REGION 6

RECORD OF DECISION SUMMARY

CENTRAL WOOD PRESERVING SUPERFUND SITE

EAST FELICIANA PARISH, LOUISIANA

LAD008187940

APRIL 2001

Table of Contents

Page (s)

FIGURES

TABLES

APPENDICES

LIST OF ACRONYMS

ACM	Asbestos-containing material
AOI	Area of Interest
ARARs	applicable or relevant and appropriate requirements
BGS	Below ground surface
BIF	Boilers and Industrial Furnances
BTU	British thermal unit
CCA	Copper oxide, chromic acid, and arsenic acid
CEM	continuous emissions monitor
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
COC	chemicals of concern
cy	cubic yard
CWP	Central Wood Preserving Company
E & E	Ecology and Environment
ELCR	Excess lifetime cancer risk
EPA	Environmental Protection Agency
ERTC	Environmental Response Team Center
ESD	Explanation of Significant Difference
FR	Federal Register
HHRA	Human health risk assessment
HI	hazard index
HQ	hazard quotient
LAC	Louisiana Administrative Code
LDEQ	Louisiana Department of Environmental Quality
LDOTD	Louisiana Department of Transportation and Development
LDR	land disposal restrictions
LEL	lower explosive limit
MCL	Maximum contaminant level
mg/L	milligrams per liter
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NPL	National Priorities List
paH	polycyclic aromatic hydrocarbons
PCB	polychlorinated biphenyls
PCP	pentachlorophenol
PIC	products of incomplete combustion

Polrep	pollution report
PPE	personal protective equipment
ppm	parts per million
PRG	preliminary remediation goal
PRP	potentially responsible parties
PTU	primary treatment unit
RAO	remedial action objectives
RCRA	Resource Conservation and Recovery Act
RI/FS	remedial investigation/feasibility study
RME	reasonable maximum exposure
ROD	record of decision
RPM	remedial project manager
SH 959	State Highway 959
STU	secondary treatment unit
SVOCs	semivolatile organic compound
TAT	Technical Assistance Team
TCLP	toxicity characteristic leaching procedure
USFWS	United States Fish and Wildlife Service
VOC	volatile organic compound
XRF	x-ray fluorescence

DECLARATION FOR THE RECORD OF DECISION

. SITE NAME AND LOCATION

Central Wood Preserving Superfund Site
East Feliciana Parish, Louisiana
LAD008187940

. STATEMENT OF BASIS AND PURPOSE

This decision document presents the selected remedial action for the Central Wood Preserving Superfund site (Site), in East Feliciana Parish, Louisiana. The selected remedial action was chosen in accordance with the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), 42 USC § 9601 et seq., as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), and, to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR Part 300 as amended. The Director of the Superfund Division (SF) has been delegated the authority to approve this Record of Decision.

This decision was based on the Administrative Record, which has been developed in accordance with Section 113 (k) of CERCLA, 42 U.S.C. § 9613 (k), and which is available for review at the Audubon Library in Clinton, Louisiana, and at the United States Environmental Protection Agency (EPA) Region 6 Records Center in Dallas, Texas. The Administrative Record Index (Appendix D to the ROD) identifies each of the items comprising the Administrative Record upon which the selection of the remedial action is based.

The State of Louisiana concurs with the Selected Remedy.

. ASSESSMENT OF THE SITE

The response action selected in this ROD is necessary to protect the public health or welfare or the environment from actual or threatened releases of hazardous substances into the environment.

. DESCRIPTION OF THE SELECTED REMEDY

This ROD sets forth the selected remedy at the Central Wood Preserving site, which involves the excavation and treatment of contaminated soil and sediment and the disposal of residual wastes to a permitted off-site waste disposal facility. The selected remedy is one of EPA's presumptive remedies for the treatment of contamination at Wood Treater Sites.

The selected remedy is a comprehensive approach for this site that addresses all current and potential future risks caused by soil and sediment contamination. The remedial measures will prevent exposure to contaminated soil and sediment and will allow for restoration of the Site to beneficial uses.

The major components of this remedy are:

1. Thermal Desorption - Approximately 28,260 cubic yards of contaminated soil and sediment will be excavated from the site. Of this amount, approximately 9,200 cubic yards will undergo treatment on-site via thermal desorption to address the creosote contamination. The remaining ash from the thermal desorption as well as the approximately 19,060 cubic yards of arsenic contaminated soil/sediment will be sent off-site to a Resource Conservation and Recovery Act (RCRA) Subtitle C hazardous waste

facility for treatment and disposal in accordance with the RCRA Land Disposal Restriction standards.

2. Buildings and debris piles - Buildings and debris piles which prevent equipment from excavating contaminated soil will be sent off-site for disposal.

3. Institutional Controls - Since wastes below 5 feet would remain on-site, the East Feliciana Police Jury has agreed to provide easements, covenants running with the land, and/or deed notices to the affected property as appropriate or as allowed by law.

4. Long Term Monitoring - Groundwater monitoring will be undertaken to ensure that the wastes left in place below 5 feet do not impact the deep aquifer.

5. STATUTORY DETERMINATIONS

The selected remedy is protective of human health and the environment, complies with Federal and State requirements that are applicable or relevant and appropriate to the remedial action, is cost-effective, and utilizes permanent solutions.

This remedy also satisfies the statutory preference for treatment as a principal element of the remedy (i.e., reduce the toxicity, mobility, or volume of materials comprising principal threats through treatment). Wastes above 5 feet will be excavated, treated, and disposed of off-site.

Because this remedy will result in hazardous substances remaining on-site at depths of below 5 feet, which are above levels that allow for unlimited use and unrestricted exposure (and groundwater and/or land use restrictions are necessary), a review will be conducted within five years after initiation of remedial action to ensure that the remedy continues to provide adequate protection of human health and the environment. This review will be conducted not less often than every five years after the date of the initiation of the remediation.

6. ROD DATA CERTIFICATION CHECKLIST

The following information is included in the Decision Summary section of this Record of Decision. Additional information can be found in the Administrative Record file for this site.

1. Chemicals of concern (COCs) and their respective concentrations

2. Baseline risk represented by the COCs

3. Remediation goals (i.e., cleanup concentration goals) established for COCs and the basis for the goals

4. Current and reasonably anticipated future land and ground water use assumptions used in the baseline risk assessment and ROD

5. Land and ground water use that will be available at the site as a result of the selected remedy

6. Estimated capital, operation and maintenance (O&M), and total present worth costs; discount rate; and the number of years over which the remedy cost estimates are projected

7. Decisive factor(s) that led to selecting the remedy.

8. Treatment of principal threat wastes.

7. AUTHORIZING SIGNATURES

This ROD documents the selected remedy for soil and sediment at the Central Wood Creosoting site. This remedy was selected by EPA with concurrence of the Louisiana Department of Environmental Quality.

U.S. Environmental Protection Agency

By: _____ Date: 4/5/01

Gregg A. Cooke
Administrator
Region 6

CENTRAL WOOD RECORD OF DECISION

CONCURRENCE

Stacey Bennett — 03/16/2001

Stacey Bennett, P.E., US EPA
Remedial Project Manager — Date

Mary Kemp — 3/13/01

Mary Kemp, US EPA
Acting Chief, Louisiana Programs Section — Date

Edwin M. Quinones — 3/21/01

Edwin Quinones, U.S. EPA
Regional Counsel Superfund — Date

Mark A. Peycke — 4/4/01

Mark A. Peycke, U.S. EPA
Regional Counsel Superfund — Date

Wren Stenger — 4/5/01

Wren Stenger, US EPA
Chief, Louisiana/New Mexico Branch — Date

June Buzzell, Writer Editor, U.S. EPA
Superfund Division

4-3-01
Date

Myron O. Knudson, P.E., U.S. EPA
Director, Superfund Division

4-5-01
Date

Bruce Jones, U.S. EPA
Regional Counsel

4-5-01
Date

Larry Starfield, U.S. EPA
Regional Counsel

4/5/01
Date

CENTRAL WOOD RECORD OF DECISION
PEER REVIEW

Ursula Lennox
Remedial Project Manager — 3/12/01 Date

Katrina Coltrain
Remedial Project Manager — 3/12/01 Date

Gregory Lyssy
Remedial Project Manager — 3/12/01 Date

John Meyer
Remedial Project Manager — For Responsiveness Summary review — 3/6/01 Date

Jon Rauscher, Ph.D.
Toxicologist — 3/27/01 Date

Matt Charsky
EPA Headquarters — Date

8. SITE NAME, LOCATION AND BRIEF DESCRIPTION

The Central Wood Preserving Site (hereafter referred to as the "Site" or "CWP") is located in an unincorporated area in East Feliciana Parish, Louisiana. The site is approximately 60 miles north of Baton Rouge, Louisiana, and is located near the town of Slaughter, Louisiana. The municipal address of the site is 10148 Highway 959, Slaughter, Louisiana. The geographical coordinates of the site are 30°45'32.77" north latitude and 91°00'36.15" west longitude.

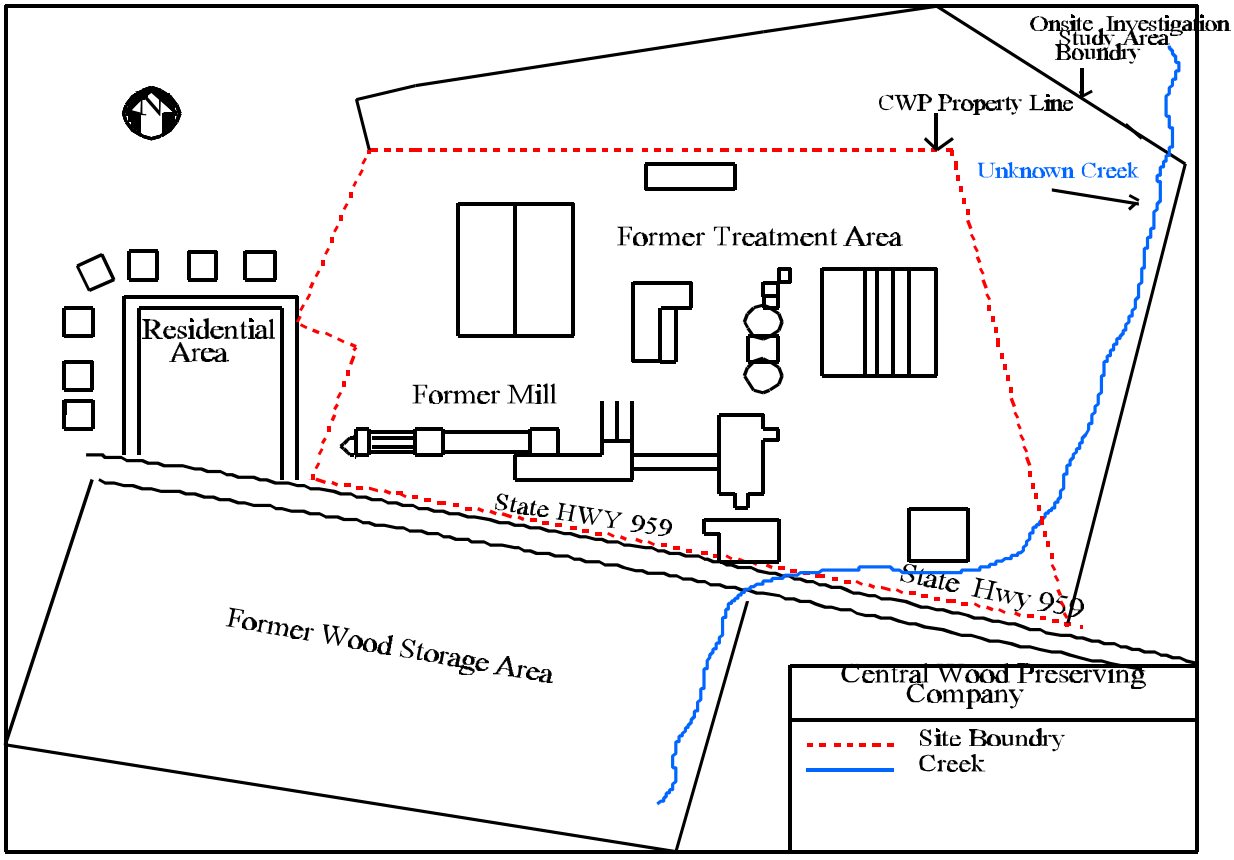
The Site consists of two distinct properties, and which is divided by State Hwy 959. The combined acreage of the North Property (10.03 acres) and South Property (7.05 acres) is approximately 17.08 acres. A creek runs along the east-southeast side of both properties (designated the "Unnamed Creek" in historic site documents). This creek flows downstream to intersect with Little Sandy Creek approximately 1.5 miles south of SH 959. The CWP site was formerly a wood preserving facility which operated from the 1950's until 1991.

