0.00 --
Greenwood Rd	0.06 NW	Sylvay Dr	0.00 --
Greers Ferry Rd	0.16 SE	Tama Rd	0.00 --
Gregory Dr	0.61 NW	Taylor Rd	0.32 SW

Environmental FirstSearch
Street Name Report for Streets within 1 Mile(s) of Target Property

TARGET SITE: GREERS FERRY LAKE
HIGDEN AR 72067

JOB: 0620-02
GREERS FERRY LAKE PERIMETER SEARCH

Street Name	Dist/Dir	Street Name	Dist/Dir
Gregpry Dr	0.70 NW	Tee Pee Trl	0.00 --
Greywood Dr	0.00 --	Tennyson Dr	0.00 --
Griffins Tr	0.00 --	Terrys Beach	0.00 --
Hallmore Dr	0.00 --	Teton Dr	0.00 --
Hamilton Cv	0.00 --	Texas Dr	0.00 --
Hammer Ln	0.08 NW	The Narrows Dr	0.00 --
Hanson Ln	0.00 --	Thompson Rd	0.38 NE
Harden Dr	0.00 --	Tice Rd	0.00 --
Heritage Hill	0.13 NW	Timber Rd	0.09 NW
Hester Cir	0.00 --	Tods Trl	0.46 SW
Hickory Cir	0.17 NW	Toll Dr	0.20 N-
Hickory Dr	0.00 --	Tonkawa Rd	0.00 --
Hickory Forest Rd	0.24 NW	Tortoise Bay Rd	0.00 --
Hickory Ln	0.16 NW	Tracy Ann Ter	0.80 SW
Hickory St	0.00 --	Treece Ln	0.22 NE
Hickory Ter	0.15 NW	Tulip	0.00 --
Hiddon Valley Rd	0.00 --	United States Highwa	0.88 SW
Hidgen Rd	0.11 SW	Ute Rd	0.00 --
Higden Rd	0.00 --	Vail Ct	0.60 NW
High Point Ct	0.71 NW	Valhalla Dr	0.00 --
Highland Dr	0.83 NW	Victory Dr	0.24 NE
Hillcrest Ct	0.00 --	Victory Ln	0.34 NE
Hillcrest Dr	0.00 --	Vista Ln	0.76 NW
Hillside Dr	0.57 NW	W Cliff Dr	0.23 NW
Hilltop Dr	0.00 --	W Cliff Spur	0.98 NW
Holley Rd	0.00 --	Walnut	0.23 NW
Homestead Ct	0.00 --	Walnut Cir	0.29 NW
Horse Shoe Ln	0.00 --	Walnut St	0.00 --
Howard Rd	0.52 SW	Watercress Cir	0.00 --
Huckleberry	0.00 --	Wave Crest Cir	0.00 --
Hummingbird Rd	0.00 --	Wayside Cir	0.84 NW
Hunters Mt Rd	0.20 SE	Wayside Ct	0.85 NW
Hunters Rd	0.00 --	Wayside Dr	0.84 NW
Hurricane Dr	0.00 --	West Circle Acres Dr	0.00 --
Iowa Rd	0.00 --	WEST Cliff Dr	0.23 NW
Irish Hills Rd	0.00 --	WEST Cliff Spur	0.98 NW
Ivy	0.58 NW	Westbrook Ct	1.00 NW
James Lawrence Ave	0.00 --	Westwood Rd	0.94 NW
James St	0.00 --	Wheatwood Lodge Rd	0.00 --
Jennifers Ct	0.22 NW	Whip Poor Will	0.00 --
Jimmerson Rd	0.00 --	Whipoorwill Ln	0.00 --
Johnson Cir	0.00 --	Whispering Dr	0.00 --
Johnston Ln	0.00 --	White Oak Ct	0.59 NW
Jonwood Cir	0.02 NW	White Oak Dr	0.52 NW
Kathy Ln	0.00 --	White Rock Rd	0.00 --
Kinder Hook Cir	0.00 --	Whitewood Cir	0.00 --
Kinderhook	0.00 --	Whitmora Cir	0.17 NW
Kinderhook Rd	0.00 --	Whitney Ln	0.00 --

Environmental FirstSearch
Street Name Report for Streets within 1 Mile(s) of Target Property

TARGET SITE: GREERS FERRY LAKE
HIGDEN AR 72067

JOB: 0620-02
GREERS FERRY LAKE PERIMETER SEARCH

Street Name	Dist/Dir	Street Name	Dist/Dir
King Arthur Dr	0.60 NW	Wigwam Trl	0.04 NW
Kings Ct	0.68 NW	Wig-Wam Trl	0.00 --
Kings Pl	0.00 --	Wilbourn Ln	0.00 --
Knollside Rd	0.24 NW	Wild Rd	0.00 --
Kristi Rd	0.00 --	Wildwood Trl	0.00 --
Lafferty Ct	0.83 NW	Wilshire Ct	0.00 --
Lafferty Ln	0.54 NW	Wilshire Dr	0.00 --
Lake Country Ct	0.86 NW	Wilshire Ln	0.00 --
Lake Country Dr	0.80 NW	Wilshire Rd	0.00 --
Lake Dwellers Dr	0.36 NW	Wilshire Ter	0.00 --
Lake Front Rd	0.00 --	Windover Dr	0.00 --
Lake Ice Rd	0.00 --	Wood Grove Ln	0.17 SE
Lake Park Dr	0.00 --	Woodland Dr	0.00 --
Lake Pointe Rd	0.04 SW	Woodland Rd	0.82 NW
Lake Shore Dr	0.00 --	Woodlawn Cir	0.30 NW
Lakeshore Dr	0.00 --	Woodlawn Ct	0.14 NW
Lakeside Cir	0.42 NW	Woodlawn Dr	0.02 NW
Lakeside Dr	0.00 --	Woodson	0.94 NW
Lakeview Cir	0.15 NW	Wortman	0.00 --
Lakeview Ct	0.21 NW	Zenith Dr	0.36 NW
Lakeview Dr	0.00 --		
Lakeview Ln	0.11 NW		

Lake Ouachita



Banks Information Solutions, Inc.

Environmental FirstSearch™ Report

TARGET PROPERTY:

LAKE OUACHITA

ROYAL AR 71968

Job Number: 0620-01

PREPARED FOR:

GEC, INC.

