

GENERAL SITE INFORMATION, CHARACTERISTICS, AND STATUS

Project Name	<u>BAYOU BONFOUCA</u>	ProjectID: 06-01
Last Updated:	03/20/99	
City:	Slidell	
County:	St. Tammany Parish	
State:	LA	
Country:	USA	
Bodies of Water:	Turning basin upstream of Lake Ponchartrain	
US EPA Region:	VI	
Status (Active, Complete, or Monitoring Only):	Complete	
Date On NPL:	1983	
ROD/ESD Date:	1987; 1990 (ESD)	
Operable Unit:	N/A	
Areas of Concern (length or acres):	Turning basin and 4000 feet of bayou.	
Other Characteristics of Water Body:	Nominal 10 foot water depth, 250 foot width.	
Contaminants of Concern:	PAHs (creosote)	
Source of Contamination:	Defunct 55-acre creosote works facility adjacent to turning basin, operational 1892 - 1970.	
Contaminated Area	4000' length of turning basin and bayou, contaminated sediment depths as great as 17 feet.	
Physical Characteristics:		
Type of Regulatory Action:	Superfund. Final. Fund-Lead.	
Overall Status Summary:	<p>Dredging completed in July 1995 using a custom-designed backhoe-on-a-barge; 169,000 cy removed; took 21 months overall with 15 months of active dredging; dewatered sediments incinerated onsite; 171 million gallons of water treated; cost \$115 million. Following dredging, the dredged areas were covered by placement of a layer of sand followed by a layer of gravel.</p> <p>The incineration system consisted of a feed system, a rotary kiln, a secondary combustion chamber, and a gas cleaning system. Enhancements included an oxygen-enriched burner (not subsequently used) and a silencer system for the exhaust stack. The incinerator processed 250,000 tons (169,000 cy of sediments and 10,000 cy of waste piles).</p>	
Remedial Action Planned:	<input checked="" type="checkbox"/>	
Risk Assessment:	<input checked="" type="checkbox"/>	
Remedial Action Implemented:	<input checked="" type="checkbox"/>	
Status of Dredging	<input type="checkbox"/>	
PRPs:	<input checked="" type="checkbox"/>	
Contacts:	<input checked="" type="checkbox"/>	
References:	<input checked="" type="checkbox"/>	
Modeling:	<input type="checkbox"/>	

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<i>Last Updated:</i>	03/20/99	
<i>Fishing Advisory:</i>	<input checked="" type="checkbox"/>	
<i>Key Conditions:</i>	dredging, specialty dredge, incineration, floating oil, water handling limitations	

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Target Sediment Cleanup Standards (TSCS): 1,300 ppm total PAHs.

How TSCS Established: Site-specific risk assessment. The PAH action level of 1300 ppm was set by a site-specific risk assessment, to meet 10-4 risk or less, based on pathways of recreational exposure and fish consumption.

Target Bank and Floodplain Cleanup Levels (if applicable): Surface soil onsite cleanup levels of 100 ppm total PAHs. No migration of creosote contamination from the bayou.

Other Target:

Environmental Sample Data References: None available. 1987 ROD indicates maximum sediment total PAH concentration of 13,450 ppm.

- **Sediment:**
- **Water:**
- **Fish:**

Estimated Target Volume: On March 31, 1987, a Record of Decision (ROD) was signed for the Bayou Bonfouca site. The selected remedy included:

- Excavation of contaminated bayou sediments and onsite surface waste piles. Excavation of sediments to be performed by driving sheetpiles down the middle of the bayou and dewatering one-half and maintaining flow in the other half.
- Onsite incineration of waste piles and contaminated sediments.
- Placement of an engineered cap over residues from the incinerator and residual surface soils.
- Pump/treatment/reinjection of contaminated ground water.
- Estimated construction cost of approximately \$55 million.

During design in 1988 and 1989, the following new information was obtained:

- The length of contaminated bayou was found to be 4,000 feet, rather than the 2,000 feet indicated in the ROD.
- The bayou contamination extended to a maximum depth of about 17 feet rather than 5 feet as stated in the ROD.
- The total volume of contaminated sediments is approximately 150,000 cubic yards rather than 46,500 cubic yards as stated in the ROD.
- The contaminated sediments near the creosote plant are in direct contact with the materials of the shallow artesian aquifer.
- The contaminated ground water is found in 3 distinct plumes rather than 1 continuous plume as presented in the ROD.
- Reinjection of treated ground water into the shallow artesian aquifer is not considered