Today, the Site is abandoned. There are two existing residences and a convenience store located west of the property, north of SH 959, within 350 feet of the west property boundary (See Figure 1). It is estimated that approximately 140 people live within one mile of the Site.

The Environmental Protection Agency (EPA) is the lead agency for the Site activity, with support from the Louisiana Department of Environmental Quality (LDEQ). The National Superfund Electronic Database Identification Number for the Site is LAD981054075.

A more complete description of the Site can be found in Section 1 of the Remedial Investigation Report *(CH2MHill, September 2000)*.

Figure 1- Site Map



2

9. SITE HISTORY AND ENFORCEMENT ACTIVITIES

1. History of Site Activities

The facility operated from the 1950s to January 1, 1973, as Central Creosoting Company, Incorporated, owned and operated by Mr. J.B. Herrod (now deceased). During that time creosote was used exclusively as the wood preservative. On January 3, 1973, the facility was sold to Mr. John Barnett, Jr. (now deceased) and the facility began operating under the name Central Wood Preserving Company, Inc., and the use of creosote was discontinued. Wood preserving from that time onward was accomplished with Wolmanac, a solution of copper oxide, chromic acid, and arsenic acid (chromated copper arsenate, known as CCA). Throughout the facility's history, treated wood was distributed throughout the property for drying.

The property on the north side of State Highway (SH) 959 ("North Property") was used as the main wood treatment process area, and the property on the south side of SH 959 ("South Property") was operated as a raw lumber saw mill. The wood treatment process area on the North Property originally included 10 above-ground storage tanks/pressure vessels, twelve on-site buildings, and a concrete-lined containment basin.

On January 1, 1991, Mr. Barnett declared bankruptcy and ceased operations, although site activities were reported as late as May 1991 *(E&E, 1994)*. Subsequent to the conclusion of the wood treating activities, the property was reportedly leased to Bobby Cotton of Legacy Wood Products for lumber storage purposes *(E&E, 1995a)*. There is no indication that pentachlorophenol (PCP), another common wood-treating substance, was ever used at the CWP site; this was substantiated via personnel interviews conducted previously by the Louisiana Department of Environmental Quality *(LDEQ, 1998)*, and by the lack of PCP detected in the remedial investigation site samples.

The source of contamination is the result of spillage of creosote and Wolmanac on the site property over a period of 40 years.

A more complete description of the Site can be found in Section 1 of the Remedial Investigation Report *(CH2MHill, September 2000)*.

2. History of Federal and State Investigations and Removal and Remedial Actions

November 1983: The CWP facility was confirmed as a RCRA small quantity generator of hazardous waste composed of CCA.

March 1992: A site visit performed by LDEQ confirmed the wood preserving/processing portion of the site to be inactive (*E&E, 1995a*). At that time, the facility was described as including twelve buildings, ranging from boiler rooms and storage barns to offices, seven above-ground storage tanks, three pressure retort vessels, numerous waste creosote piles, and a concrete-lined containment basin beneath the three pressure retort vessels.

1992 - 1995: The EPA Technical Assistant Team (TAT) conducted a series of site assessments (*E&E, 1993*) starting in 1992 following a request by the LDEQ. This and subsequent more detailed site assessments through 1995 indicated elevated levels of arsenic and chromium in soil and sediment, and asbestos fibers in tank insulation samples. During these investigations, sample collection was limited to source waste material, surface soil, sediment, and tank insulation material (no subsurface soil [below 2 feet below ground surface (bgs)] or surface water samples were collected), and on the indicator constituents of concern, arsenic and chromium. The results

of these assessments indicated the following (*EPA, 1995*):

- 3 of the 7 above ground storage tanks located near the concrete lined containment basin containing CCA product. The cumulative volume of product for these 3 tanks was 18,275 gallons with arsenic concentrations ranging from 470 ppm to 6740 ppm and chromium concentration ranging from 963 ppm to 8950 ppm;
- heavily contaminated soils next to the storage tanks at arsenic concentrations ranging from 30 - 13,700 ppm;
- a containment basin (50' x 85') containing water and sediments with arsenic concentrations at 65,000 ppm;
- drainage ditch and creek samples with elevated arsenic concentrations from 11- 5,060 ppm; and
- 3 large vacuum pressure vessels (retorts).

1995: A time-critical removal action to provide source control was completed in 1995. During this removal action, on-site tanks/pressure vessels containing hazardous substances were removed, grossly contaminated soils surrounding the tanks were removed, tanks and pressure vessels were demolished, the containment basin was closed, a section of surface soil near the main facility operations area was removed from the site, and the tank containing asbestos was bagged and left onsite (*EPA, 1995*).

1999: EPA proposed the site to the National Priorities List (NPL) on January 19, 1999, and the site was finalized on the NPL on May 10, 1999.

1999: In January, EPA issued CH2MHill a work assignment to perform a remedial investigation/feasibility study (RI/FS) on the site.

These investigations are described in more detail in Section 1.1.4 of the Remedial Investigation Report (*CH2MHill, September 2000*).

3. History of CERCLA Enforcement Activities

In September 1993, EPA began the potentially responsible parties (PRP) search. The PRP search revealed that from the 1950s to January 1, 1973, the Site was owned and operated by Mr. J.B. Herrod (now deceased) under the name of Central Creosoting Company, Incorporated. On January 3, 1973, the facility was sold to Mr. John Barnett, Jr. (now deceased) and operated under the name of Central Wood Preserving Company, Inc. In 1991, Mr. Barnett declared bankruptcy and the wood preserving operations ceased. The East Feliciana Parish acquired ownership of the Site through tax delinquency of the prior owner.

Since both PRPs are deceased and there are no other PRPs, EPA decided not to use special notice procedures pursuant to Section 122(e) of CERCLA (Waiver of Special Notice, November 10, 1998).

10. COMMUNITY PARTICIPATION

Throughout the Site's history, the degree of community concern and involvement has been minimal. The EPA has kept the community and other interested parties apprised of Site activities through informational meetings, fact sheets, and public meetings. Below is a brief chronology of public outreach efforts.

- On January 19, 1999, EPA released a Site Update notifying the community that EPA and LDEQ were planning to propose the Site on the NPL in order to address site contamination. This update also requested public comments on the NPL proposed package.
- In May 1999, EPA released a Site Update notifying the public that the Site was placed on the National Priorities List.
- On May 9-10, 1999, the EPA community involvement coordinator and the EPA contractor conducted door-to-door interviews in order to notify the community about the site contamination and to develop the mailing list for future mail-outs.
- In August1999, EPA released a community relations plan that outlined a program to address community concerns and keep citizens informed about and involved in the remedial activities.
- On May 16, 2000, the EPA Remedial Project Manager (RPM) updated the East Feliciana Parish Police Jurors during their bimonthly meeting on the progress of the remedial investigation and to obtain information regarding future use projects planned on the site. The U.S. Fish and Wildlife Service also participated in this meeting.
- In November 2000, EPA sent a postcard notice to all community members notifying them of an upcoming open house to discuss the proposed plan. In addition, a notice was published in the local newspaper.
- On November 29, 2000, the proposed plan was distributed during the open house to approximately 30 members of the community who attended this meeting. The open house highlighted the results of the remedial investigation, discussed the risk assessment results, presented options for addressing the site contamination, and encouraged residents to review the administrative record file at the Site repository during the public comment period. Representatives from LDEQ and the Louisiana Department of Health and Hospitals were present for this meeting.
- From November 30, 2000 to January 25, 2001, the Agency held a 57 day public comment period to accept public comment on the alternatives presented in the Feasibility Study and the Proposed Plan and on any other documents previously released to the public.
- On January 8, 2001, a postcard was mailed to all community members notifying them of the upcoming public meeting to discuss the proposed plan.
- On January 24, 2001, the Agency held a public hearing to discuss the Proposed Plan and to accept any oral comments. Approximately 11 members of the community attended this meeting. A transcript of this meeting can be found in the Administrative Record (Appendix D) and the comments received during the public comment period and the Agency's response are included in the Responsiveness Summary, which is part of this Record of

Decision. Representatives from LDEQ, the Louisiana Department of Health and Hospitals, and the U.S. Fish and Wildlife service also answered questions during this meeting.

11. SCOPE AND ROLE OF OPERABLE UNIT OR RESPONSE ACTION

The selected remedy will be the final action for this site. The overall site strategy is to clean up the areas of contamination to prevent current and future exposure. This will be achieved through the treatment of the soil and sediment to levels that are safe for residential usage.

The four major parts of the response action include: thermal desorption, off-site stabilization and disposal, demolition of buildings/debris piles on-site, and institutional controls/ground water monitoring.

The thermal desorption component of the cleanup remedy will address the principal threat wastes at the Site. Cleanup of creosote liquid source materials located in approximately 9,200 cubic yards of contaminated soil and sediment removes this principal threat to human health and the environment and satisfies the statutory preference for treatment of such substances.

The off-site stabilization and disposal of arsenic and other metal wastes located in approximately 19,060 cubic yards of contaminated soil and sediment removes this principal threat to human health and the environment and satisfies the statutory preference for treatment.

Demolition of buildings/debris piles on-site on the North property will ensure the facilitation of the surface soil excavation.

Institutional controls will ensure that future individuals will not be exposed to the Site contaminants. Groundwater monitoring is necessary to ensure that wastes left in place below 5 feet do not impact the 60 foot aquifer.

12. SITE CHARACTERISTICS

1. Physical Site Characteristics

The Executive Summary of the Feasibility Study contains an overview of the Remedial Investigation. The significant findings of the Remedial Investigation are summarized below.

The CWP site is located approximately 20 miles northeast of Baton Rouge in East Feliciana Parish, Louisiana, in an area covered by the "Clinton" United States Geological Survey (USGS) 7.5 minute topographic quadrangle, and the "Amite" USGS 15 minute topographic quadrangle, in Section 77, Township 3 South, Range 2 East. The "Fred" USGS 7.5 minute quadrangle, which adjoins the "Clinton" 7.5 minute quadrangle on the south side, covers the downstream extent of the creek that originates on the east side of the site. The site elevation is approximately 180 feet above mean sea level, and is characterized by a generally flat, gently sloping ground surface .

The Providence-Oliver soil association located onsite consists of gentle sloping upland soils comprised of silty loam to a silty clay loam conducive for pasture and southern pine forest. This soil type is characterized by a low permeability (*E&E, 1995d*).