P.O. Box 84010

Baton Rouge, LA 70884-4010

ASTM

06-22-06

**Environmental
FIRSTSEARCH**



Tel: (512) 478-0059

Fax: (512) 478-1433

Environmental FirstSearch

Search Summary Report

Target Site: LAKE OUACHITA
ROYAL AR 71968

FirstSearch Summary

Database	Sel	Updated	Radius	Site	1/8	1/4	1/2	1/2>	ZIP	TOTALS
NPL	Y	04-10-06	1.00	0	0	0	0	0	0	0
CERCLIS	Y	03-08-06	0.50	0	0	0	0	-	0	0
NFRAP	Y	03-08-06	0.50	0	0	0	0	-	0	0
RCRA TSD	Y	04-16-06	0.50	0	0	0	0	-	0	0
RCRA COR	Y	04-16-06	1.00	0	0	0	0	0	0	0
RCRA GEN	Y	04-16-06	0.25	2	0	0	-	-	0	2
ERNS	Y	12-31-05	0.15	0	0	0	-	-	0	0
State Sites	Y	NA	1.00	0	0	0	0	0	0	0
SWL	Y	12-09-04	0.50	0	0	0	0	-	1	1
REG UST/AST	Y	05/15/06	0.25	12	2	0	-	-	8	22
Leaking UST	Y	05/15/06	0.50	2	0	0	0	-	0	2
- TOTALS -				16	2	0	0	0	9	27

Notice of Disclaimer

Due to the limitations, constraints, inaccuracies and incompleteness of government information and computer mapping data currently available to Banks Information Solutions, Inc., certain conventions have been utilized in preparing the locations of all federal, state and local agency sites residing in Banks Information Solutions, Inc.'s databases. All EPA NPL and state landfill sites are depicted by a rectangle approximating their location and size. The boundaries of the rectangles represent the eastern and western most longitudes; the northern and southern most latitudes. As such, the mapped areas may exceed the actual areas and do not represent the actual boundaries of these properties. All other sites are depicted by a point representing their approximate address location and make no attempt to represent the actual areas of the associated property. Actual boundaries and locations of individual properties can be found in the files residing at the agency responsible for such information.

Waiver of Liability

Although Banks Information Solutions, Inc. uses its best efforts to research the actual location of each site, Banks Information Solutions, Inc. does not and can not warrant the accuracy of these sites with regard to exact location and size. All authorized users of Banks Information Solutions, Inc.'s services proceeding are signifying an understanding of Banks Information Solutions, Inc.'s searching and mapping conventions, and agree to waive any and all liability claims associated with search and map results showing incomplete and or inaccurate site locations.



Environmental FirstSearch

1 Mile Radius from Area

Single Map:

Environmental
FIRSTSEARCH

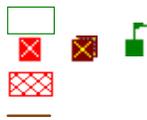


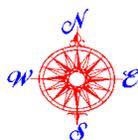
LAKE OUACHITA , ROYAL AR 71968



Source: 2002 U.S. Census TIGER Files

- Area Polygon
- Identified Site, Multiple Sites, Receptor
- NPL, Brownfield, Solid Waste Landfill (SWL) or Hazardous Waste
- Railroads



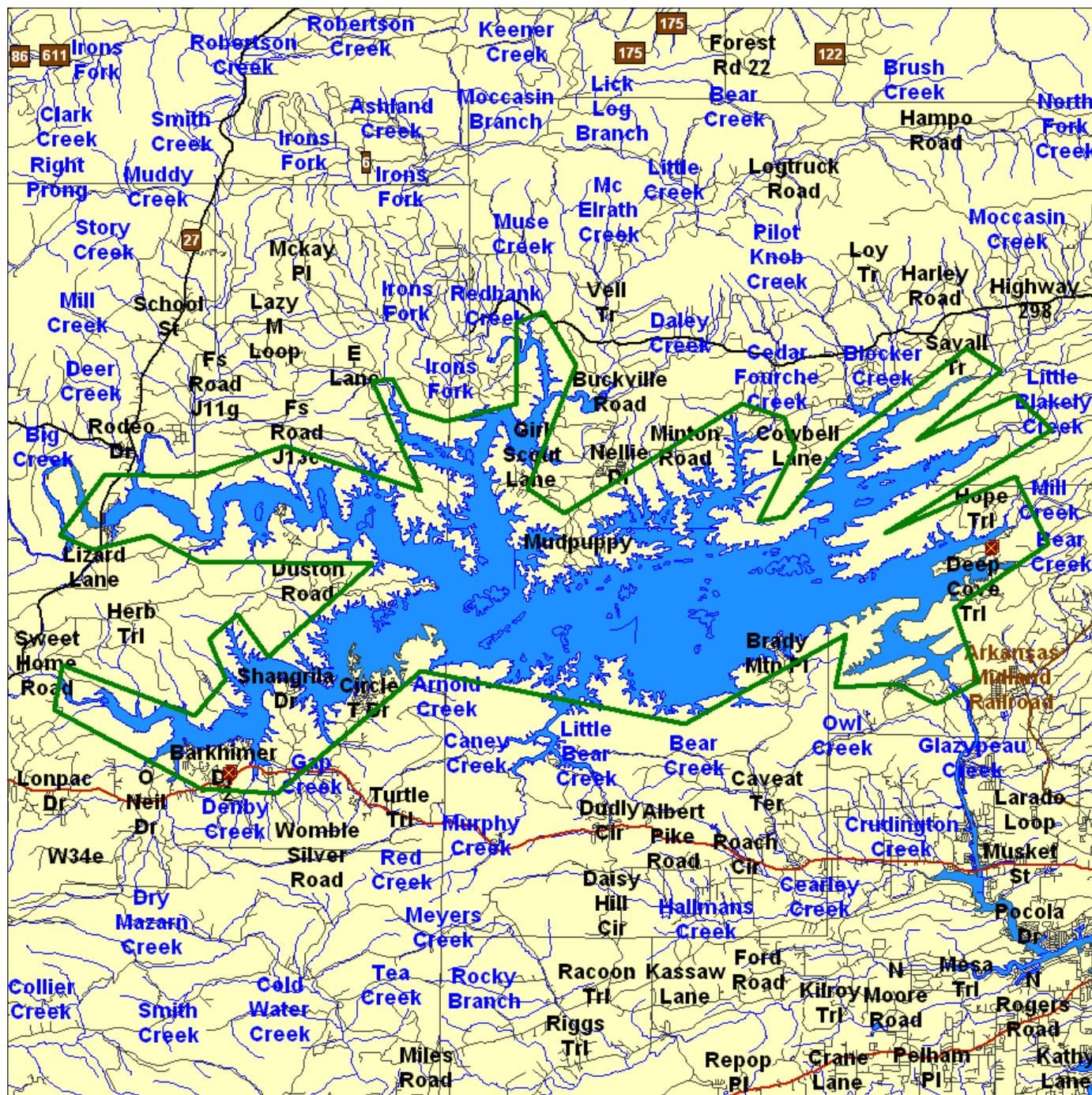


Environmental FirstSearch

.5 Mile Radius from Area
ASTM: CERCLIS, NFRAP, RCRATSD, LUST, SWL



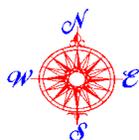
LAKE OUACHITA , ROYAL AR 71968



Source: 2002 U.S. Census TIGER Files

- Area Polygon
- Identified Site, Multiple Sites, Receptor
- NPL, Brownfield, Solid Waste Landfill (SWL) or Hazardous Waste
- Railroads