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	<p>effective because of geological properties of the aquifer.</p> <ul style="list-style-type: none">• Revised estimated construction cost of \$100 million (Source Removal \$90 million and Ground Water \$10 million) vs. \$55 million estimated cost in the ROD. <p>As a result, an Explanation of Significant Differences (ESD) was issued in 1990 which concluded:</p> <ul style="list-style-type: none">• The remedy selected in the 1987 Record of Decision is still the most appropriate means of protecting human health and the environment.• Dredging of the bayou will require consideration of stable slopes and possibly some bulkheads to maintain existing land surfaces instead of placing sheetpiles in the middle of the bayou. This will necessitate leaving minimal volumes of contaminants after dredging.• Dredging can best be achieved by (dredging through the water column and) using turbidity curtains around the excavation process with silt curtains and absorbent booms placed along the bayou rather than sheetpiling the middle of the bayou and dewatering half of it during excavation operations.• All dredged areas will be backfilled with clean materials to minimize the chances of contact with residual contaminants.• The increased volume of contaminated sediments will require an increase in the height and areal extent of the cap.• The contaminated ground water plumes will be considered as 3 separate areas instead of 1 continuous plume. The 2 onsite plumes will be remediated as one operable unit.• The contaminated ground water plume adjacent to the bayou in the residential area (off-site) will be addressed after dredging of the bayou.	
Planned Disposal Method:		
Estimated Calendar Time to Implement Remedy:	5.5 years (removal can be performed all year around).	
Estimated Time to Implement Remedy:	5.5 years (for 150,000 cy)	
Estimated Cost to Implement Remedy:	\$90 million (Source Removal)	
Stated Remedial Action Objectives (and Source):	<p>Reduce, or eliminate the potential for ingestion of carcinogens in groundwater, surface soils, and shellfish; control the migration of PNAs in the groundwater aquifers; and reduce or eliminate the direct contact threat posed by Bayou sediments. (Source: 1987 ROD)</p> <p>In the 1987 ROD, for the recommended alternative, "... contaminated sediments will be excavated (at the time, dry excavation was planned) either to a depth of about 6 inches into the upper cohesive layer or until PNA contamination is less than 1300 ppm."</p>	
Measures of Success to be Used:	Not identified	

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Planned Monitoring and Restoration:	Not identified	
Agency Position on Sediment Removal (and Source):	<p>The following sequence of Questions and Answers appeared in the Community Relations Responsiveness Summary published in the 1987 ROD.</p> <p>13) To what depth will contaminated sediments be excavated?</p> <p>Approximately 46,500 yds³ of sediment will be excavated. The depth of excavation will be to about 5.0 feet although this will be specifically addressed in the design phase. The volume to be excavated will include the significantly contaminated sediment that acts as a source for continued groundwater contamination and inhibits biological growth.</p> <p>14) Has dredging the contaminated sediment in the bayou rather than dewatering the bayou to excavate the sediment been reviewed as an alternative?</p> <p>Yes. In dredging the bayou there is a strong possibility of resuspending contamination in the water column. This is seen as potentially a significant environmental problem. Even with the newest technique, i.e., clam shell dredging, the contamination could be resuspended.</p> <p>15) If there is a concern about resuspending contamination doesn't barge traffic disturb the sediment?</p> <p>Yes, barge traffic does turbate the sediment but not to the degree that dredging would cause resuspension.</p> <p>There is no information to date that shows that barge traffic presents an environmental concern.</p> <p>16) If the bayou is to be dewatered one side at a time, how will commercial operations that use barges continue to function?</p> <p>The EPA is aware that there are commercial properties on the bayou that depend on barge transportation. This will be considered and evaluated in the design phase.</p> <p>17) Is there a potential threat to the food chain because of the contamination?</p> <p>No. Aquatic organisms in the bayou have been locally affected, as a survey of benthic organisms revealed an absence of aquatic organisms in the site area. This however, does not present a threat to the food chain per se, it presents a threat to shellfish that may ingest the sediments. The site is posted to discourage fishing and swimming in the bayou. Once the site is cleaned up, no significant long-term effects are anticipated.</p> <p>(Source: 1990 ESD) It was stated in the ROD that sediments would be excavated by driving sheetpiles down the middle of the bayou and dewatering half of it while maintaining stream flow in the remaining half. This was based on contamination being at a maximum depth of 5 feet and that it had not penetrated into the shallow artesian aquifer. However, design investigations have shown that the upper clay layer is not continuous across the bayou and that contaminants have reached a depth of about 17 feet. Therefore, the stability of dredged slopes down to these greater depths becomes an important factor along with the usefulness of sheet piles. It has been decided that the most appropriate means to address this is through elimination of sheet piles in the middle of the bayou and performing dredging with turbidity curtains, silt curtains and absorbent booms along the bayou. These curtains are manufactured from synthetic materials</p>	

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which allow the passage of water but act to prevent the flow of soil particles. The turbidity curtains would minimize suspension of material during dredging activities with the silt curtains and absorbent booms providing secondary means to aid in controlling migration of contaminants.