The topography in the area of the site is generally flat, with multiple drainageways, creeks and wetland areas visible throughout the vicinity; these surface water features convey and accumulate runoff from the low permeability soils. A creek designated "Unnamed Creek"

borders the site to the east, and flows south-southwest toward its confluence with another creek (commonly referred to as Little Sandy Creek in historic documents), about 1.5 miles south-southwest of the site.

Two onsite drainage pathway areas were documented during previous investigations as being apparent on the eastern portion of the North Property side of the site. These pathways were characterized as demonstrating stressed/lack of vegetation and stained areas of soil. The pathways converge onsite and continue to flow toward the east for an estimated 200 feet from the main process area to the Unnamed Creek, which is not well defined on the east side of the North Property. South of the road, on the east side of the South Property, the Unnamed Creek begins to demonstrate a more defined cut into the surficial soils, eventually averaging approximately 15 feet wide from top of bank to top of bank, and 3 feet in vertical extent from top of bank to base of the streambed; this profile continues downstream of the site approximately one mile to a wetland area, where the Unnamed Creek spreads above a small dam and forms a wide swamp (which varies in size depending on the amount of rainfall). Downstream of the dam, the Unnamed Creek again assumes a more distinct profile. Several deer-hunting stands in nearby trees, a copperhead snake, and numerous crawfish mounds were observed during a walk of the Unnamed Creek in March 1999.

Today, the Site is abandoned. There are two existing residences and a convenience store located west of the property, north of SH 959, within 350 feet of the west property boundary. It is estimated that approximately 140 people live within one mile of the site.

2. Site Contamination

Previous investigations have indicated that the source of contamination is the result of approximately 40 years of wood preservation activity which resulted in the spillage of creosote and Wolmanac, a water based solution of copper oxide, chromic acid, and arsenic acid on the Site property.*(EPA, 1995)*. Although a time-critical removal action was completed in 1995, this action only addressed source control (i.e., removal of on-site tanks/pressure vessels containing hazardous substances and the removal of the soil surrounding these tanks). Contaminated soil and sediment outside the main process area (where tanks were located) were not addressed during the removal action.

During the Remedial Investigation (RI), samples from 4 media were collected: soil, sediment, groundwater, and surface water. These media were collected from the North Property, the South Property, the Unnamed Creek, and areas outside the Central Wood facility boundaries. Groundwater samples were collected both on-site and off-site.

For the purposes of consistency, any references to the Unnamed Creek is the area located south of the South property. Both the North and South property contain a ditch (also called drainage pathway) that runs along the eastern side of both properties.

Surface soils are defined as 0-2 feet below ground surface (bgs). Subsurface soils are defined as 3 feet bgs. Sediment is defined as the soil beneath the water surface in the creek or ditch/drainage pathway.

North Property-SEE FIGURE 2

The RI revealed that the affected media are the surface soil, subsurface soil, and sediments in which the contaminants of concern are arsenic, chromium, copper, and PAHs. In the former process area and the drainage pathway (ditch), creosote contamination extended to a depth of 23

feet and arsenic contamination generally was limited to a depth of five feet. The arsenic contamination ranged in concentration from background to 6,914 ppm. The creosote contamination ranged in concentration from 0.059 ppm to 56,200 ppm. There are discrete areas in which the arsenic and creosote are commingled. There were several buildings /debris piles located on the North property where soils are contaminated with the contaminants of concern.

South Property- SEE FIGURE 3

The RI revealed that the affected media are the surface soils and sediments in which the contaminants of concern are arsenic and creosote. The arsenic contamination was found at a depth of 1.5 feet in various discrete hot spots. The arsenic contamination ranged from background to 429 ppm. The creosote contamination was only located in the drainage pathway (ditch) along the eastern border of the property. The creosote contamination ranged in concentration from 0 - 33 ppm and ranged in depth from 0 - 5 feet.

Unnamed Creek- SEE FIGURE 4

The RI revealed that the affected media is the sediment. The arsenic contamination was found at a depth of 1.5 feet in various discrete hot spots. Arsenic contamination ranged from background to 590 ppm. Although some creosote-related constituents were detected, no free-phase creosote was found. The creek contains a wetland area. Although the wetland has elevated levels of arsenic, this 100 cubic yard wetland area will not be remediated. Remediation of the creek is not part of the selected remedy because remediation would cause damage to the wetland and limited accessability will prevent routine direct human exposure to the contaminated sediments.

N

0 60 120 180

Scale In Feet

AREA TO BE REMEDIATED FOR ARSENIC ABOVE PRGs TO 1.5 FEET BGS

59.95 SOIL/SEDIMENT SAMPLE LOCATION WITH ARSENIC RESULTS EXCEEDING PRG

SOIL/SEDIMENT SAMPLE LOCATION WITH ARSENIC RESULTS BELOW PRG

FIGURE 1
SOIL AND SEDIMENT EXCEEDING THE ARSENIC PRG, 0 TO 1.5 FEET BGS
NORTH PROPERTY
CENTRAL WOOD PRESERVING COMPANY
EAST FELICIANA PARISH, LOUISIANA

48498F77.DGN FS

CH2MHILL

FIGURE 2- NORTH PROPERTY CONTAMINATION

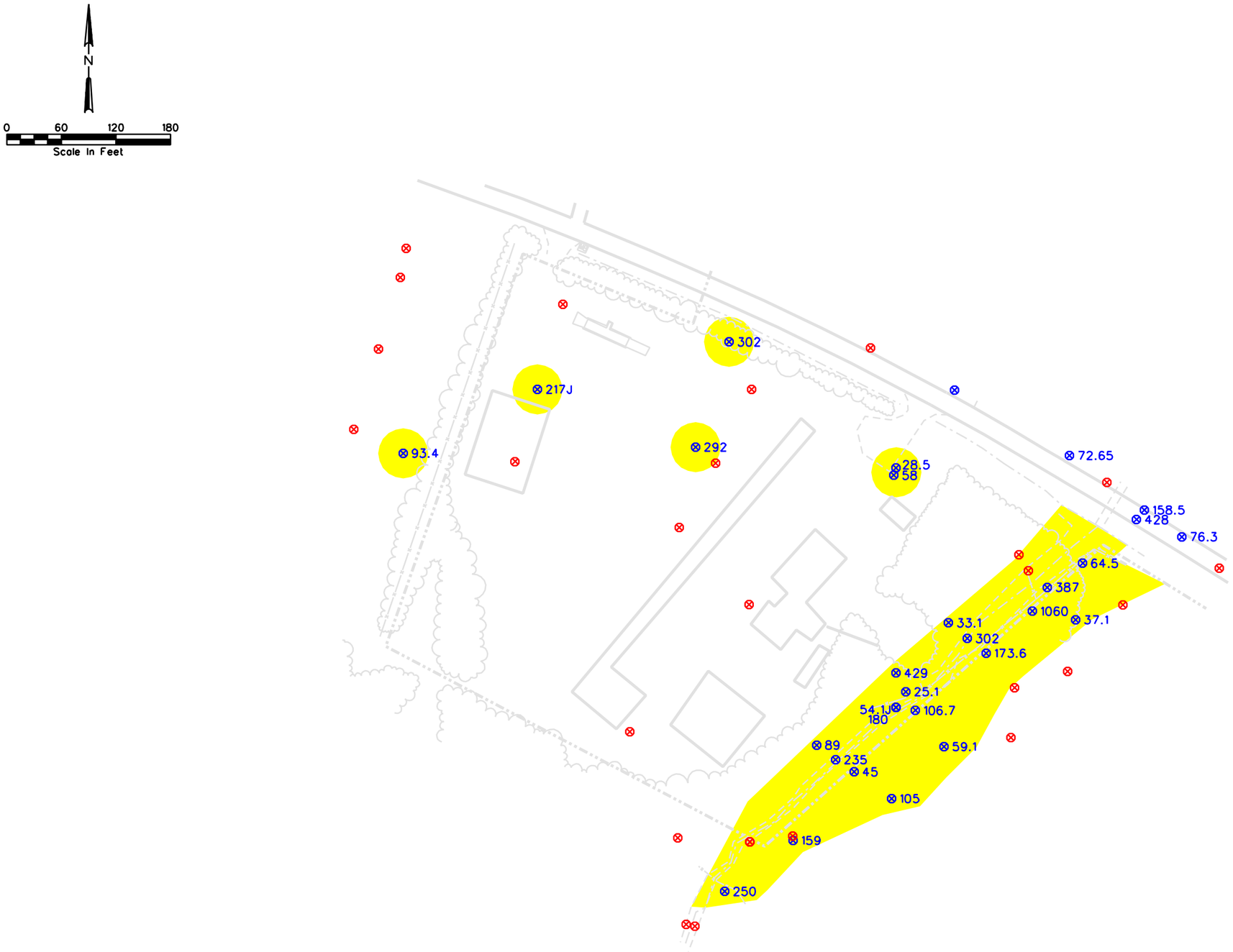


FIGURE 2
SOIL AND SEDIMENT EXCEEDING THE ARSENIC PRG, 0 TO 1.5 FEET BGS
SOUTH PROPERTY
CENTRAL WOOD PRESERVING COMPANY
EAST FELICIANA PARISH, LOUISIANA

48498F78.DGN FS

CH2MHILL

FIGURE 3- SOUTH PROPERTY CONTAMINATION

N

0 250 500 750

Scale In Feet

197

590 314

347

281

224

250

209

230 (ERTC LOCATION 4)

WETLAND AREA

AREA TO BE REMEDIATED FOR ARSENIC ABOVE PRGs TO 1.5 FEET BGS

⊗ 59.95 SOIL/SEDIMENT SAMPLE LOCATION WITH ARSENIC RESULTS EXCEEDING PRG

⊗ SOIL/SEDIMENT SAMPLE LOCATION WITH ARSENIC RESULTS BELOW PRG

FIGURE 3
SOIL AND SEDIMENT EXCEEDING THE ARSENIC PRG, 0 TO 1.5 FEET BGS
UNNAMED CREEK
CENTRAL WOOD PRESERVING COMPANY
EAST FELICIANA PARISH, LOUISIANA

48498F79.DGN FS

CH2MHILL

FIGURE 4- UNNAMED CREEK CONTAMINATION

TARGET SHEET

SITE NAME: CENTRAL WOOD PRESERVING

CERCLIS I.D.: LAD008187940 DATE OF DOC: 4/5/2001

TITLE OF DOC.: RECORD OF DECISION SUMMARY

NO. OF PGS. THIS TARGET SHEET REPLACES: 1

SDMS #: 144465 KEYWORD: 20.01

CONFIDENTIAL ?		OVERSIZED ITEMS ?	
COLOR ITEMS ?		MISSING PAGES ?	X
ENCLOSURES / ATTACH. NOT INCLUDED ?			
ALTERN. MEDIA ?		CROSS REFERENCE ?	