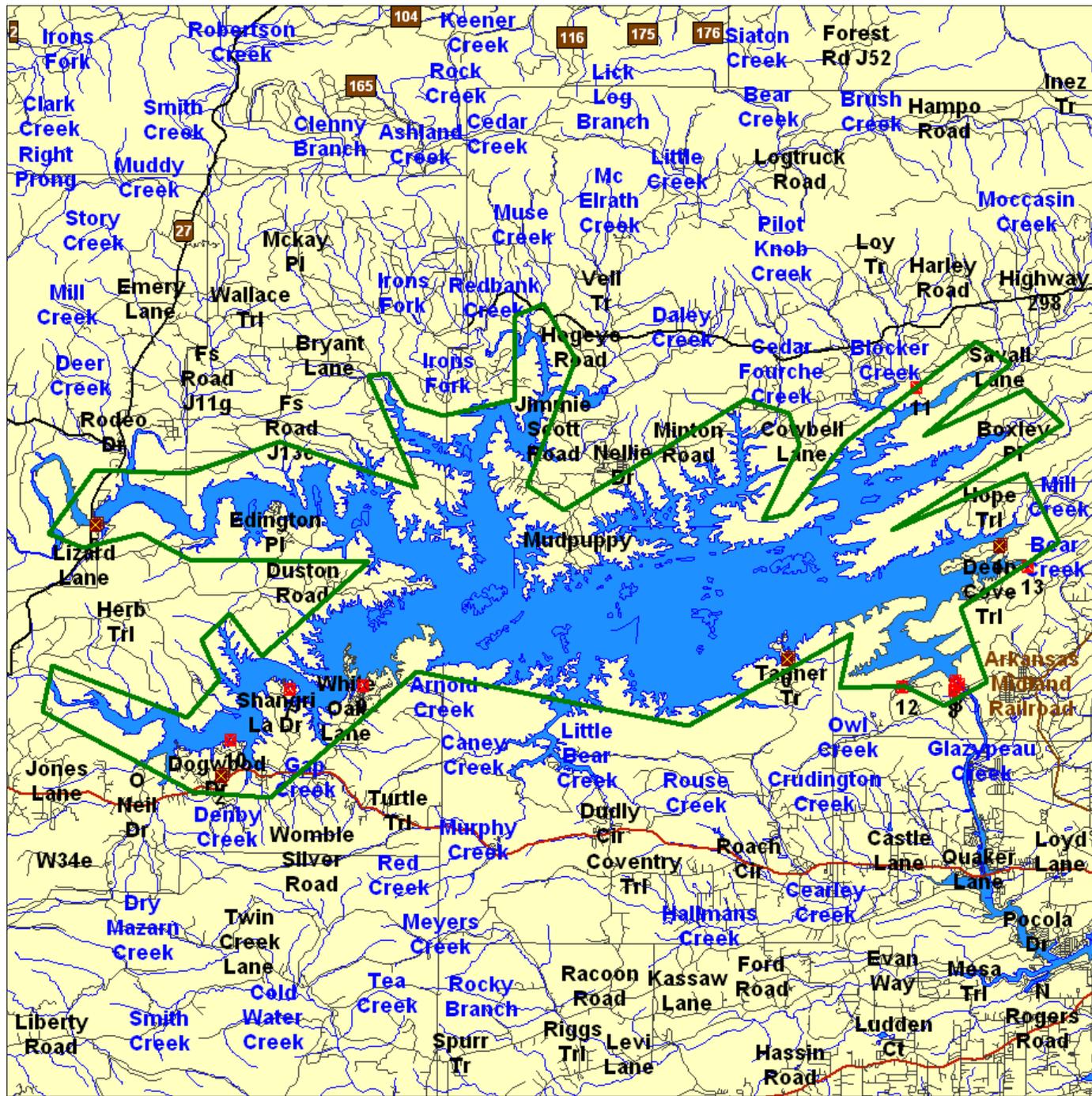
Environmental FirstSearch

.25 Mile Radius from Area

ASTM: RCRA GEN, UST



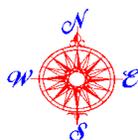
LAKE OUACHITA, ROYAL AR 71968



Source: 2002 U.S. Census TIGER Files

- Area Polygon
- Identified Site, Multiple Sites, Receptor
- NPL, Brownfield, Solid Waste Landfill (SWL) or Hazardous Waste
- Railroads