(Source: 1990 ESD) The bayou borings have shown that the volume of contaminated sediments is approximately 150,000 cubic yards and extends from just upstream of the site to the Chamale Cove Marine. This reach of the bayou is approximately 4,000 feet long with contamination at a maximum depth of about 17 feet. The field and laboratory data have also shown what "safe slopes" would be required for dredging. Any excavation on slopes greater than what is considered safe could result in the undermining of trees along the bayou resulting in the possible loss of property and harm to the environment. Therefore, it will be necessary to evaluate the use of bulkheads in those areas where highly contaminated sediments are near the bayou bank. In other areas it will be necessary to leave small quantities of contaminants above the 1300 ppm PNA concentration to reduce chances of unstable excavations. However, EPA and LDEQ have determined that in all dredged areas the bayou would be backfilled with clean material preventing contact with any residual contaminants and providing an area for restoration of aquatic life.

RISK ASSESSMENT

Project Name **BAYOU BONFOUCA**

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Last Updated: 08/11/98

RA Type:

RA Status:

RA Objectives:

Company CH2M Hill

Performing RA:

RA Reference Report: Not available

RA Summary and Only summaries have been obtained:

Conclusions:

(Source: 1990 ESD) US EPA also reevaluated the action levels presented in the ROD to ensure the risk assessments reflected the more recent criteria concerning CERCLA cleanups. These analyses showed that the 1987 ROD action level of 100 ppm total polynuclear aromatic hydrocarbons (PAHs) for surface soils is equivalent to approximately 9 ppm carcinogenic PAHs. This level presented less than a 3×10^{-5} lifetime increased cancer risk to a person residing on the site all their life. In addition, the 1,300 ppm PAH action level for sediments was examined for recreational exposure and fish consumption and found to present a lifetime increased cancer risk of less than 1×10^{-4} . Since both of these action levels conformed to the acceptable health risk criteria contained in the National Contingency Plan, they were not altered.

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Project Name:	<u>BAYOU BONFOUCA</u>	ProjectID: 06-01
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Physical Target:	Sediments > 1,300 ppm PAHs in a 4,000' length of turning basin.	
Goals:	Remove and incinerate sediments.	
Primary Contractor:	IT Corporation and OHM Corporation (joint venture); Bean Dredging	
Other Contractors:	Oversight: US Army Corps of Engineers; consultants CH2M Hill and CDM	
Generic Remediation Method:	Mechanical dredging	
Equipment:	Bucket (5.2 cy) excavator on barge; one-of-a-kind specially-designed high-tech unit by Bean Dredging; innovative sensors/controls to achieve 3-inch dredging tolerance; five layers of silt curtains were deployed, two near the dredge and three in succession away from the dredge; also, a log boom; 5,000 feet of sheetpiling for support of banks along shoreline; piling depths ranged from 35 - 45 feet.	
Material Handling:	Transfer from bucket to barge-mounted slurry processing unit (SPU); pumped via an 18-inch pipeline from SPU to a 2.5-acre onsite retention pond; water was directed to an onsite WWTP; settled sediments were removed from the retention pond by Mudcat dredges and were pumped to six plate and frame filter presses; dewatered sediments were mixed to create a homogeneous matrix and were transferred to mass flow feeders by front-end loaders, then by a transfer conveyor to a slinger belt conveyor and into the incinerator for incineration; ash was disposed in an onsite landfill. Following dredging the area was backfilled with about one foot each of sand, then gravel.	
Volume Removed:	169,000 cy	
Calendar Time:	November 1993 - July 1995	
Time To Implement:	21 months; 15 months for dredging (9 hours per day, 5 days per week)	
Total Cost:	\$115 million; \$680 per cy	
Dredging Cost:	\$21.1 million; \$125 per cy	
Disposal of Sediment:	18-20 tons incinerated per hour onsite in a transportable incinerator at 30-35% moisture; ash was required to meet 10 ppm PAH or less; ash was deposited into a project-specific on-site RCRA landfill.	
Volume of Water:	171 million gallons	
Method of Water Treatment:	500 gpm WWTP. Water to a clarifier then through bioreactor/GAC; <20 ppb individual PAHs achieved in water discharge.	
Water Discharge Limit:	20 ppb total PAHs	
Air Monitoring During Remediation:	Continuous air monitoring was reportedly performed during dredging to protect the remedial workers closest to the site contaminants. This air monitoring was reportedly designed to warn the workers if levels of PAHs in air exceeded federal health guidelines. If they did, dredging would cease and no community residents would be exposed. Site workers were to adhere to OSHA safeguards and wear face masks to protect their lungs from fumes from contaminants. (Source: Reference A-65. Not verified and no data available.) Reference O-12 reports that an extensive three-tier air monitoring system was required at the Bonfouca site due to the nature of the work and proximity of residential neighborhoods. In addition to extensive real-time monitoring, transportable gas chromatography units continuously monitored perimeter air quality primary contaminant	