LAB DOCUMENT ? LAB NAME:

ACCESSION / BOX #:

CASE #: SDG #:

COMMENTS : FIGURE 4 - UNNAMED CREEK CONTAMINATION

Groundwater

The remedial investigation revealed the presence of interbedded clay and silty clay, some moist, mostly dry, from the surface to about 20 to 22 feet bgs, where the deposits become sandy and mostly dry, with some moisture. The sandier deposits appear to extend to about 45 feet bgs. Beyond that depth the deposits again become interbedded silty clay and clay, until about 60 feet bgs, where the first saturated groundwater zone was encountered. Groundwater was encountered and sampled in a shallow zone in soils under the drainage pathway at 10 feet below ground surface (bgs), and in an aquifer that occurs at approximately 55 to 65 feet bgs. Subsurface materials between 10 and 55 feet bgs, including a sand zone encountered from about 20 feet bgs to 45 feet bgs, were consistently dry throughout the remedial investigation field investigation. In addition, the shallow 10 feet bgs groundwater zone is not laterally continuous beyond the drainage pathway, and does not demonstrate significant volumes of water (one of three wells installed in this zone did not generate enough water to sample). The groundwater encountered at 55 to 65 feet bgs demonstrates capacities that are borderline at best for meeting LDEQ's 2B classification for potentially potable groundwater, and groundwater is not used from within this or any other zone in the vicinity of the site. A groundwater sample was also collected from a domestic water supply well approximately 1.5 miles south of the site and no contamination above screening levels was detected. The only exceedances of chemicals of potential concern were found in the monitoring wells installed in the shallow groundwater 10 feet bgs beneath the drainage pathway where most of the surficial creosote-related contamination remains. Since the majority of creosote-related contamination above the groundwater will be removed, and with the limited yield in this area, it is the Agency's belief that groundwater will not incur contamination.

Surface Water

Surface water samples were collected to update the extent of contamination documented from previous investigations along the Unnamed Creek. Surface water samples were not collected during previous investigations, therefore the RI surface water samples were necessary to confirm the presence/extent of site-related surface water contamination. Surface water of the Unnamed Creek demonstrates some detections of site-related chemicals of potential concern, but at low levels, and only in the areas demonstrating the most heavily-contaminated sediments near the site.

13. CURRENT AND POTENTIAL FUTURE SITE AND RESOURCE USES

1. Current and Future Land Use

The Central Wood Preserving Site is currently abandoned. It has been estimated that approximately 140 people live within one mile of the site. Although predominantly rural, residential land use in the area is increasing. New housing starts are up, and a number of families from Baton Rouge have relocated to new homes in the area. Two older residences, both occupied, are located within 350 feet of the west property boundary (north side of SH 959). These are the remaining two of nine original residences previously located on this small cul-de-sac; these residences were originally built to house facility employees. Approximately 15 residences are located on the east side of Mill Lane North, a street which runs along the east side of the property north of SH 959; some of these residences may be duplexes, and some appear to be unoccupied.

A property appraisal for the CWP site (North and South Properties) was performed in April 1999 toward the end of the field investigation. The purpose of the appraisal was to provide documentation of the expected future land use of the property for use in selection of Preliminary Remediation Goals (PRGs) under the human health and ecological risk assessments being performed for the site. A copy of the appraisal report is provided as an appendix to the Human Health Risk Assessment Technical Memorandum (*CH2M HILL, 2000b*).

The neighborhood description included in the report states that CWP is located in a primarily rural area with some residential development; the immediate subject area is considered to be 25 percent built up. The property is located within East Feliciana Parish, which does not participate in the National Flood Insurance program, nor is it zoned. There are no known servitudes, easements, or encroachments that affect the utility of the site. The buildings remaining onsite are in such poor condition that no contributory value would be associated with them, and the cost to demolish these buildings would need to be deducted from its market value (*Carlock and Associates, 1999*).

According to the appraisal, the most likely use of the property, if vacant, would be as a future residential home site(s). Unincorporated areas of East Feliciana Parish have no zoning ordinance and there are no known legal regulations or restrictions that would serve to limit the use of the site. The site's size is considered to be typical for the area and there are no known physical characteristics of the land that would impede or restrict possible uses of the site (exclusive of environmental contamination). (*Carlock and Associates, 1999*).

2. Current and Future Groundwater Uses

During previous investigations, a review of registered wells within a 4-mile radius of the site was performed, and no public water supply wells were identified in the Upland deposits or Zone 1 within this 4-mile area. Water well information located within the 4-mile radius can be found in Attachment H of the Site Assessment (SA) Report (*E&E, 1995a*). One registered well was reported as screened within the Zone 2 deposits approximately 3.75 miles northwest of the site, and four public supply wells were identified in Zone 3 within the 4- mile radius (*E&E, 1995d*). The public supply wells are installed to depths greater than 1,500 feet bgs, and are generally protected from surface contamination within the area by the presence of the low permeable clay located throughout the southern tier of East Feliciana Parish.

An updated list of registered wells was obtained as part of the RI investigation from the Louisiana Department of Transportation and Development (LDOTD). Several registered wells appear at the CWP site. The only remaining onsite well was plugged prior to the conclusion of the RI field investigation.

The groundwater encountered at 55 to 65 feet bgs demonstrates capacities that are borderline at best for meeting LDEQ's 2B classification for potentially potable groundwater, and groundwater is not used from within this or any other zone in the vicinity of the site. Groundwater was also collected from a domestic water supply well approximately 1.5 miles south of the site (the domestic well screening at a depth of approximately 60 feet) and no contamination above screening levels was detected.

3. Reuse of the Site

In April 2000, the East Feliciana Parish Police Jury applied for a reuse grant. In June 2000, the EPA selected the Central Wood Preserving Superfund site as a Superfund Redevelopment Pilot. According to the Parish grant application, "323 people currently live within 1 mile of the site. The growth rate for the East Feliciana area has been 6.9% within the last 10 years. The growth rate appears to be increasing and the area being developed because of the rapid growth in suburban Baton Rouge. Since suburban communities are springing up around the site, community leaders are concerned about the lack of recreational space in this growing area."

The Parish is in the process of proposing to redevelop the Northern property into picnic areas and trails for the elderly and the Southern property's proposal is for a baseball field for youth. The Parish has already hired a contractor to: 1) create a comprehensive reuse plan, 2) create a reuse strategy, and 3) conduct community meetings. Public meetings for the reuse plan were conducted in March 2001.

4. Assumptions in Risk Assessments

EPA began the Remedial Investigation and Risk Assessment process in January 1999. Because the unincorporated areas of East Feliciana Parish did not have a zoning ordinance at that time, EPA had a property appraisal conducted to assist in determinating a basis for reasonable exposure assessment assumptions for the risk assessments. Based upon the property appraisal as discussed above, the following assumptions were derived regarding future land use:

North Property and South property- Residential (depth of 0-3 feet)/Utility Worker (3-5 feet)
Unnamed Creek- Recreational

14. SUMMARY OF SITE RISKS

A baseline risk assessment was completed in September 2000, which estimated the probability and magnitude of potential adverse human health and environmental effects from exposure to contaminants associated with the Site assuming no remedial action was taken. It provided the basis for taking action and identified the contaminants and exposure pathways that need to be addressed by the remedial action. The public health risk assessment followed a four step process: 1) hazard identification, which identified those hazardous substances which, given the specifics of the Site were of significant concern; 2) exposure assessment, which identified actual or potential exposure pathways, characterized the potentially exposed populations, and determined the extent of possible exposure; 3) toxicity assessment, which considered the types and magnitude of adverse health effects associated with exposure to hazardous substances, and 4) risk characterization and uncertainty analysis, which integrated the three earlier steps to summarize the potential and actual risks posed by hazardous substances at the site, including carcinogenic and non-carcinogenic risks and a discussion of the uncertainty in the risk estimates.

A summary of those aspects of the human health risk assessment which support the need for remedial action is discussed below followed by a summary of the environmental risk assessment.

1. Human Health Risk Assessment

Chemicals of Concern

The EPA used a concentration for each chemical of concern (COC) to calculate the risk. This concentration, called the exposure point concentration, is a statistically-derived number based on all the sampling data for a Site. The human health risk assessment estimated the exposure point concentration using the 95% upper confidence limit of the arithmetic mean concentration of the chemicals in soil and sediment (Table 1).

Exposure Assessment

Human health risk was estimated for three potential exposure areas. These potential exposure areas were defined as the North Property, South Property, and three individual segments of the Unnamed Creek. The potential receptors for the North Property and South Property AOIs were current trespassers and future construction workers and future adult and child residents. Recreational youths were the potential receptors evaluated for the Unnamed Creek. Potential routes of exposure for trespassers, future residents, and future construction workers were assumed to be direct contact with soil and sediment (incidental ingestion and dermal contact) and inhalation of soil particulates and volatile compounds. Potential routes of exposure for recreational youths for surface water were incidental ingestion and dermal contact and for creek sediments were assumed to be direct contact with soil and sediment (incidental ingestion and dermal contact) and inhalation of soil particulates and volatile compounds. The exposure parameters used in the human health risk assessment are shown in Table 2.

Toxicity Assessment

The toxicity values used in the human health risk assessment for cancer and non-cancer effects are presented in Tables 3 and 4, respectively.

Table 1- Exposure Point Concentration in Soil and Sediment

Table 1. Exposure Point Concentration in Soil and Sediment.
Central Wood Preserving Company Site
East Feliciana Parish, Louisiana

	North Property				North Property- Hot Spot				South Property*			Unnamed Creek		
Matrix	Soil (mg/kg)				Soil (mg/kg)				Soil (mg/kg)			Soil/Sediment (mg/kg)		
Depth Interval/Creek Segment	A	B	C	D	A	B	C	D	A	C	D	Seg 1	Seg 2	Seg 3
Chemical of Potential Concern (COPC)														
ACENAPHTHENE												1.6E+03		
ARSENIC	3.5E+02	3.0E+02	5.00E+01	1.19E+02	3.0E+03	8.3E+02	4.0E+02	4.9E+02	2.0E+02	6.9E+00	4.8E+00	8.1E+02	1.4E+02	1.4E+01
CHROMIUM, TOTAL	3.2E+02	1.7E+02	9.34E+01	1.03E+02	2.0E+03	6.5E+02	5.5E+02	3.9E+02	2.9E+02			2.5E+03	1.1E+02	
BENZO(a)ANTHRACENE	2.8E+01	7.0E+01	4.10E+02	3.58E+01	2.8E+02	7.0E+01	4.1E+02	1.3E+02	5.0E-01			6.5E+02	5.6E-01	
BENZO(a)PYRENE	2.3E+01	1.9E+01	2.00E+02	1.10E+01	2.6E+02	1.9E+01	2.0E+02	9.5E+00	4.0E-01			8.6E+02	4.9E-01	
BENZO(b)FLUORANTHENE	1.0E+02	2.4E+01	3.20E+02	1.50E+01	4.4E+02	2.4E+01	3.2E+02	1.5E+01	6.5E-01			1.2E+03	1.1E+00	
BENZO(k)FLUORANTHENE	7.6E+01	3.9E+01	2.40E+02	1.40E+01	4.0E+02	3.9E+01	2.4E+02	1.2E+01				6.0E+02	1.1E+00	
DIBENZ(a,h)ANTHRACENE	1.2E+00				1.2E+00				2.0E-01				4.0E-01	
CHRYSENE	9.9E+01	6.8E+01	3.60E+02		5.5E+02	6.8E+01	3.6E+02					8.6E+02		
COPPER	1.6E+03				4.4E+03									
DIBENZOFURAN												6.6E+03		
FLUORANTHENE			2.30E+03				2.3E+03					3.9E+03		
FLUORENE												2.4E+03		
INDENO(1,2,3-c,d)PYRENE	1.1E+01	6.1E+00	6.50E+01	3.10E+00	1.3E+02	6.1E+00	6.5E+01	3.1E+00				2.7E+02	4.4E-01	
MANGANESE				3.85E+03				3.9E+03						
NAPHTHALENE	1.4E+01		4.93E+02	1.53E+02			1.7E+02	5.9E+02				8.2E+02		
PYRENE												9.6E+02		

Exposure point concentrations for each COPC are based on either the maximum detected concentration, the 95% upper confidence limit (UCL) of normal data, or 95% UCL of log-transformed