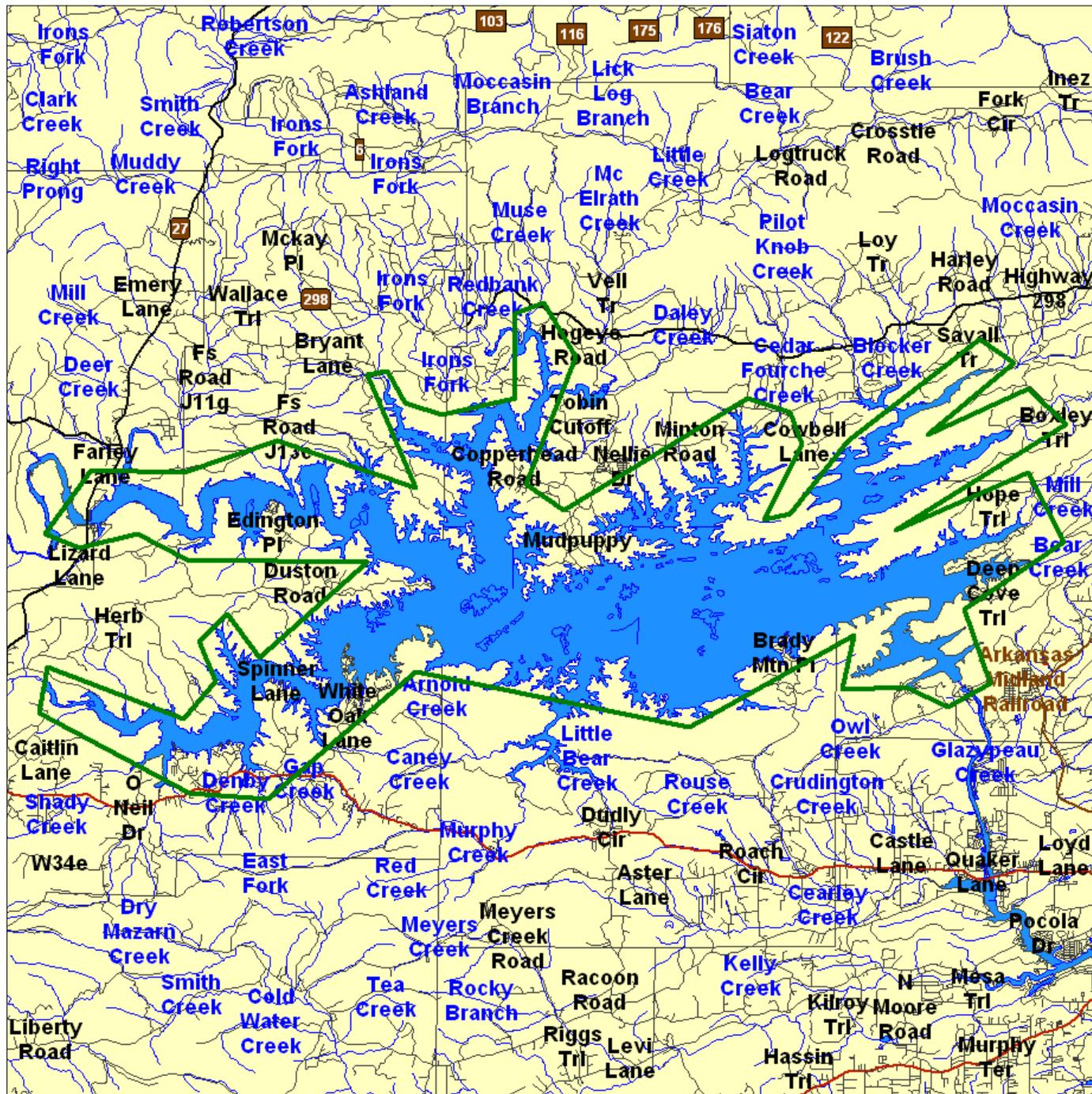
Environmental FirstSearch

.15 Mile Radius from Area

ASTM: ERNS

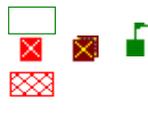


LAKE OUACHITA , ROYAL AR 71968



Source: 2002 U.S. Census TIGER Files

- Area Polygon
- Identified Site, Multiple Sites, Receptor
- NPL, Brownfield, Solid Waste Landfill (SWL) or Hazardous Waste
- Railroads



**Environmental FirstSearch
Site Information Report**

Request Date: 06-22-06
Requestor Name: davide
Standard: ASTM

Search Type: AREA
Job Number: 0620-01
Filtered Report

**TARGET ADDRESS: LAKE OUACHITA
ROYAL AR 71968**

Demographics

Sites: 27	Non-Geocoded: 9	Population: NA
Radon: 1 PCI/L		

Site Location

	<u>Degrees (Decimal)</u>	<u>Degrees (Min/Sec)</u>	<u>UTMs</u>
Longitude:	-93.359393	-93:21:34	Easting: 467051.856
Latitude:	34.616922	34:37:1	Northing: 3830424.82
			Zone: 15

Comment

Comment: LAKE OUACHITA PERIMETER SEARCH
--

Additional Requests/Services

Adjacent ZIP Codes: 1 Mile(s)	Services:
--------------------------------------	------------------

<u>ZIP Code</u>	<u>City Name</u>	<u>ST</u>	<u>Dist/Dir</u>	<u>Sel</u>	<u>Requested?</u>	<u>Date</u>
71949	JESSIEVILLE	AR	0.00 --	Y	Sanborns	No
71956	MOUNTAIN PINE	AR	0.00 --	Y	Aerial Photographs	No
71957	MOUNT IDA	AR	0.00 --	Y	Historical Topos	No
71969	SIMS	AR	0.94 NW	Y	City Directories	No
71970	STORY	AR	0.00 --	Y	Title Search	No
					Municipal Reports	No
					Online Topos	No

Environmental FirstSearch

Selected Sites Summary Report

TARGET SITE: LAKE OUACHITA
ROYAL AR 71968

JOB: 0620-01
LAKE OUACHITA PERIMETER SEARCH

TOTAL: 27 **GEOCODED:** 18 **NON GEOCODED:** 9 **SELECTED:** 27

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	Page No.
1	LUST	LAKE OUACHITA STATE PARK 26-009	END OF HIGHWAY 227 HC 33, B MOUNTAIN PINE AR 71956	0.00 --	1
2	LUST	HARBOR GENERAL STORE 49-006	5402 HIGHWAY 270 E. MT. IDA AR 71957	0.00 --	2
3	RCRAGN	US ARMY CORP ENG BLAKELY MTN PWR P AR9210899861/VGN	1111 BLAKELY DAM RD MOUNTAIN PINE AR 71956	0.00 --	4
4	RCRAGN	US ARMY CORPS ENG-LAKE OUACHITA FI AR8960009555/VGN	BLAKELY DAM SITE 3M W MT PI MOUNTAIN PINE AR 71956	0.00 --	5
	SWL	US COE LAKE OUACHITA WASTE TS 0040-SG-TSW/OPEN	1201 BLAKELY DAM ROAD ROYAL AR 71968	NON GC	62
5	UST	HWY 27 FISHING VILLAGE 48001607	RE:49001612 MT IDA AR 71957	0.00 --	6
6	UST	BRADY MOUNTAIN RESORT & MARINA 26001739	4120 BRADY MOUNTAIN ROAD ROYAL AR 71968	0.00 --	7
6	UST	BRADY MT. LODGE 26000094	4120 BRADY MOUNTAIN ROAD ROYAL AR 71968	0.00 --	10
5	UST	HIGHWAY 27 FISHING VILLAGE 49001612	214 FISHING VILLAGE RD STORY AR 71970	0.00 --	18
5	UST	HWY 27 FISHING VILLAGE 49000000	LAKE OUACHITA STORY AR 71970	0.00 --	19
7	UST	SHANGRI-LA RESORT 49000052	1010 SHANGRI-LA DRIVE MOUNT IDA AR 71957	0.00 --	23
1	UST	LAKE QUACHIA STATE PARKR 60001618	STAR ROUTE #1 BOX 1160 MOUNTAI PINE AR 71956	0.00 --	31
8	UST	LAKE QUACHITA FIELD OFFICE 26000096	1201 BLAKELY DAM ROAD ROYAL AR 71968	0.00 --	34
9	UST	MOUNTAIN HARBOR RESORT 49000057	994 MOUNT HARBOR ROAD MOUNT IDA AR 71957	0.00 --	38
2	UST	HARBOR GENERAL STORE 49001610	5402 HIGHWAY 270 EAST MT. IDA AR 71957	0.00 --	47
10	UST	OUACHITA SHORES RESORT 49000051	334 OUACHITA SHORES PKWY MOUNT IDA AR 71957	0.00 --	50
11	UST	RON COLEMAN 26001730	358 BIGHOLE ROAD JESSIEVILLE AR 71949	0.00 --	56
12	UST	SPILLWAY RESORT & MARINA 26001504	#1 SPILLWAY RD MOUNTAIN PINE AR 71956	0.03 SE	56
13	UST	LAKE OUACHITA STATE PARK 26000020	5451 MOUNTAIN PINE ROAD MOUNTAIN PINE AR 71956	0.07 SE	57
	UST	R & W INC 26001710	333 HARPER GROCERY ROAD BUCKVILLE AR 71949	NON GC	63
	UST	WOMBLE WORK CENTER 49000020	HIGHWAY 270 WEST MT. IDA AR 71957	NON GC	64