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	<p>components on a short-interval basis of 5 minutes. The data were automatically compiled and relayed by digital radio transmission fed to a computerized data logging system. Operations personnel could then monitor site perimeter air quality and respond to any indication of a problem within minutes of detection. The final tie of the monitoring system was a series of integrated stations which continuously monitored for all perimeter air contaminants to an even greater level of accuracy and precision than the real-time or short-interval segments. These stations recorded volatile, semivolatile, and particulate readings and were analyzed at air monitoring laboratories in Cincinnati and Knoxville.</p>	
Water Monitoring During Remediation:	Not available	
Outcome:	<p>Dredged to depths determined by pre-dredge sampling; no post-dredge verification samples for chemical contaminants. Removed targeted volumes only; dredged areas were covered by placement of a layer of sand followed by a layer of gravel; fish and biota sampling was postponed until remediation at Southern Shipbuilding was completed in the bayou one mile downstream. Southern used the incinerator located at the Bayou Bonfouca site.</p>	
Restoration and Post-Monitoring:	<p>Post-monitoring sampling performed September 16, 1997 as part of the state annual monitoring program (Reference P-1) for sediments, water column, and five species of fish: largemouth bass (15 samples), redear sunfish (7 samples), freshwater drum (5 samples), white bass (1 sample), channel catfish (5 samples). Sediment samples analyzed for PCBs (3 samples) and semi-VOCs (10 samples); water column samples analyzed for semi-VOCs (10 samples); and fish samples analyzed for arsenic, total lead, PCBs, and semi-VOCs.</p> <p>MAXIMUM CONCENTRATIONS were as follows:</p> <ul style="list-style-type: none">• Sediment PCBs - 0.39 ppm (Aroclor 1248)• Sediment semi-VOCs - 47.7 ppm dry weight; 16.1 ppm wet weight (both di-n-butylphthalate)• Water semi-VOCs - all samples BQL• Fish arsenic - 0.1 ppm (largemouth bass)• Fish total lead - 0.06 ppm (largemouth bass)• Fish PCBs - 86.4 ppb (white bass/Aroclor 1232)• Fish semi-VOCs - 203.6 ppm dry weight, 37.6 ppm wet weight [both bis (2-ethylhexyl) phthalate] <p>Data presentation is insufficient at this time to compare to pre-remediation data or to identify trends. Reportedly, the fish consumption advisory was removed in 1997 while a swimming and sediment contact advisory remains. The basis for the LA Department of Health continuing the swimming and sediment contact advisory was the sediment samples exceeding the EPA guideline values for direct soil contact for PAHs. The origin of the contamination is unknown.</p>	
Site-Specific Difficulties:	Rocks, construction debris, and logs; constant oil slick on water during dredging; dredging limited to normal daylight work hours, five days per week due to proximity of residences.	
Monitoring Data	None. 1997 post-monitoring data (Reference P-1) obtained in tabular form by phone request.	
References:	<ul style="list-style-type: none">• Sediment Reference P-1	

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- **Water:** Reference P-1
- **Fish:** Reference P-1

POTENTIALLY RESPONSIBLE PARTIES

Project Name **BAYOU BONFOUCA**

ProjectID: 06-01

PRP Name: PRP INFORMATION NOT RELEASED

PRPID:

Street Address:

City:

State:

KEY CONTACTS

Project Name **BAYOU BONFOUCA**

ProjectID: 06-01

Last Name: KEY CONTACT INFORMATION NOT RELEASED

Contact ID:

First Name:

Title:

Company:

Address:

City:

State:

Postal Code:

Work Phone # :

Other Phone #:

Fax # :

Email Address:

REFERENCES

Project Name BAYOU BONFOUCA

ProjectID: 06-01

Reference Type: A
Title: *Explanation of Significant Differences*
Location: AEM
Category: ROD/Proposed Plan/Action Memo/Decision Document
Prepared by/Author: US EPA Region VI
Preparer/Author Address: 1445 Ross Avenue, Suite 1200
Dallas, TX 75202-2733
Prepared For:
Date Published: February 5, 1990
Key Words and Phrases:

ReferenceID: 63

Reference Type: A
Title: *Superfund Record of Decision: Bayou Bonfouca, LA Remedial Alternative Selection*
Location: AEM
Category: ROD/Proposed Plan/Action Memo/Decision Document
Prepared by/Author: US EPA Region VI
Preparer/Author Address:
Prepared For: General Public
Date Published: March 31, 1987
Key Words and Phrases:

ReferenceID: 64

Reference Type: A
Title: *Public Health Assessment for Bayou Bonfouca Slidell, St. Tammany Parish, LA CERCLIS No. LAD980745632*
Location: AEM
Category: Risk Assessment
Prepared by/Author: The Louisiana Office of Public Health Under Cooperative Agreement with the Agency for Toxic Substances and Disease Registry
Preparer/Author Address:
Prepared For: General Public
Date Published: September 6, 1994
Key Words and Phrases:

ReferenceID: 65

REFERENCES

Project Name BAYOU BONFOUCA

ProjectID: 06-01

Reference Type: A

ReferenceID: 162

Title: *Final Closeout Report: Source Control Operable Unit*

Location: AEM

Category: Close-Out Report

Prepared by/Author: US EPA Region VI

**Preparer/Author
Address:** Superfund Division

Prepared For:

Date Published: September 1997

**Key Words and
Phrases:**

Reference Type: A

ReferenceID: 256

Title: *Design Investigation Report
Volume I of III*

Location: AEM

Category: Remedial Design

Prepared by/Author: CH2M Hill

**Preparer/Author
Address:** 6060 S. Willow Drive
Greenwood Village, CO 80111-5112

Prepared For: EPA - Hazardous Site Control Division - Contract No. 68-01-7251

Date Published: July 16, 1990

**Key Words and
Phrases:**

Reference Type: A

ReferenceID: 257

Title: *Design Investigation Report
Volume II of III
Appendices to Sections 4 and 5*

Location: AEM

Category: Remedial Design

Prepared by/Author: CH2M Hill

**Preparer/Author
Address:** 6060 S. Willow Drive
Greenwood Village, CO 80111-5112

Prepared For: EPA - Hazardous Site Control Division - Contract No. 68-01-7251

Date Published: July 16, 1990

**Key Words and
Phrases:**

REFERENCES

Project Name BAYOU BONFOUCA

ProjectID: 06-01

Reference Type: A

ReferenceID: 258

Title: *Design Investigation Report
Volume III of III
Appendices to Sections 4 and 5*

Location: AEM

Category: Remedial Design

Prepared by/Author: CH2M Hill

**Preparer/Author
Address:** 6060 S. Willow Drive
Greenwood Village, CO 80111-5112

Prepared For: EPA - Hazardous Site Control Division - Contract No. 68-01-7251

Date Published: July 16, 1990

**Key Words and
Phrases:**

Reference Type: A

ReferenceID: 342

Title: *Close Out Report (Preliminary) - Bayou Bonfouca Superfund
Site, Slidell, Louisiana*

Location: AEM

Category: Close-Out Report

Prepared by/Author: US EPA Region VI

**Preparer/Author
Address:** Superfund Division

Prepared For:

Date Published: September 1997

**Key Words and
Phrases:**

REFERENCES

Project Name BAYOU BONFOUCA

ProjectID: 06-01

Reference Type: A

ReferenceID: 416

Title: *On-Site Incineration at the Bayou Bonfouca Superfund Site
Slidell, Louisiana*

Location: AEM

Category: Contaminated Sediments: Treatment Technologies

Prepared by/Author: US EPA HQ

**Preparer/Author
Address:** Office of Research and Development
Technology Innovation Office
Internet:<http://206.181.65.143/frtr/00000042.html>

Prepared For: General Public

Date Published: 1997 circa

**Key Words and
Phrases:**

Reference Type: A

ReferenceID: 827

Title: *Draft Phase II Feasibility Study (CD-ROM)*

Location: AEM

Category: RI/FS

Prepared by/Author: CH2M Hill; Ecology & Environment

**Preparer/Author
Address:**

Prepared For: US EPA Region VI

Date Published: June 2, 1986

**Key Words and
Phrases:**

Reference Type: A

ReferenceID: 828

Title: *Draft Phase II Feasibility Study - TOC and Executive Summary
(see CD-ROM for complete copy - Reference A-827)*

Location: AEM

Category: RI/FS

Prepared by/Author: CH2M Hill; Ecology & Environment

**Preparer/Author
Address:**

Prepared For: US EPA Region VI

Date Published: June 2, 1986

**Key Words and
Phrases:**

REFERENCES

Project Name BAYOU BONFOUCA

ProjectID: 06-01

Reference Type: A

ReferenceID: 829

Title: *Letter re: Submittal of Final FS Supporting Documentation for Bayou Bonfouca RI/FS*

Location: AEM

Category: RI/FS

Prepared by/Author: David E. Price

Preparer/Author Address: CH2M Hill
2567 Fairlane Drive
P.O. Box 230548
Montgomery, AL 36123-0548

Prepared For: Jim Peronto, Regional Project Manager, US EPA Region VI

Date Published: September 17, 1986

Key Words and Phrases:

Reference Type: A

ReferenceID: 830

Title: *Bayou Water Quality Monitoring - Background Report*

Location: AEM

Category: Monitoring Plan/Report

Prepared by/Author: IT-OHM Corporation, A Joint Venture

Preparer/Author Address: St Tammany Parish, LA

Prepared For: US Army Corps of Engineers, New Orleans District

Date Published: July 1993

Key Words and Phrases:

Reference Type: A

ReferenceID: 831

Title: *Bayou Dredging Work Plan*

Location: AEM

Category: Remedial Action Plan/Work Plan

Prepared by/Author: Bean T.E.C.