Depth Intervals:

A - 0-1.5 feet
B - 1.5-2 feet
C - 2-3 feet
D - 3-5 feet
* - No samples collected at the B Interval for the South Property

Table 2- Exposure Parameters

Table 2 - Summary of Exposure Factors by Receptor for Soil and Sediment							
				North & South Property Soil			Unnamed Creek Sediment
Exposure Route	Parameter Code	Parameter Definition	Units	Residential Child	Residential Adult	Utility Worker	Youth Trespasser
Ingestion	Cs	Chemical Concentration in Soil	mg/kg	Chemical-specific	Chemical-specific	Chemical-specific	Chemical-specific
	IR	Ingestion Rate of Soil	mg/day	200	100	480	100
	FI	Fraction Ingested	unitless	1	1	1	1
	EF	Exposure Frequency	days/year	350	350	40	12
	ED	Exposure Duration	years	6	30	1	10
	CF	Conversion Factor	kg/mg	1.00E-06	1.00E-06	1.00E-06	0.000001
	BW	Body Weight	kg	15	70	70	43
	AT_C	Averaging Time (Cancer)	days	25,550	25,550	25,550	25550
	AT_N	Averaging Time (Non-Cancer)	days	2,190	10,950	365	3650
	IR_adj	Age-adjusted Soil Intake Rate (Cancer)	mg-yr/kg-day	N/A	114	N/A	N/A
Dermal	Cs	Chemical Concentration in Soil	mg/kg	Chemical-specific	Chemical-specific	Chemical-specific	Chemical-specific
	SA	Skin Surface Area Available for Contact	cm^2	1,800	1,800.00	5,000	5000
	AF	Adherence Factor	mg/cm^2	1.00	1	1.00	1
	ABS	Absorption Constant	unitless	Chemical-specific	Chemical-specific	Chemical-specific	Chemical-specific
	EF	Exposure Frequency	days/year	350	350	40	12
	ED	Exposure Duration	years	6	3.00E+01	1	10
	CF	Conversion Factor	kg/mg	1.00E-06	0	1.00E-06	0.000001
	BW	Body Weight	kg	15	70	70	43
	AT_C	Averaging Time (Cancer)	days	25,550	25,550	25,550	25550
	AT_N	Averaging Time (Non-Cancer)	days	2,190	10,950	365	3650
	SFSadj	Skin Contact Factor	mg-yr/kg-day	N/A	503	N/A	N/A
Inhalation	Cs	Chemical Concentration in Soil	mg/kg	Chemical-specific	Chemical-specific	Chemical-specific	Chemical-specific
	IR_Inh	Inhalation Rate of Soil Particles	m^3/day	5	5	20	20
	PEF	Particulate Emission Factor	m^3/kg	1.32.E+09	1.32.E+09	1.32.E+09	1320000000
	VF	Volatilization Factor	m^3/kg	Chemical-specific	Chemical-specific	Chemical-specific	Chemical-specific
	EF	Exposure Frequency	days/year	350	350	40	12
	ED	Exposure Duration	years	6	30	1	10
	BW	Body Weight	kg	15	70	70	43
	AT_C	Averaging Time (Cancer)	days	25,550	25550	25,550	25550
	AT_N	Averaging Time (Non-Cancer)	days	2,190	10950	365	3650
	Inh_adj	Age-adjusted Inhalation Rate (Cancer)	m3-yr/kg-day	N/A	11	N/A	N/A

Note: Parameter Codes are the abbreviations for the Parameter Definition.

Table 3- Cancer Toxicity Values

Table 3. Cancer Toxicity Data						
Pathway: Oral/Dermal						
Chemical of Potential Concern	Oral Cancer Slope Factor $(mg/kg\text{-}day)^{-1}$	Oral to Dermal Adjustment Factor	Adjusted Cancer Slope Factor $(mg/kg\text{-}day)^{-1}$	Weight of Evidence	Source	Date
Arsenic	$1.5 \times 10^{+1}$	100%	$1.5 \times 10^{+1}$	A	IRIS	1999
Benzo(a)anthracene	7.3×10^{-1}	100%	7.3×10^{-1}	B2	ECAO	
Benzo(a)pyrene	$7.3 \times 10^{+0}$	100%	$7.3 \times 10^{+0}$	B2	IRIS	
Benzo(b)fluoranthene	7.3×10^{-1}	100%	7.3×10^{-1}	B2	ECAO	
Benzo(k)fluoranthene	7.3×10^{-2}	100%	7.3×10^{-2}	B2	ECAO	
Chrysene	7.3×10^{-3}	100%	7.3×10^{-3}	B2	ECAO	
Dibenz(a,h)anthracene	$7.3 \times 10^{+0}$	100%	$7.3 \times 10^{+0}$	B2	ECAO	
Indeno(1,2,3-c,d)pyrene	7.3×10^{-1}	100%	7.3×10^{-1}	B2	ECAO	
Pathway: Inhalation						
Chemical of Potential Concern	Unit Risk $(\mu g/m^3)^{-1}$	Inhalation Cancer Slope Factor $(mg/kg\text{-}day)^{-1}$		Weight of Evidence	Source	Date
Arsenic	4.3×10^{-3}	$1.5 \times 10^{+1}$		A	IRIS	1999

Notes for Table:
Weight of Evidence classifies the chemicals as to their carcinogenicity (i.e., A= known carcinogen, B2=probable carcinogen based on sufficient animal evidence.
Source indicates the database from which the slope factor was taken (i.e., IRIS= Integrated Risk Information System, ECAO= Environmental Criteria and Assessment Office).

Table 4- Non Cancer Toxicity Values

Table 4. Non-Cancer Toxicity Data							
Pathway: Oral/Dermal							
Chemical of Potential Concern	Oral RfD Value (mg/kg-day)	Oral to Dermal Adjustment Factor	Adjusted Dermal RfD (mg/kg-day)	Primary Target Organ	Uncertainty/ Modifying Factors	Source of RfD	Date of Source
Arsenic	3×10^{-4}	100%	3×10^{-4}	Hyperpigmentation, ketatosis and possible vascular complications	3	IRIS	1999
Chromium, total	1.5	1.3%	2.0×10^{-2}	No effects observed	1,000	IRIS	2001
Copper	3.7×10^{-2}	100%	3.7×10^{-2}	Gastrointestinal -irritation	1	HEAST	1997
Fluoranthene	4×10^{-2}	100%	4×10^{-2}	Nephropathy, increased liver weights, hematological alterations	3,000	IRIS	1999
Manganese	4.7×10^{-2}	6.0%	2.8×10^{-3}	CNS effects	1	IRIS	1999
Naphthalene	2×10^{-2}	100%	2×10^{-2}	Decreased body weight gain	3,000	IRIS	1999
Pathway: Inhalation							
Chemical of Potential Concern	Inhalation RfC Value (mg/m^3)		Adjusted Inhalation RfD (mg/kg-day)	Primary Target Organ	Uncertainty/ Modifying Factors	Source of RfD	Date of Source
Naphthalene	3×10^{-3}		8.6×10^{-4}	Nasal effects	3,000	IRIS	1999

Notes for Table:

Definition for RfD- The toxicity value describing the dose-response relationship for noncancer effects.

Source of RfD is the databases for which the RfD was derived (IRIS= Integrated Risk Information System, HEAST= Health Effects Assessment Summary Tables).

Risk Characterization

For the North Property, Excess Lifetime Cancer Risk (ELCR) estimates for current receptors (trespassers) and future receptors (adult residents) were above 1×10^{-4}. ELCR estimates for future construction workers were in the range of 1×10^{-5}. In all cases, risks were due primarily to arsenic and to a lesser extent, to the presence of PAHs. Hazard Index (HI) estimates for trespassers, and residential adults and children were also above the threshold of concern (HI = 1) at values of 1.1 up to 160 and were a consequence of the high levels of arsenic. HI estimates for construction workers were below the threshold of concern. For the Hot Spot within the North Property, the calculated risk estimates were approximately one order of magnitude above the corresponding risk estimates for the entire North Property. (Appendix B).

For the South Property, ELCR estimates for future construction workers and future adult residents were above 1×10^{-4}, due primarily to arsenic. HI estimates for construction workers and residential adults and children were also above the threshold of concern (HI = 1) at values of 2 up to 11 and were a consequence of the high levels of arsenic. For the South Property current trespasser scenario, estimated total ELCR and HI for potential exposures to surface soil were 4×10^{-5} and less than 1, respectively (Appendix B).

For sediment/soil in Segment 1 of the Unnamed Creek, the ELCR estimate for the Recreational Youth was 3.4×10^{-3} which is above the range of concern of 1×10^{-4} to 1×10^{-6} and was due primarily to the presence of arsenic, benzo(a)pyrene and benzo(b)fluoranthene (Appendix B). The associated HI estimate was above the level of concern of 1 at 7 and was due to the presence of arsenic and dibenzofuran.

ELCR estimates for sediment/soil of Segments 2 and 3 of the Unnamed Creek were in the range of 7×10^{-6} down to 6×10^{-7} for the recreational youth scenario and 1×10^{-5} down to 9×10^{-7} for the adult hunter scenario (Appendix B). These risk levels are based on the RME; some actual detected concentrations in these segments are above the 1×10^{-5} risk-based concentration. Noncancer (HI) estimates for sediment/soil in Segment 2 and 3 were well below the level of concern of 1.0. ELCR and HI estimates for potential exposures to surface water for both scenarios in all three segments of the Unnamed Creek were also well below levels of concern.

2. Ecological Risk Assessment

A baseline ecological risk assessment was conducted. The chemicals of concern for the ecological risk assessment were arsenic, copper, and chromium. Although copper was not evaluated in the ecological risk assessment, it was one of the primary chemicals used in this facility's operations and was detected in previous EPA site assessment investigations at levels in excess of 1500 ppm. Copper is acutely toxic to plants and invertebrates. An evaluation of the relationship between arsenic and copper in site soils/sediments revealed an almost 1 to 1 ratio (see Administrative Record Index in Appendix D). The results of the baseline ecological risk assessment on the North and South properties and the Unnamed Creek indicated that: 1) there was minimal risk to the terrestrial and riparian wildlife target receptors, and 2) there was risk to the benthic receptors. As a part of the ecological risk assessment, the EPA Environmental Response Team Center (ERTC) investigation was designed to refine the risk estimate for benthic receptors by providing site-specific information in the form of a 14-day *Hyallela azteca* bioassay, benthic surveys and sediment chemistry. The ERTC data indicates that the observed mortality in the bioassays is not attributable to site-related contamination, and the low diversity of benthic organisms in the unnamed creek may be a result of limited physical habitat. Therefore, the final conclusion by the Agency is that by addressing the arsenic levels as per the human health risk assessment, the copper will be also addressed.

The current risk in the Unnamed Creek (Segment 2, which is South of the South property) for a recreational scenario for a youth and adult hunter is 6.5×10^{-6} and 1.0×10^{-5}. However, according to the ecological risk assessment, copper is an ecological concern. Since copper and arsenic are co-located, the Agency calculated a remediation goal (RG) for arsenic based on an Excess Lifetime Cancer Risk (ELCR) risk of 1×10^{-5} based on a recreational youth scenario. The arsenic RG will also address the copper. The corresponding arsenic RG is 160 ppm.

Although the Creek contains a wetland (Segment 3) that has elevated levels of arsenic above the RG of 160 ppm, this 100 cubic yard wetland area will not be remediated. Remediation of the Creek is not part of the selected remedy because remediation would cause damage to the wetland and limited accessability will prevent routine direct human exposure to the contaminated sediments.