Environmental FirstSearch
Selected Sites Summary Report

TARGET SITE: LAKE OUACHITA
ROYAL AR 71968

JOB: 0620-01
LAKE OUACHITA PERIMETER SEARCH

TOTAL: 27 **GEOCODED:** 18 **NON GEOCODED:** 9 **SELECTED:** 27

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	Page No.
	UST	WACO ONE 49000071	HIGHWAY 27 AND 270 MOUNT IDA AR 71957	NON GC	70
	UST	THRIFTY MART 49000082	HIGHWAY 27 MOUNT IDA AR 71957	NON GC	74
	UST	LIGON OIL COMPANY 49001502	JCT. HIGHWAY 270 WEST & 27 MOUNT IDA AR 71957	NON GC	77
	UST	JONES-AVRA READY MIX 49000049	2 MILES SOUTH HWY 27 MOUNT IDA AR 71957	NON GC	78
	UST	BLUE BELL GROCERY & STATION 49000050	6 MILES NORTH HWY 27 MOUNT IDA AR 71957	NON GC	80
	UST	PITTMAN GROCERY 49000080	HIGHWAY 27 STORY AR 71970	NON GC	83

***Environmental FirstSearch
Site Detail Report***

TARGET SITE: LAKE OUACHITA
ROYAL AR 71968

JOB: 0620-01
LAKE OUACHITA PERIMETER SEARCH

LEAKING UNDERGROUND STORAGE TANKS

SEARCH ID: 17	DIST/DIR: 0.00 --	MAP ID: 2
----------------------	--------------------------	------------------

NAME: HARBOR GENERAL STORE
ADDRESS: 5402 HIGHWAY 270 E.
MT. IDA AR 71957

REV: 5/15/06
ID1: 49-006
ID2: 49001610

CONTACT: WARREN

STATUS:
PHONE:

***Environmental FirstSearch
Site Detail Report***

TARGET SITE: LAKE OUACHITA
ROYAL AR 71968

JOB: 0620-01
LAKE OUACHITA PERIMETER SEARCH

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 4	DIST/DIR: 0.00 --	MAP ID: 6
---------------------	--------------------------	------------------

NAME: BRADY MT. LODGE
ADDRESS: 4120 BRADY MOUNTAIN ROAD
ROYAL AR 71968

REV: 05/15/06
ID1: 26000094
ID2: 002627
STATUS:
PHONE: 5017673422

CONTACT: NED BASS

***Environmental FirstSearch
Site Detail Report***

TARGET SITE: LAKE OUACHITA
ROYAL AR 71968

JOB: 0620-01
LAKE OUACHITA PERIMETER SEARCH

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 15	DIST/DIR: 0.00 --	MAP ID: 7
----------------------	--------------------------	------------------

NAME: SHANGRI-LA RESORT	REV: 05/15/06
ADDRESS: 1010 SHANGRI-LA DRIVE	ID1: 49000052
MOUNT IDA AR 71957	ID2: 000678
CONTACT: M. CARR	STATUS:
	PHONE: 8708672011

***Environmental FirstSearch
Site Detail Report***

TARGET SITE: LAKE OUACHITA
ROYAL AR 71968

JOB: 0620-01
LAKE OUACHITA PERIMETER SEARCH

SOLID WASTE LANDFILL SITE

SEARCH ID: 19

DIST/DIR: NON GC

MAP ID:

NAME: US COE LAKE OUACHITA WASTE TS
ADDRESS: 1201 BLAKELY DAM ROAD
ROYAL AR 71968
GARLAND

REV: 12/01/04
ID1: 0040-SG-TSW
ID2: 26-00288
STATUS: OPEN
PHONE: (501) 767-2101

CONTACT:

SITE DETAILS

PERMIT NUMBER: 0040-SG-TSW
FACILITY NUMBER: 26-00288
PERMIT CLASS: Solid Waste Transfer Station
PERMIT STATUS: Active Permit
FACILITY STATUS: Open
SITE PHONE: (501) 767-2101
OWNER NAME: US COE Lake Ouachita Waste
OWNER PHONE: (501) 767-4844
OWNER ADDRESS: 1201 Blakely Dam Road
RSWMD: 13
LATITUDE: 34335730086
LONGITUDE: 93113594881
NOTE: Lat/Longi given by ADEQ in Deg.(1st 2 digits), Min.(3rd + 4th digits), Sec.(5th + 6th digits) ie 12 34 56.12345

Environmental FirstSearch
Site Detail Report

TARGET SITE: LAKE OUACHITA
ROYAL AR 71968

JOB: 0620-01
LAKE OUACHITA PERIMETER SEARCH

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 25

DIST/DIR: NON GC

MAP ID:

NAME: WACO ONE
ADDRESS: HIGHWAY 27 AND 270
MOUNT IDA AR 71957

REV: 05/15/06
ID1: 49000071
ID2: 001854
STATUS:
PHONE: 5016232555

CONTACT: BILLY WACASTER

UNKNOWN: Yes

OTHER RD DESC:

TANK CORROSION PROTECTION (CP) INFORMATION

CP INSTALLED:		ASPHALT COATING:	No
DIELECTRIC COATING:	No	EXTERNAL FRP:	No
INTERNAL LINING:	No	CATHODIC PROT SYSTEM:	No
ELECTRICAL ISOLATION:	No	CP UNKNOWN:	Yes
OTHER CP DESC:			

SPILL & OVERFLOW PROTECTION (SO) INFORMATION

SO INSTALLED:		SPILL BASIN:	No
AUTO SHUTOFF VALVE:	No	AUTO FLOW RESTRICTOR:	No
AUTO HI LEVEL ALARM:	No	SO UNKNOWN:	Yes
SO DESC:			

PIPING (PP) MATERIAL INFORMATION:

BARE STEEL:	No	GALVANIZED STEEL:	Yes
FBR GLASS REINFORCED PLASTIC:	No	COPPER:	No
DOUBLE WALLED:	No	SECONDARY CONTAINMENT:	No
PP UNKNOWN:	No	PP DESC:	

PIPING (PP) TYPE:

SUCTION; PVC:	No	SUCTION; TCV:	No
PRESSURE:	No	GRAVITY:	No
REPAIR DATE:		UNKNOWN:	Yes
OTHER PP TYPE DESC:			