Preparer/Author Address: 401-B Pontchartrain Drive
Slidell, LA 70458

Prepared For: IT-OHM, A Joint Venture / US Army Corps of Engineers, New Orleans District

Date Published: May 18, 1993

Key Words and Phrases:

REFERENCES

Project Name BAYOU BONFOUCA

ProjectID: 06-01

Reference Type: A

ReferenceID: 832

Title: *Technical Memorandum - Supplemental Sediment Exploration*

Location: AEM

Category: Contaminated Sediments: Investigation/Delineation

Prepared by/Author: CH2M Hill

**Preparer/Author
Address:** Montgomery, AL

Prepared For: US EPA Region VI

Date Published: June 1989

**Key Words and
Phrases:**

Reference Type: B

ReferenceID: 266

Title: *Memorandum for the Record*

Location: AEM

Category: Site Update

Prepared by/Author: John B. Herbich

**Preparer/Author
Address:** Consulting and Research Services, Inc.
College Station, TX 77842-0295

Prepared For: Covington & Burling

Date Published: June 13, 1994

**Key Words and
Phrases:**

Reference Type: B

ReferenceID: 490

Title: *Spotlight On: Bayou Bonfouca*

Location: AEM

Category: Site Update

Prepared by/Author: Susan Pastor

**Preparer/Author
Address:** US EPA Region V

Prepared For: Fox River Current

Date Published: March/April 2001

**Key Words and
Phrases:**

REFERENCES

Project Name **BAYOU BONFOUCA**

ProjectID: 06-01

Reference Type: B
Title: ***Bayou Bonfouca, Louisiana***
Location: AEM
Category: Site Update
Prepared by/Author: US EPA Region VI
Preparer/Author Address: Congressional District 01
St. Tammany Parish, Slidell
Prepared For: EPA ID# LAD980745632
Date Published: May 24, 2001
Key Words and Phrases:

ReferenceID: 672

Reference Type: B
Title: ***Letter re: Dr. William Hartley evaluation of Bayou Bonfouca fish, water, and sediment sample data and recommendation to lift fish consumption advisory***
Location: AEM
Category: Fish/Biota
Prepared by/Author: Margaret Metcalf
Preparer/Author Address: State of Louisiana Department of Health and Hospitals
Prepared For: Emelise Cormier, Program Manager, Louisiana Department of Environmental Quality
Date Published: April 6, 1998
Key Words and Phrases:

ReferenceID: 722

Reference Type: C
Title: ***Bonfouca PRPs agree to pay \$20M***
Location: AEM
Category: Site Update
Prepared by/Author:
Preparer/Author Address:
Prepared For: Superfund Week
Date Published: June 28, 1996
Key Words and Phrases:

ReferenceID: 68

REFERENCES

Project Name BAYOU BONFOUCA

ProjectID: 06-01

Reference Type: C
Title: *Superfund sites share burner*
Location: AEM
Category: Site Update
Prepared by/Author: Debra K. Rubin
Preparer/Author Address:
Prepared For: Engineering News-Record (ENR)
Date Published: December 18, 1995
Key Words and Phrases:

ReferenceID: 140

Reference Type: C
Title: *Southern Shipbuilding incineration proposed*
Location: AEM
Category: Site Update
Prepared by/Author:
Preparer/Author Address:
Prepared For: Superfund Week
Date Published: March 17, 1995
Key Words and Phrases:

ReferenceID: 277

Reference Type: C
Title: *Process Challenges in Rotary Kiln-Based Incinerators In Soil Remediation Projects*
Location: AEM
Category: Contaminated Sediments: Treatment Technologies
Prepared by/Author: Prakash Acharya, Denis Fogo, and Chris McBride
Preparer/Author Address: IT Corporation
312 Directors Drive
Knoxville, TN 37923
Prepared For: Environmental Progress, Vol. 15, No. 4
Date Published: 1996 Winter
Key Words and Phrases:

ReferenceID: 386

REFERENCES

Project Name BAYOU BONFOUCA

ProjectID: 06-01

Reference Type: E

ReferenceID: 50

Title: *Bayou Bonfouca Superfund Site: Case Study of Selected Issues, Slidell, Louisiana*

Location: AEM

Category: Site Update

Prepared by/Author: Robert M. Griswold and Stephen A. Gilrein

Preparer/Author Address: US EPA Region VI

Prepared For: Superfund Conference

Date Published: December 1991

Key Words and Phrases:

Reference Type: E

ReferenceID: 134

Title: *Sediment Management Seminar February 9-10, 1998 Proceedings (Reference E-137)*

Location: AEM

Category: Dredging: Remedial (Contaminated Sediments)

Prepared by/Author: Blasland, Bouck & Lee, Inc.