3. Basis for Remedial Action

It is EPA's judgment that the remedial alternative selected in this ROD is necessary to protect public health or welfare or the environment from actual releases of hazardous substances into the environment, or from the substantial threat of such release.

15. REMEDIAL ACTION OBJECTIVES

Remedial Action Objectives (RAOs) were developed for the site. The RAOs are the following:

The North and South properties

- In residential areas, prevent human ingestion of, dermal contact with, or inhalation of soil or sediment contaminated with chemicals of concern at concentration levels which pose an ELCR greater than 1×10^{-6}, or which have a Hazard Index (HI) of 1 or greater. Where background concentration levels of metals in soil are greater than concentration levels that pose an ELCR greater than 1×10^{-6} or an HI of 1 or greater, remediation goals need not exceed background concentration levels.

- In residential areas, prevent human ingestion of water which contains chemicals of concern exceeding non-zero MCLGs or MCLs where the corresponding MCL is zero in ground water at the 60 foot aquifer.

- In residential areas, prevent human contact with structures/debris contaminated with chemicals of concern at concentration levels which pose an ELCR greater than 1×10^{-6}, or which have a Hazard Index (HI) of 1 or greater.

The Unnamed Creek

- In recreational areas, prevent human ingestion of, dermal contact with, or inhalation of sediment contaminated with chemicals of concern at concentration levels which pose an ELCR greater than 1×10^{-6}, or which have a Hazard Index (HI) of 1 or greater. Where background concentration levels of metals in sediment are greater than concentration levels that pose an ELCR greater than 1×10^{-6} or an HI of 1 or greater, remediation goals need not exceed background concentration levels.

- In residential areas, prevent human ingestion of water which contains chemicals of concern exceeding non-zero MCLGs or MCLs where the corresponding MCL is zero in ground water at the 60 foot aquifer.

Remediation Goals (Cleanup Levels)

This proposed action will reduce the excess cancer risk associated with exposure to contaminated soil to one in ten thousand (10^{-4}) for the North and South properties for a depth of 3 feet and less and one in one hundred thousand(10^{-5}) for the Unnamed Creek. The following Tables summarize the Cleanup Levels and provide the basis for the clean up level.

Table 5- North Property CleanUp Levels

Media: Soil and Sediment Site Area: North Property Available Use: Residential				
Chemicals of Concern	Cleanup Level	Depth	Basis for Cleanup Level	Risk at Clean up Level
Arsenic	20 ppm	0-3 feet	Risk Assessment and Background	1×10^{-4}
Arsenic	300 ppm	3-5 feet	Risk Assessment and Background	1×10^{-4}

The human health risk based remediation goals (RGs) for contaminants of concern were calculated for the North and South properties based on 1×10^{-6} carcinogenic risk using adult and child resident and construction worker exposure scenarios. The resulting arsenic RG for surface soil/sediment was calculated as 0.03 ppm. Since this concentration was lower than the background concentration, the arsenic RG was set at the background concentration of 20 ppm. This corresponds to a residential risk of 1×10^{-4}.

The human health risk based remediation goals (RG) for contaminants of concern were calculated for the 3-5 foot interval for the North property based on 1×10^{-5} carcinogenic risk using a future utility worker scenario. The resulting arsenic RG for surface soil/sediment was calculated as 300 ppm. The 1×10^{-5} carcinogenic risk was chosen because: 1) the area that requires action is a hot spot (hot spot is defined as a small area) and 2) the probably that utility lines will be located in this exact hot spot is unlikely since the hot spot is located near the drainage ditch.

Table 6: South Property CleanUp Levels

Media: Soil and Sediment Site Area: South Property Available Use: Residential				
Chemicals of Concern	Cleanup Level	Depth	Basis for Cleanup Level	Risk at Clean up Level
Arsenic	20 ppm	0- 1.5 feet	Risk Assessment and Background	1×10^{-4}

Table 7: Unnamed Creek CleanUp Levels

Media: Sediment Site Area: Unnamed Creek Available Use: Recreational				
Chemicals of Concern	Cleanup Level	Depth	Basis for Cleanup Level	Risk at Clean up Level
Arsenic	160 ppm	0- 1.5 feet	Risk Assessment	1×10^{-5}

The human health risk based RG was calculated for the Unnamed Creek based on 1×10^{-5} carcinogenic risk using a recreational youth and adult hunter scenario. Since the creek is located on several individual residents' property, recreational youth and adult hunter access to the creek is limited and therefore 1×10^{-5} was used. The resulting arsenic RG calculated was 160 ppm.

16. DEVELOPMENT AND SCREENING OF ALTERNATIVES

1. Statutory Requirements/Response Objectives

Under its legal authorities, EPA's primary responsibility at Superfund sites is to undertake remedial actions that are protective of human health and the environment. In addition, Section 121 of CERCLA establishes several other statutory requirements and preferences, including: a requirement that EPA's remedial action, when complete, must comply with all federal and more stringent state environmental and facility siting standards, requirements, criteria or limitations, unless a waiver is invoked; a requirement that EPA select a remedial action that is cost-effective and that utilizes permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable; and a preference for remedies in which treatment permanently and significantly reduces the volume, toxicity or mobility of the hazardous substances is a principal element over remedies not involving such treatment. Response alternatives were developed to be consistent with these Congressional mandates.

2. Technology and Alternative Development and Screening

CERCLA and the National Contingency Plan (NCP) set forth the process by which remedial actions are evaluated and selected. In accordance with these requirements, remedial alternatives for the Central Wood Preserving Site were based on EPA's "Presumptive Remedies Guidance for Soils, Sediments, and Sludges at Wood Treater Sites." The presumptive remedies are preferred technologies for common categories of sites, based on EPA's experience and its scientific and engineering evaluation of alternative technologies.

EPA evaluated two of the applicable presumptive remedies in addition to the no action alternative. The no action alternative has been retained as a baseline for comparison, as required by the NCP. The remedial action alternatives for the CWP Site are as follows:

Alternative 1: **No Action**

Alternative 2: **REMOVAL AND THERMAL DESORPTION ON SITE, OFFSITE STABILIZATION AND DISPOSAL**

Alternative 3: **REMOVAL AND INCINERATION OFFSITE, OFF-SITE STABILIZATION AND DISPOSAL.**

Alternative 4: **EXCAVATION AND ONSITE DISPOSAL**

The process for the screening of alternatives and the analyses of the alternatives is explained in more detail in Sections 2 and 3 of the Feasibility Study Report (*CH2MHill, 2000a*).

17. DESCRIPTION OF ALTERNATIVES

1. Common Elements of Remedial Alternatives 2, 3, and 4

Each of the remedial alternatives (other than Alternative 1) evaluated as part of the detailed analysis have certain assumptions and aspects in common. These are called common elements. These common elements have been divided into 1) preparatory activities defined as activities occurring prior to the initiation of the physical remedial action, 2) activities during the remedial action, and 3) activities after the remedial action. These common elements are as follows:

Preparatory Activities

- **Grubbing** - Portions of the onsite removal area will require grubbing prior to excavation.
- **Staging for contaminated soils/sediments** - The Unnamed Creek portion of the excavation will require clearing and staging areas down the length of the creek where excavation activities will occur.
- **Asbestos Abatement** - The asbestos survey conducted at the site confirmed the presence of asbestos above the regulatory limit of 1 percent by weight, for example in the tank insulation, boiler, floor tile mastic and linoleum. A licensed asbestos removal contractor will remove these materials from the site prior to initiation of other removal actions to prevent release of fibers to the atmosphere.
- **Building Demolition and Disposal of Materials** - The North Property structures will require demolition and removal to facilitate the surface soil excavation. The structures will require controlled demolition to prevent contaminated particulate matter associated with the building materials and the surrounding soil from becoming airborne. Buildings demolished will be tested and disposed of accordingly.
- **Removal and Disposal of Debris Piles** - The XRF testing on the debris piles shows elevated levels of site-related metals in all debris piles on the North Property. These piles will be cleared from the excavation area along with the building debris and disposed of accordingly.

Activities during Remediation

- **Air Monitoring** - Air monitoring will be required during all excavation activities to ensure that air particles are within ARARs.
- **Backfilling** - The onsite removal area will be backfilled with clean backfill and re-vegetated following confirmation sampling. The excavated portions of the Unnamed creek will be backfilled with clean backfill and an erosion control layer will be installed following confirmation sampling.
- **Disposal of Excavated soils/sediments** - The excavated soils will be tested and disposed of accordingly.

Post Remedial Activities

- **Institutional Controls/Deed Restrictions** - Easements, covenants running with the land, and/or deed notices as appropriate or as allowed by law will be implemented to prevent exposure to contaminants remaining onsite on the North Property below 5 feet bgs (this area includes the drainage pathway located outside the legal boundaries of the property that was originally owned by CWP [now East Feliciana Parish]).
- **Groundwater Monitoring** - Soils with organic contamination will be left in place in the subsurface (greater than 5 feet bgs). To ensure protectiveness of groundwater, a groundwater monitoring system will be necessary to monitor contaminant levels in the groundwater. The dry sand that exists from about 25 to 45 feet bgs would also be

monitored to ensure no future migration pathway develops. Groundwater samples will be collected on an annual basis, but the sampling frequency may be modified if there are statistically significant changes in ground water sample concentrations.

2. Summary of Alternatives

This Section provides a narrative summary of each alternative evaluated. The costs associated for each alternative includes the costs of the common elements.

Alternative 1: No Action

The no action alternative constitutes the absence of any remedial actions. No action is considered in this evaluation as a baseline for comparison to all other potential remedial actions, as required by the NCP.

- Capital Cost: $ 0
- Operation and Maintenance Cost (over 30 year period): $ 0
- Present Worth Cost: $ 0

Alternative 2: EXCAVATION AND THERMAL DESORPTION ON-SITE, OFFSITE STABILIZATION AND DISPOSAL- PREFERRED OPTION

Excavation of Surface/Near-Surface Soil/Sediment that Exceeds Onsite and Offsite RGs

Onsite and offsite soil/sediment that exceeds RGs will be excavated and staged pending treatment/disposal. Excavated soil/sediment that exceeds land disposal restrictions (LDRs) will be staged separately from excavated soil/sediment that does not exceed LDRs.

Thermal Desorption of Excavated Soil/Sediment that Exceeds LDRs

Excavated soil and sediment exceeding LDRs will be staged separately from excavated soil/sediment that meets LDRs. The excavated soil/sediment exceeding LDRs will be prepared for treatment and treated with an on-site thermal desorption unit (the majority of thermal desorption services are mobile, onsite units).

TCLP testing of the residuals will be required, and if the LDRs are exceeded, additional stabilization may be required prior to off-site disposal. Following thermal treatment (and stabilization, if necessary), soil/sediment will be transported and disposed in a RCRA Subtitle C hazardous waste landfill.

- Capital Cost: $ 6,600,000
- Operation and Maintenance Cost (over 30 year period): $ 359,000
- Present Worth Cost: $ 6,959,000

Alternative 3: REMOVAL AND OFF-SITE INCINERATION, OFFSITE STABILIZATION AND DISPOSAL

Alternative 3 is identical to Alternative 2, with the exception that excavated soil/sediment exceeding the LDRs would be treated by offsite incineration instead of onsite thermal desorption prior to disposal.