PIPE RELEASE DETECTION (PRD) INFORMATION

VAPOR MONITORING:	No	GROUNDWATER MONITORING:	No
LINE TIGHTNESS TEST:	No	AUTO LEAK DETECTOR:	No
INTERSTITIAL MONITORING:	No	UNKNOWN:	Yes
OTHER PRD DESCRIPTION:			

**Environmental FirstSearch
Site Detail Report**

TARGET SITE: LAKE OUACHITA
ROYAL AR 71968

JOB: 0620-01
LAKE OUACHITA PERIMETER SEARCH

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 24

DIST/DIR: NON GC

MAP ID:

NAME: THRIFTY MART
ADDRESS: HIGHWAY 27
MOUNT IDA AR 71957

REV: 05/15/06
ID1: 49000082
ID2: 002207
STATUS:
PHONE: 5016752501

CONTACT: A. B. LITTLEFIELD

OTHER CP DESC:

SPILL & OVERFLOW PROTECTION (SO) INFORMATION

SO INSTALLED:		SPILL BASIN:	No
AUTO SHUTOFF VALVE:	No	AUTO FLOW RESTRICTOR:	No
AUTO HI LEVEL ALARM:	No	SO UNKNOWN:	Yes
SO DESC:			

PIPING (PP) MATERIAL INFORMATION:

BARE STEEL:	No	GALVANIZED STEEL:	Yes
FBR GLASS REINFORCED PLASTIC:	No	COPPER:	No
DOUBLE WALLED:	No	SECONDARY CONTAINMENT:	No
PP UNKNOWN:	No	PP DESC:	

PIPING (PP) TYPE:

SUCTION; PVC:	No	SUCTION; TCV:	No
PRESSURE:	No	GRAVITY:	No
REPAIR DATE:		UNKNOWN:	Yes
OTHER PP TYPE DESC:			

PIPE RELEASE DETECTION (PRD) INFORMATION

VAPOR MONITORING:	No	GROUNDWATER MONITORING:	No
LINE TIGHTNESS TEST:	No	AUTO LEAK DETECTOR:	No
INTERSTITIAL MONITORING:	No	UNKNOWN:	Yes
OTHER PRD DESCRIPTION:			

***Environmental FirstSearch
Site Detail Report***

TARGET SITE: LAKE OUACHITA
ROYAL AR 71968

JOB: 0620-01
LAKE OUACHITA PERIMETER SEARCH

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 23

DIST/DIR: NON GC

MAP ID:

NAME: LIGON OIL COMPANY
ADDRESS: JCT. HIGHWAY 270 WEST & 27 NOR
MOUNT IDA AR 71957

REV: 05/15/06
ID1: 49001502
ID2: 000678
STATUS:
PHONE: 5013342411

CONTACT: RONNIE G. WAGGONER

OWNER INFORMATION

OWNER ID NUMBER: 000678
OWNER NAME: LIGON OIL COMPANY, INC.
OWNER ADDRESS 1: PO BOX 67/ HWY 8 & 27
NORMAN AR 71960
OWNER ADDRESS 2:
PHONE: 8703342411

UNDERGROUND STORAGE TANK DETAILS

Environmental FirstSearch
Site Detail Report

TARGET SITE: LAKE OUACHITA
ROYAL AR 71968

JOB: 0620-01
LAKE OUACHITA PERIMETER SEARCH

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 22

DIST/DIR: NON GC

MAP ID:

NAME: JONES-AVRA READY MIX
ADDRESS: 2 MILES SOUTH HWY 27
MOUNT IDA AR 71957

REV: 05/15/06
ID1: 49000049
ID2: 003200
STATUS:
PHONE: 5018672111

CONTACT: BOB LYBRAND

PIPING (PP) MATERIAL INFORMATION:

BARE STEEL:	No	GALVANIZED STEEL:	Yes
FBR GLASS REINFORCED PLASTIC:	No	COPPER:	No
DOUBLE WALLED:	No	SECONDARY CONTAINMENT:	No
PP UNKNOWN:	No	PP DESC:	

PIPING (PP) TYPE:

SUCTION; PVC:	No	SUCTION; TCV:	No
PRESSURE:	No	GRAVITY:	No
REPAIR DATE:		UNKNOWN:	Yes
OTHER PP TYPE DESC:			

PIPE RELEASE DETECTION (PRD) INFORMATION

VAPOR MONITORING:	No	GROUNDWATER MONITORING:	No
LINE TIGHTNESS TEST:	No	AUTO LEAK DETECTOR:	No
INTERSTITIAL MONITORING:	No	UNKNOWN:	Yes
OTHER PRD DESCRIPTION:			

Environmental FirstSearch
Site Detail Report

TARGET SITE: LAKE OUACHITA
ROYAL AR 71968

JOB: 0620-01
LAKE OUACHITA PERIMETER SEARCH

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 27

DIST/DIR: NON GC

MAP ID:

NAME: PITTMAN GROCERY
ADDRESS: HIGHWAY 27
STORY AR 71970

REV: 05/15/06
ID1: 49000080
ID2: 002207
STATUS:
PHONE: 5016752501

CONTACT: A. B. LITTLEFIELD

OTHER CP DESC:

SPILL & OVERFLOW PROTECTION (SO) INFORMATION

SO INSTALLED:		SPILL BASIN:	No
AUTO SHUTOFF VALVE:	No	AUTO FLOW RESTRICTOR:	No
AUTO HI LEVEL ALARM:	No	SO UNKNOWN:	Yes
SO DESC:			

PIPING (PP) MATERIAL INFORMATION:

BARE STEEL:	No	GALVANIZED STEEL:	Yes
FBR GLASS REINFORCED PLASTIC:	No	COPPER:	No
DOUBLE WALLED:	No	SECONDARY CONTAINMENT:	No
PP UNKNOWN:	No	PP DESC:	

PIPING (PP) TYPE:

SUCTION; PVC:	No	SUCTION; TCV:	No
PRESSURE:	No	GRAVITY:	No
REPAIR DATE:		UNKNOWN:	Yes
OTHER PP TYPE DESC:			

PIPE RELEASE DETECTION (PRD) INFORMATION

VAPOR MONITORING:	No	GROUNDWATER MONITORING:	No
LINE TIGHTNESS TEST:	No	AUTO LEAK DETECTOR:	No
INTERSTITIAL MONITORING:	No	UNKNOWN:	Yes
OTHER PRD DESCRIPTION:			

Environmental FirstSearch Database Descriptions

NPL: *EPA* NATIONAL PRIORITY LIST - Database of confirmed, proposed or deleted Superfund sites.

CERCLIS: *EPA* COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY INFORMATION SYSTEM - Database of current and potential Superfund sites currently or previously under investigation.