Preparer/Author Address: 6723 Towpath Road
P.O. Box 66
Syracuse, NY 13214

Prepared For: Attendees

Date Published: February 9-10, 1998

Key Words and Phrases:

Reference Type: E

ReferenceID: 166

Title: *Panelist Presentation: Environmental Dredging*

Location: AEM

Category: Dredging: Remedial (Contaminated Sediments)

Prepared by/Author: Ancil Taylor

Preparer/Author Address: C.F. Bean Dredging, Inc.

Prepared For: Conference at NAS in Washington D.C.

Date Published: May 1998

Key Words and Phrases:

REFERENCES

Project Name BAYOU BONFOUCA

ProjectID: 06-01

Reference Type: E

ReferenceID: 244

Title: *Remediation of Sediments by Dredging: Methods and Case Histories*

Location: AEM

Category: Dredging: Remedial (Contaminated Sediments)

Prepared by/Author: Bradford S. Cushing

Preparer/Author Address: AEM, Inc.

Prepared For: WODCON XV Conference, Las Vegas, NV

Date Published: June 28 - July 2, 1998

Key Words and Phrases:

Reference Type: J

ReferenceID: 19

Title: *Incineration at the Bayou Bonfouca Superfund Site, Slidell, Louisiana*

Location: AEM

Category: Contaminated Sediments: Treatment Technologies

Prepared by/Author: Federal Remediation Technologies Roundtable

Preparer/Author Address: Internet: <http://206.181.65.143/frtr/00000042.html>

Prepared For: General Public

Date Published: Undated

Key Words and Phrases:

Reference Type: L

ReferenceID: 99

Title: *Memo re: Bayou Bonfouca Fish Advisory*

Location: AEM

Category: Fish/Biota

Prepared by/Author: AEM, Inc.

Preparer/Author Address: Malvern, PA 19355

Prepared For: Distribution

Date Published: March 23, 2001

Key Words and Phrases:

REFERENCES

Project Name BAYOU BONFOUCA

ProjectID: 06-01

Reference Type: L

ReferenceID: 145

Title: *Maximum Baseline Cancer Risks for Contaminated Sediment Sites*

Location: AEM

Category: Risk Assessment

Prepared by/Author: AEM, Inc.

**Preparer/Author
Address:**

Prepared For: Distribution

Date Published: October 22, 2001

**Key Words and
Phrases:**

Reference Type: M

ReferenceID: 284

Title: *Bayou Bonfouca, Slidell, LA, Chapter 2 of: The Effectiveness of Environmental Dredging: A Study of Three Sites (Reference M-281)*

Location: AEM

Category: Miscellaneous

Prepared by/Author: Karl T. Duckworth

**Preparer/Author
Address:** Louisiana State University

Prepared For: Graduate Faculty of the Louisiana State University and Agricultural and Mechanical College

Date Published: May 2000

**Key Words and
Phrases:** Master's Thesis

REFERENCES

Project Name BAYOU BONFOUCA

ProjectID: 06-01

Reference Type: M

ReferenceID: 333

Title: *A Multimedia Model for Assessing Chemical Fate During Dredging of Contaminated Bed-Sediment (A Thesis)*

Location: AEM

Category: Modeling

Prepared by/Author: Fabian F. Sanchez

Preparer/Author Address: Louisiana Tech University
Currently with Hart Crowser, Inc.
1910 Fairview Avenue East
Seattle, WA 98102

Prepared For: Graduate Faculty of the Louisiana State University
The Department of Chemical Engineering

Date Published: December 2001

Key Words and Phrases: Grasse River Hot Spot, Fox River Deposit N, Fox River SMU 56/57

Reference Type: M

ReferenceID: 409

Title: *Draft - A Study of the Effectiveness of Environmental Dredging - Bayou Bonfouca, Louisiana*

Location: AEM

Category: Contaminated Sediments: Overview of Issues

Prepared by/Author: L.J. Thibodeaux, K. Duckworth, B. Schexnaydre, D.D. Reible, K.T. Valsaraj

Preparer/Author Address: Hazardous Substance Research Center/S&SW
3221 CEBA
Baton Rouge, LA 70803

Prepared For:

Date Published: October 1998

Key Words and Phrases:

REFERENCES

Project Name **BAYOU BONFOUCA**

ProjectID: 06-01

Reference Type: O

ReferenceID: 12

Title: ***Remediation of the Bayou Bonfouca Superfund Site***

Location: AEM

Category: Site Update

Prepared by/Author: IT Corporation

**Preparer/Author
Address:**

Prepared For: Corporate Project Experience File

Date Published: 1995 circa

**Key Words and
Phrases:**

Reference Type: P

ReferenceID: 1

Title: ***1997 Fish Data - Bayou Bonfouca
(Loose pages of summarized data obtained in response to phone
call to Louisiana DEQ)***