- Capital Cost: $ 11,550,000
- Operation and Maintenance Cost (over 30 year period): $ 359,000
- Present Worth Cost: $ 11,909,000

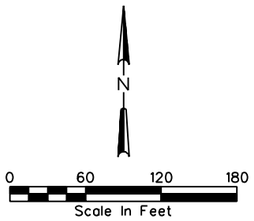
Alternative 4: EXCAVATION, CONSOLIDATION AND ON-SITE DISPOSAL

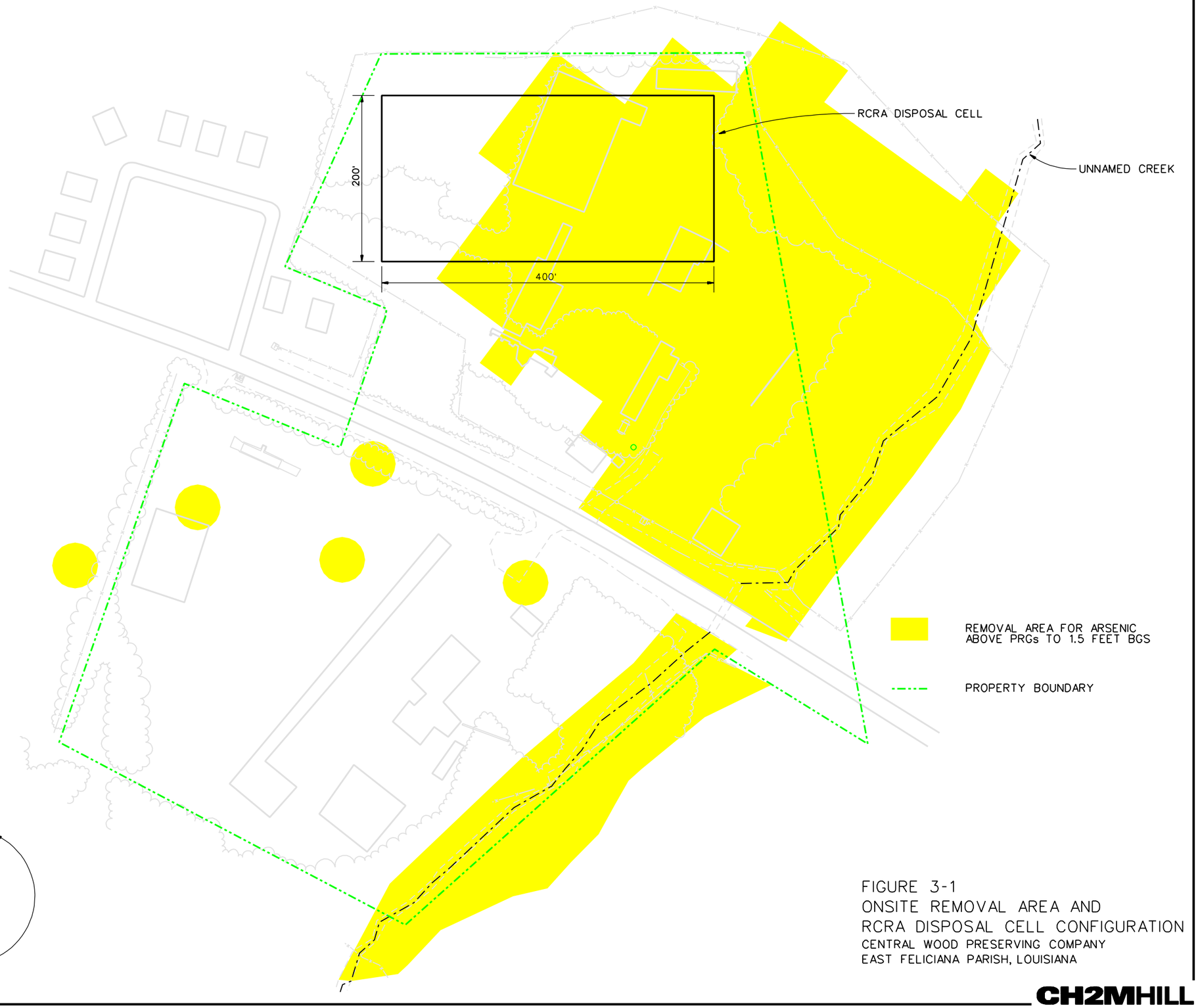
All wastes, including the soil/sediment, building materials, and debris piles would be disposed onsite in a vault designed to meet the RCRA landfill requirements outlined in 40 CFR Part 264, Subpart N. The asbestos-containing materials (ACMs) would be placed in an asbestos subcell within the onsite landfill. Treatment of soil/sediment exceeding LDRs is not required because the remediation will be conducted within the area of contamination and LDRs are not triggered (Preamble to the NCP, 55FR 8758-8760, March 8, 1990).

It is assumed for development of costs for this alternative that the landfill would be located in the north portion of the North Property. Based on the property boundary configuration, the most appropriate location of the landfill is shown on Figure 5.

- Capital Cost: $ 2,330,000
- Operation and Maintenance Cost (over 30 year period): $ 1,006,000
- Present Worth Cost: $ 3,336,000

FIGURE 5- Proposed RCRA Disposal Cell Configuration





RCRA DISPOSAL CELL PROFILE

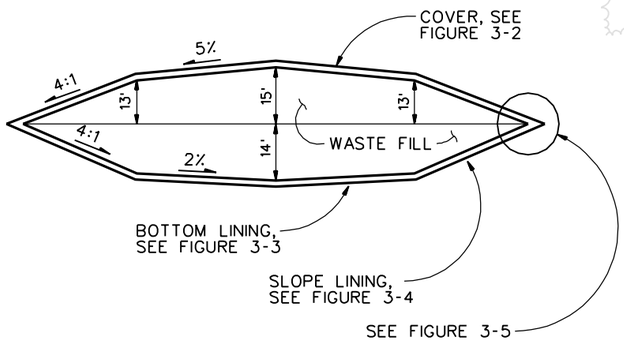


FIGURE 3-1
ONSITE REMOVAL AREA AND
RCRA DISPOSAL CELL CONFIGURATION
CENTRAL WOOD PRESERVING COMPANY
EAST FELICIANA PARISH, LOUISIANA

48498F71.DGN FS

CH2MHILL

18. SUMMARY OF THE COMPARATIVE ANALYSIS OF ALTERNATIVES

The EPA uses nine NCP criteria to evaluate remedial alternatives for the cleanup of a release. These nine criteria are categorized into three groups: threshold, balancing, and modifying. The threshold criteria must be met in order for an alternative to be eligible for selection. The threshold criteria are overall protection of human health and the environment and compliance with applicable or relevant and appropriate requirements (ARARs). The balancing criteria are used to weigh major tradeoffs among alternatives. The five balancing criteria are long-term effectiveness and permanence, reduction of toxicity, mobility or volume through treatment; short-term effectiveness; implementability; and cost. The modifying criteria are state acceptance and community acceptance. The following briefly describes the evaluation criteria:

EVALUATION CRITERIA FOR SUPERFUND REMEDIAL ALTERNATIVES
Overall Protectiveness of Human Health and the Environment determines whether an alternative eliminates, reduces, or controls threats to public health and the environment through institutional controls, engineering controls, or treatment.
Compliance with ARARs evaluates whether the alternative meets Federal and State environmental statutes, regulations, and other requirements that pertain to the site, or whether a waiver is justified.
Long-term Effectiveness and Permanence considers the ability of an alternative to maintain protection of human health and the environment over time.
Reduction of Toxicity, Mobility, or Volume of Contaminants through Treatment evaluates an alternative's use of treatment to reduce the harmful effects of principal contaminants, their ability to move in the environment, and the amount of contamination present.
Short-term Effectiveness considers the length of time needed to implement an alternative and the risks the alternative poses to workers, residents, and the environment during implementation.
Implementability considers the technical and administrative feasibility of implementing the alternative, including factors such as the relative availability of goods and services.
Cost includes estimated capital and annual operations and maintenance costs, as well as present worth cost. Present worth cost is the total cost of an alternative over time in terms of today's dollar value. Cost estimates are expected to be accurate within a range of +50 to -30 percent.
State/Support Agency Acceptance considers whether the State agrees with the EPA's analyses and recommendations, as described in the RI/FS and Proposed Plan.
Community Acceptance considers whether the local community agrees with EPA's analyses and preferred alternative. Comments received on the Proposed plan are an important indicator of community acceptance.

In the following analysis, the four remedial alternatives are evaluated in relation to each other with regard to the nine criteria in order to identify the relative advantages and disadvantages of each alternative.

Overall Protection of Human Health and the Environment

Protection of human health and the environment is not provided by Alternative 1. Levels of contaminants and existing risks to human health and the environment would remain unchanged. The RAOs would not be achieved since contaminants exceeding PRGs would be left onsite with no protective barriers or controls.

Alternatives 2 and 3 will be protective of human health and the environment by removing all affected media above PRGs that pose a risk based on defined exposure pathways. Assuming a waiver from treatment requirements is obtained, Alternative 4 would provide also adequate protection from exposure, however, perpetual maintenance of the disposal cell would

be required to ensure total protectiveness. Alternatives 2, 3, and 4 are equally protective of human health and the environment in terms of meeting the RAOs and site-specific PRGs for the surface/near-surface soil/sediment contamination. All three alternatives would prevent inhalation, ingestion, and direct contact with human carcinogens in excess of established risk levels. Although the exposure pathway is currently considered to be incomplete, potential long-term impacts to groundwater, and potentially surface water, posed by the long-term presence of affected soil left deeper than currently-defined exposure routes exist for all alternatives.

Compliance with ARARs

All alternatives, except the no action alternative, had common ARARs associated with the excavation and removal portion of the remedy. These ARARs are discussed in the Feasibility Study. A list of ARARs for the selected remedy is included in the Statutory Determination Section of this ROD. On-site emissions from the thermal desorption activities would require consideration for Alternative 2, while performance standards of incinerators would be of concern for Alternative 3. Landfill construction requirements would be applicable to Alternative 4.

Alternatives 2 and 3 will attain their respective Federal and State ARARs including LDRs. Meeting LDRs is not required for Alternative 4 because remediation will be conducted within the area of contamination and LDRs are not triggered (Preamble to the NCP, 55FR 8758-8760, March 8, 1990).

Long-Term Effectiveness and Permanence

Alternative 1 offers no long-term effectiveness or permanence. Alternatives 2, 3, and 4 would achieve long term effectiveness and permanence by eliminating potential future exposure, however, the on-site disposal cell for Alternative 4 would require perpetual maintenance to ensure long-term effectiveness. Also, future migration of Site-related contaminants may still occur (under all alternatives) because affected soil below 5 feet bgs will remain. Deed restrictions will be required regarding the contamination left in place, and ground water monitoring may be required to ensure site related contaminants are not migrating to ground water.

Reduction of Toxicity, Mobility, or Volume Through Treatment

Alternative 1 provides no reduction on the toxicity, mobility, or volume of contaminants. Alternatives 2 and 3 would achieve reduction in toxicity, mobility, and volume by treating media contaminated with concentrations of chemicals of concern at levels that exceed concentration levels acceptable under LDRs and disposing of soil/sediment above RGs in a secure landfill.

Short Term Effectiveness

Alternative 1, No Action, would not be an effective alternative because current risks from direct contact would continue to exist as described in the Baseline Risk Assessment. There would be potential risks to construction workers during excavation/treatment/disposal of affected soil/sediment in Alternatives 2, 3, and 4, primarily associated with equipment movement and exposure to contaminated dust. However, engineering controls would be implemented to control the potential for exposure, and workers would be required to wear the appropriate level of protection to avoid exposure during excavation and treatment activities.