NFRAP: *EPA* COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY INFORMATION SYSTEM ARCHIVED SITES - database of Archive designated CERCLA sites that, to the best of EPA's knowledge, assessment has been completed and has determined no further steps will be taken to list this site on the National Priorities List (NPL). This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

RCRA TSD: *EPA* RESOURCE CONSERVATION AND RECOVERY INFORMATION SYSTEM TREATMENT, STORAGE, and DISPOSAL FACILITIES. - Database of facilities licensed to store, treat and dispose of hazardous waste materials.

RCRA COR: *EPA* RESOURCE CONSERVATION AND RECOVERY INFORMATION SYSTEM SITES - Database of RCRA facilities with reported violations and subject to corrective actions.

RCRA GEN: *EPA* RESOURCE CONSERVATION AND RECOVERY INFORMATION SYSTEM SITES - Database of facilities that generate or transport hazardous waste or meet other RCRA requirements. LGN - Large Quantity Generators SGN - Small Quantity Generators VGN – Conditionally Exempt Generator. Included are RAATS (RCRA Administrative Action Tracking System) and CMEL (Compliance Monitoring & Enforcement List) facilities.

ERNS: *EPA/NRC* EMERGENCY RESPONSE NOTIFICATION SYSTEM - Database of emergency response actions. Data since January 2001 has been received from the National Response System database as the EPA no longer maintains this data.

STATE SITES: *ARDEQ* Listing of hazardous waste generators facility summary

SWL: *ARDEQ* listing of all landfills. This database gives information on all landfill permit holders regardless of the permit status or the facility

REG UST/AST: *ARDEQ* Listing of all known underground storage tanks

LEAKING UST: *ARDEQ* Listing of all known leaking underground storage tanks

RADON: *NTIS* NATIONAL RADON DATABASE - EPA radon data from 1990-1991 national radon project collected for a variety of zip codes across the United States.

Environmental FirstSearch Database Sources

NPL: EPA Environmental Protection Agency

Updated quarterly

CERCLIS: EPA Environmental Protection Agency

Updated quarterly

NFRAP: EPA Environmental Protection Agency.

Updated quarterly

RCRA TSD: EPA Environmental Protection Agency.

Updated quarterly

RCRA COR: EPA Environmental Protection Agency.

Updated quarterly

RCRA GEN: EPA Environmental Protection Agency.

Updated quarterly

ERNS: EPA/NRC Environmental Protection Agency

Updated semi-annually

STATE SITES: ARDEQ Arkansas Department of Environmental Quality

Updated quarterly

SWL: ARDEQ Arkansas Department of Environmental Quality

Updated annually

REG UST/AST: ARDEQ Arkansas Department of Environmental Quality

Updated quarterly

LEAKING UST: ARDEQ Arkansas Department of Environmental Quality

Updated quarterly

RADON: *NTIS* Environmental Protection Agency, National Technical Information Services

Updated periodically

Environmental FirstSearch
Street Name Report for Streets within 1 Mile(s) of Target Property

TARGET SITE: LAKE OUACHITA
ROYAL AR 71968

JOB: 0620-01
LAKE OUACHITA PERIMETER SEARCH

Street Name	Dist/Dir	Street Name	Dist/Dir
10th	0.51 SE	Hummingbird Ln	0.00 --
11th	0.64 SE	Ironfork Ln	0.62 NW
1st	0.48 NE	Ironfork Point	0.00 --
3rd	0.39 NE	Jessie Rd	0.50 NE
4th	0.36 SE	Jim Dunnavant Rd	0.54 NE
5th	0.33 SE	Jimmie Scott Rd	0.00 --
6th	0.35 SE	Jones	0.47 NW
7th	0.38 SE	Keeton Rd	0.00 --
8th	0.42 SE	Knotweed Trl	0.00 --
9th	0.46 SE	Lake Front Dr	0.13 SW
Aaron s Ln	0.88 SW	Lake Ouachita Trl	0.07 SE
Adderstongue Rd	0.16 NW	Leather Works Dr	0.84 SW
Air National Guard C	0.00 --	Leflore	0.79 NE
Albert Graves Rd	0.92 NE	Lena Use Area Cv	0.42 NW
Allinder Rd	0.07 NW	Lena Use Area Point	0.34 NW
Anderson Ln	0.16 SW	Lena Use Area Rd	0.45 NW
Ann St	0.12 NW	Linray	0.01 NW
Appleridge	0.33 NW	Linray Dr	0.09 NW
Austins Ln	0.00 --	Little Blakely Creek	0.00 --
Avant Landing Trl	0.88 NW	Little Blakely Tr	0.00 --
Avant Ln	0.05 NW	Logan Gap Rd	0.99 SW
Bain Rd	0.29 NW	Los Dobles Ln	0.10 SW
Barbara Ln	0.45 NW	Main	0.52 NE
Bear Mtn Tr	0.00 --	Malvern	0.86 NE
Bearce Cir	0.54 SW	Marion Dr	0.49 NW
Beebalm Tr	0.05 NE	Matt Trl	0.46 NE
Bighole Rd	0.00 --	Mc Cullough Ln	0.75 SW
Blakely Dam Rd	0.00 --	Mc Curtian	0.93 NE
Blakely Mountain Ove	0.00 --	McFadden Rd	0.98 NE
Blaylock Rd	0.31 NW	Meadowrue Trl	0.58 NW
Blisc Cem Rd	0.33 SW	Mervin Camp Cv	0.00 --
Bluegill Rd	0.26 NW	Mighty Oaks Dr	0.65 SW
Bluegill Trl	0.21 NW	Minton Rd	0.00 --
Bob White Ln	0.00 --	Mocassin Creek Rd	0.83 NE
Boxley Pl	0.00 --	Mollie Rd	0.43 NE
Boxley Rd	0.00 --	Mount Harbor Rd	0.15 SE
Boxley Ter	0.00 --	Mountain Pine Rd	0.00 --
Boxley Trl	0.03 SE	Mountain View Ave	0.33 SE
Brady Mountain Overl	0.00 --	Mudpuppy Cv	0.00 --
Brady Mountain Rd	0.00 --	Musecreek Rd	0.96 NE
Brady Mountain Trl	0.00 --	National Guard Rd	0.18 NW
Brianwood Rd	0.77 SE	Navy Landing Rd	0.55 NW
Briar Patch Ct	0.00 --	Navy Landing Ter	0.75 NW
Bryant Ln	0.99 NW	Near Dr	0.13 NW
Bucko Rd	0.27 NW	Nellie Dr	0.08 NW
Buckthorn Ln	0.87 SE	Nelson Ter	0.36 SE
Buckville Ln	0.15 NW	O Neil Dr	0.80 SW
Buckville Rd	0.00 --	Oak Ln	0.00 --

Environmental FirstSearch
Street Name Report for Streets within 1 Mile(s) of Target Property