Location: AEM

Category: Fish/Biota

Prepared by/Author: Northeast Louisiana University

**Preparer/Author
Address:**

Prepared For:

Date Published: November 19, 1997

**Key Words and
Phrases:**

Reference Type: P

ReferenceID: 28

Title: ***Memo re: Water Sample Results from Bayou Bonfouca, Bayou
Vincent, St. Tammany Parish (Slidell)***

Location: AEM

Category: Analytical Data

Prepared by/Author: Louisiana Department of Natural Resources

**Preparer/Author
Address:** Water Pollution Control Division Laboratory
P.O. Box 44066
Baton Rouge, LA 70804-4066

Prepared For: M.H. Schurtz

Date Published: December 16, 1981

**Key Words and
Phrases:**

REFERENCES

Project Name BAYOU BONFOUCA

ProjectID: 06-01

Reference Type: P

ReferenceID: 29

Title: *The Bayou Bonfouca Creosote Spill: Results of the Pilot Biomonitoring Program*

Location: AEM

Category: Analytical Data

Prepared by/Author: John L. Laseter; I.R. DeLeon

Preparer/Author Address: Center for Bio-Organic Studies
University of New Orleans
New Orleans, LA 70122

Prepared For: Captain Richard J. Clements, Captain of the Port of New Orleans
On-Scene Coordinator, Bayou Bonfouca Cresote Spill
U.S. Coast Guard
New Orleans, LA 70130

Date Published: January 20, 1982

Key Words and Phrases:

Reference Type: P

ReferenceID: 30

Title: *Memo re: EPA Region 6 Environmental Laboratory Results for Bayou Bonfouca (City of Slidell)*

Location: AEM

Category: Analytical Data

Prepared by/Author: Douglas Lipka, Chief

Preparer/Author Address: US EPA Region VI
Environmental Services Branch
10625 Fallstone Road
Houston, TX 77099

Prepared For: Carl Edlund, Chief,
US EPA Region VI
Louisiana/New Mexico Branch
Superfund Division

Date Published: May 11, 1998

Key Words and Phrases:

REFERENCES

Project Name BAYOU BONFOUCA

ProjectID: 06-01

Reference Type: P

ReferenceID: 31

Title: *Analytical Results: Selected Crab Samples from Bayou Bonfouca - Preliminary Report*

Location: AEM

Category: Fish/Biota

Prepared by/Author: John L. Laseter; I.R. DeLeon

Preparer/Author Address: Center for Bio-Organic Studies
University of New Orleans
New Orleans, LA 70122

Prepared For: Captain Richard J. Clements, Captain of the Port of New Orleans
On-Scene Coordinator, Bayou Bonfouca Cresote Spill
U.S. Coast Guard
New Orleans, LA 70130

Date Published: December 3, 1981

Key Words and Phrases:

Reference Type: Q

ReferenceID: 1

Title: *Cost Summary Report for February 1996: Bayou Bonfouca*

Location: AEM

Category: Cost Summary Reports

Prepared by/Author: IT - OHM, a Joint Venture

Preparer/Author Address: Slidell, LA 70459-1189

Prepared For: Corps of Engineers

Date Published: February 1996

Key Words and Phrases:

Reference Type: S

ReferenceID: 6

Title: *Bayou Bonfouca (Slidell, Louisiana)*

Location: AEM

Category: Legal

Prepared by/Author: US EPA Region VI

Preparer/Author Address:

Prepared For: Fy 1996 Enforcement and Compliance Assurance Accomplishments Report

Date Published: May 1997

Key Words and Phrases: Consent Decree for cost recovery

FISH ADVISORIES

Project Name **BAYOU BONFOUCA**

ProjectID: 06-01

Advisory: Bayou Bonfouca

AdvisoryID: 1092

Extent: Slidell (Saint Tammany Parish)

Pollutant: creosote

Species: all fish

Population: NR

Population Definition: No Restriction

Advisory Type: River

Advisory Number: 170

Status (Active or Rescinded): Active

Date Rescinded:

Contact Name: Robert Starszak

Contact Number: 504-568-8028

Advisory: Bayou Bonfouca

AdvisoryID: 266

Extent: Slidell (Saint Tammany Parish)

Pollutant: creosote

Species: all fish

Population: NCGP

Population Definition: No Consumption-General Population: Advise against consumption by the general population.

Advisory Type: River

Advisory Number: 170

Status (Active or Rescinded): Rescinded

Date Rescinded: 12/10/98

Contact Name: Robert Starszak

Contact Number: 504-568-8028