TARGET SITE: LAKE OUACHITA
ROYAL AR 71968

JOB: 0620-01
LAKE OUACHITA PERIMETER SEARCH

Street Name	Dist/Dir	Street Name	Dist/Dir
Caitlin Ln	0.79 SW	Oakhaven Rd	0.90 NW
Caldwell Ln	0.00 --	Oakwood Dr	0.00 --
Caldwell Rd	0.00 --	Old Silver Rd	0.00 --
Camp Story Co	0.00 --	Ouachita Ave	0.43 -E
Camp Story Rd	0.00 --	Overbrook	0.00 --
Camp Story Ter	0.00 --	Owl Creek Rd	0.82 SE
Camp Story Trl	0.00 --	Owl Ln	0.00 --
Camp Yorktown Ln	0.00 --	Peaceful View Ct	0.00 --
Carol Sand Rd	0.37 NW	Pelican Ln	0.00 --
Cedar Fourche Point	0.00 --	Pembroke Rd	0.31 NW
Cedar Fourche Rd	0.00 --	Pitchfork Rd	0.58 NW
Cherrye Ln	0.37 SW	Pollard Creek Tr	0.43 SW
Copperhead Rd	0.00 --	Pondarosa Dr	0.43 SW
Copperhead Trl	0.00 --	Quail Flush Rd	1.00 NE
Country Ln	0.66 NW	Rabbit Trail Rd	0.00 --
Cowbell Ln	0.14 NE	Rebel Ln	0.00 --
Cox Cir	0.22 NW	Redbank Creek Rd	0.67 NW
Cozy Acres Rd	0.41 SE	Rifle Range Rd	0.23 NW
Crawdad Island Rd	0.00 --	Robinson Cir	0.00 --
Crawfish Cv	0.00 --	Rock Springs Ln	0.88 NW
Crawford Landing Rd	0.00 --	Rock Springs Rd	0.00 --
Crest Wood Dr	0.10 SW	Ron Rogers Trl	0.00 --
Cross Cut Rd	0.10 NE	Ron Trl	0.32 SE
Crossbow Rd	0.28 NW	Savall Cir	0.00 --
Crystal Mine Rd	0.25 NW	Savall Ln	0.00 --
Deep Cove Trl	0.00 --	Savall Tr	0.00 --
Deer Scrape Cir	1.00 NE	School Ave	0.81 NE
Dogwood Dr	0.00 --	Seebee Ln	0.83 NW
Drybranch Rd	0.00 --	Seed Orchard Rd	0.79 SW
Duachilta Dr	0.00 --	Sevier	0.74 NE
Dutchman Cv	0.00 --	Shady Grove Rd	0.33 SW
E Basin Dr	0.00 --	Shipman Ln	0.71 SW
E Ln	0.54 NW	Simpson Ln	0.75 SW
E Travis Ln	0.73 SW	Squirrelhunter Rd	0.09 SE
Eagle Eye Rd	0.00 --	State Highway 188	0.00 --
Eagle Ln	0.00 --	State Highway 27	0.00 --
Earl Wilson Rd	0.22 NE	State Highway 88	0.60 NE
EAST Basin Dr	0.00 --	State Highway 949-2	0.00 --
EAST Travis Ln	0.73 SW	State Highway 949-3	0.00 --
Eddington Pl	0.00 --	State Highway 949-4	0.00 --
Farr Dr	0.12 NW	Sterlon Ln	0.82 NW
Fecho Grass Farm Rd	0.86 SW	Story Rd	0.96 NW
Fin Trl	0.24 NW	Street Rod Ln	0.85 SW
Fisher Ln	0.00 --	Sumac	0.00 --
Forest Burrow Tr	0.32 SW	Sweet Home Rd	0.52 NW
Forest Rd	0.05 NW	Sycamore	0.00 --
Forkarea Cv	0.00 --	Tabor Mountain Co	0.30 NE
Foxglove Tr	0.74 NW	Tabor Mountain Rd	0.18 NE

Environmental FirstSearch
Street Name Report for Streets within 1 Mile(s) of Target Property

TARGET SITE: LAKE OUACHITA
ROYAL AR 71968

JOB: 0620-01
LAKE OUACHITA PERIMETER SEARCH

Street Name	Dist/Dir	Street Name	Dist/Dir
Frye Ln	0.89 NE	Tadpole Point	0.00 --
Garland Ave	0.76 NE	Tanner Tr	0.41 SE
Garter Trl	0.00 --	Target Tr	0.65 SW
George Herron Tr	0.00 --	Three Sisters Spring	0.00 --
George Roberts Rd	0.25 NW	Three Sisters Spring	0.22 NE
Girl Scout Ln	0.00 --	Three Sisters Spring	0.07 NE
Gobblers Knob Cir	0.00 --	Tobin Cutoff	0.06 SE
Godwin Rd	0.14 NW	Tramway Rd	0.71 NE
Goldenrod Rd	0.00 --	Travis Ln	0.66 SW
Goodwin Ln	0.63 NW	Treece Rd	0.34 NE
Gooseberry Rd	0.19 NW	Triplecreek Ln	0.58 SE
Grey Rock Dr	0.24 SW	Truck Route Rd	0.58 NE
Grey Rock Ter	0.20 SW	Union Hill Rd	0.27 NW
Haley Dr	0.04 NW	United States Highwa	0.00 --
Hardrock Trl	0.00 --	Vincent Ln	0.69 SW
Harley Rd	0.89 NE	Vlasic Pickle Rd	0.00 --
Harley Tr	0.91 NW	W Strawberry Rd	0.71 SE
Harper Grocery Rd	0.00 --	Wagon Train Rd	0.56 NE
Harper Ln	0.00 --	Wagon Train Tr	0.56 NE
Hawke Ln	0.00 --	Walter Adams Trl	0.39 NW
Hawkweed Cv	0.00 --	Waterwell Tr	0.00 --
Hickory Ridge Rd	0.00 --	WEST Strawberry Rd	0.71 SE
High Lead Pl	0.61 SE	Weyco Rd	0.68 SW
High Lead Rd	0.03 NE	Weyerhaeuser Complex	0.63 SE
Highwater Hill Rd	0.00 --	Whiddon Ln	0.98 SE
Highway 298	0.00 --	Wild Turkey Dr	0.00 --
Hiram Blocker Rd	0.72 NW	Wild Turkey Rd	0.00 --
Hogeye Rd	0.22 NE	Wildcat Ln	0.57 SW
Hope Rd	0.00 --	Winding Rock Tr	0.63 NE
Hope Trl	0.00 --	Woodeker Cir	0.25 NW
Howard	0.79 NE	Yellowclover Rd	0.54 NW
Huff Rd	0.83 SE		

Appendix C

THIRTY DAY PUBLIC REVIEW PERIOD COMMENTS AND RESPONSES

Appendix C

**THIRTY DAY PUBLIC REVIEW
PERIOD COMMENTS AND RESPONSES**

TO BE INCLUDED IN FINAL