Alternative 2 presents short-term risk to the nearby residents and workers due to the increased handling required for feed preparation and additional emissions from the onsite thermal activities to be performed. Performance testing would be required for this alternative to ensure destruction of site contaminants can be achieved via thermal desorption, while no trial burn would be required for Alternative 3. Alternative 4 would also present short-term risk to the nearby residents and workers with the additional activity associated with the staging of contaminated soil and construction of the cell.

Implementability

No administrative coordination, labor, equipment, materials, or laboratory services are required for Alternative 1.

For Alternative 2, the technology required to excavate soil and perform thermal desorption is widely used and accepted, and equipment and labor necessary to excavate the soil and sediment are conventional and available. Through-put rates generally run between 30 to 40 tons per hour, and these units can be run 24 hours per day. However, thermal desorbers are typically run at temperatures near 800°F to a maximum of about 1,000°F. Several PAH constituents at CWP have boiling points near 1,000°F (i.e., Indeno (1,2,3-cd) pyrene = 997°F, Benzo (a,h) anthracene = 975°F, and Benzo (a) pyrene = 923°F), and while it is possible to run the units near 1,000°F, increasing the temperature will increase cost.

For Alternative 2, site-specific parameters such as percent moisture, british thermal unit (BTU) content, soil type, and contaminant levels will affect the effectiveness and therefore cost. High moisture makes material handling more difficult and requires more fuel. High BTU content affects the soil feed rate, thermal desorption can typically handle a maximum BTU content of approximately 1000 BTU per lb. High sulfur content leads to the production of acid gases, typically a maximum of 0.1 percent sulfur in the feed is allowable. Particle size affects the amount of dust carryover to the off-gas treatment equipment and could potentially affect particulate emissions.

For Alternative 3, the technology required to excavate soil/sediment and perform incineration is widely used and accepted, and equipment and labor necessary to excavate the soil and sediment are conventional and available. Incinerators are typically run at temperatures near 1,400°F, significantly higher than the boiling points of COCs encountered at CWP. No trial burn would be necessary. However, due to longer residence times in the unit compared to thermal desorption, typical daily capacities for incinerators range from about 80 cy to 120 cy per day. In addition, some facilities may have limited total storage capacities. This would adversely affect the project schedule by lengthening the amount of time required to complete the soil and sediment removal and treatment portion of this alternative.

Alternative 4 would present the most challenges in terms of implementability. Difficulties may be encountered during construction of the disposal cell depending on the conditions of the subsurface soil. Staging of the excavated soil during the construction of the disposal cell may also present a problem due to limited available onsite area. Long term maintenance of the cell would be required for this alternative that would not be required for Alternatives 2 and 3.

Cost

Alternatives 1 through 4 would all require Five-Year Reviews because waste would be left in place (below 5 feet bgs for Alternatives 2, 3, and 4). However, the Five-Year Review cost is assumed to be the same for all alternatives and therefore is not included in the cost estimates or considered in the comparative analysis of costs.

There are no costs associated with Alternative 1, No Action.

The total cost for Alternative 2 is **$ 6,959,000**. This order-of-magnitude cost estimate is considered accurate to +50/-30 percent for the quantities and methods assumed. Included in the estimate are construction, permitting (air permits, National Pollutant Discharge Elimination System (NPDES) construction permits, etc), legal (site access agreements), services during construction (construction oversight), and present worth of O&M costs. The cost estimates were

prepared for guidance in project evaluation and implementation from information available at the time of the estimate. The cost of the selected alternative will depend on actual labor and material costs, actual site and weather conditions during the removal, final project schedule, final engineering design, and other variable factors. To account for some of these variables, a contingency of 20 percent has been accounted for in the total costs.

The total cost for Alternative 3 is **$11,909,000.** As with Alternative 2, this order-of-magnitude cost estimate is considered accurate to +50/-30 percent for the quantities and methods assumed. Due to the significant cost difference between the unit rates for thermal desorption and incineration, the percentages for implementation costs were reduced from 5 percent to 3 percent for Alternative 3. Implementation considerations are similar for both alternatives.

The total cost for Alternative 4 is **$3,336,000**. As with Alternative 2, this order-of-magnitude cost estimate is considered accurate to +50/-30 percent for the quantities and methods assumed. Due to the additional uncertainties associated with this alternative relative to the other alternatives (including unknown subsurface conditions in the vicinity of the proposed cell, permitting issues, the limited staging area available for excavated material prior to disposal, and the additional engineering and design effort that may result from these uncertainties), the contingency percentage typically assumed for cost estimating was increased from 20% to 35%.

The cost of Alternative 2 and Alternative 4 is significantly lower than Alternative 3; however, capital costs could increase for Alternative 2 if adverse soil conditions are encountered or incomplete destruction of contaminants occurs. The highest cost is associated with Alternative 3 due to the higher treatment rates proposed by use of the incineration facility. Alternative 4 is the least expensive alternative, however, these costs are based upon the assumptions listed in Section 3.4, and costs could increase if unexpected conditions are encountered.

State Acceptance

The State of Louisiana, represented by LDEQ, has worked with the EPA in the investigation of the Site and in developing the proposed plan and the ROD. Although there is no formal concurrence letter from LDEQ, conference calls were held with LDEQ on October 23 and October 30 to discuss the thermal desorption preferred alternative (See Appendix A). LDEQ agreed to proceed with thermal alternative as the preferred alternative and if additional concerns were discovered, they would submit comments during the public comment period for the proposed plan. No comments were received by the LDEQ during the comment period.

Community Acceptance

During the remedial investigation and feasibility study of this site, there has been a limited amount of public interest, with the exception of the East Feliciana Parish Police Jury. The East Feliciana Parish Police Jury has been involved in the progress of the site to ensure that the property can be reused by the Parish. During the public comment period for the proposed plan, only two entities submitted written comments. One entity was in favor of the remedy and the other entity questioned the technical competency of the thermal desorption preferred alternative. The responses to these comments are included in the Responsiveness Summary to this ROD.

19. THE SELECTED REMEDY- ALTERNATIVE 2, EXCAVATION, ON-SITE THERMAL DESORPTION, AND OFF-SITE DISPOSAL

1. Summary of the Rationale for the Selected Remedy

The Thermal Desorption with off-site disposal is a comprehensive remedy which utilizes source control and management of migration components to address the principal site risks. Alternative 2, Implementation of Common Elements with Excavation and On-site Thermal Desorption and Off-site Disposal is EPA's Selected Remedy. EPA selected this Alternative because it will achieve the removal of creosote- and arsenic-contaminated soil/sediment that poses unacceptable risks. Thermal desorption will achieve reduction in the volume, toxicity, and mobility of creosote-contaminated wastes. Off-site stabilization and disposal of the arsenic contaminated wastes and residuals from the thermal desorption will permanently remove the wastes that pose a risk based exposure. Although wastes below 5 feet will remain, these wastes do not pose a risk to humans or the environment because there is no exposure to soils at this depth by humans or the environment. In addition, wastes below 5 feet have not migrated to the ground water at the 55-60 feet below ground surface. Although Alternative 2 is more costly than Alternative 4 (RCRA vault), the selected remedy will achieve permanent results and will restore the property for residential and recreational reuse.

2. Description of Remedial Components

EXCAVATION AND THERMAL DESORPTION ON SITE, OFFSITE STABILIZATION AND DISPOSAL, BACKFILLING AND REVEGETATION.

Since there are no PRPs for this site, EPA and the State will provide the funding for the remedial action. EPA will fund the action at 90% and the State at a 10% match. EPA will be responsible for procuring a contractor to implement the tasks in this remedy and EPA will be responsible for oversight of the contractor.

There are preparatory activities which are necessary for the implementation of the remedy. These preparatory activities include:

- **Grubbing** - Portions of the onsite removal area will require grubbing prior to excavation.
- **Staging for contaminated soils/sediments** - The Unnamed Creek portion of the excavation will require clearing and staging areas down the length of the creek where excavation activities will occur.
- **Asbestos Abatement** - The asbestos survey conducted at the site confirmed the presence of asbestos above the regulatory limit of 1 percent by weight, for example in the tank insulation, boiler, floor tile mastic and linoleum. A licensed asbestos removal contractor will remove these materials from the site prior to initiation of other removal actions to prevent release of fibers to the atmosphere.
- **Building Demolition and Disposal of Materials** - The North Property structures will require demolition and removal to facilitate the surface soil excavation. The structures will require controlled demolition to prevent contaminated particulate matter associated with the building materials and the surrounding soil from becoming airborne. Buildings demolished will be tested and disposed of accordingly.
- **Removal and Disposal of Debris Piles** - The XRF testing on the debris piles shows elevated levels of site-related metals in all debris piles on the North Property. These piles will be cleared from the excavation area along with the building debris and disposed of accordingly.

The four major components of the selected remedy include:

- **Excavation of Surface/Near-Surface Soil/Sediment that Exceeds RGs** - Soil/sediment that exceeds RGs will be excavated and staged pending treatment/disposal. Excavated soil/sediment that exceeds LDRs will be staged separately from excavated soil/sediment that does not exceed LDRs.

- **Thermal Desorption of Excavated Soil/Sediment that Exceeds LDRs** - Excavated soil and sediment exceeding LDRs based on site characterization data will be staged separately from excavated soil/sediment that meets LDRs. The excavated soil/sediment exceeding LDRs will be prepared for treatment and treated with an onsite thermal desorption unit (the majority of thermal desorption services are mobile, onsite units). TCLP sampling of the residuals will be required, and if the LDRs are exceeded, additional stabilization may be required prior to offsite disposal.

  During the excavation process and during the thermal desorption process, air monitoring and noise monitoring will be conducted to ensure compliance with ARARs.

- **Disposal of Excavated Soil/Sediment** - The excavated soils will be tested and disposed of accordingly.

- **Backfilling** - The North and South property removal areas will be backfilled with clean backfill and re-vegetated following confirmation sampling. The excavated portions of the Unnamed Creek will be backfilled with clean backfill and an erosion control layer will be installed following confirmation sampling.

  Prior to the completion of the remedial action and site deletion, EPA will also conduct a review of the Site. To ensure that wastes left in place do not affect the ground water and to prevent exposure to site related contaminates left in place, ground water monitoring and institutional controls will be implemented.

Ground water Monitoring - Soils with organic contamination will be left in place in the subsurface (greater than 5 feet bgs). To ensure protectiveness of groundwater, a ground water monitoring system will be necessary to monitor contaminant levels in the ground water. The dry sand that exists from about 25 to 45 feet bgs would also be monitored to ensure no future migration pathway develops. Ground water samples will be collected on an annual basis, but the sampling frequency may be modified if there are statistically significant changes in ground water sample concentrations

Institutional Controls/Deed Restrictions - Easements, covenants running with the land, and/or deed notices as appropriate or as allowed by law will be implemented to prevent exposure to contaminants remaining onsite on the North Property below 5 feet bgs (this area includes the drainage pathway located outside the legal boundaries of the property that was originally owned by CWP [now East Feliciana Parish]).

Since wastes at depths greater than 5 feet will be left in place, EPA will review the Site at least once every five years after the initiation of remedial action at the Site to assure that the remedial action continues to protect human health and the environment.

The selected remedy may change somewhat as a result of the remedial design and construction processes. Changes to the remedy described in this Record of Decision will be documented in a technical memorandum in the Administrative Record for the Site, an Explanation of Significant Differences (ESD) or a Record of Decision Amendment, as

appropriate.

3. Summary of the Estimated Remedy Costs

Table 8 below shows the Estimated Costs for the Selected Remedy. The information in this cost estimate summary table is based on the best available information regarding the anticipated scope of the remedial alternative. Changes in the cost elements are likely to occur as a result of new information and data collected during the engineering design of the remedial alternative. Major changes may be documented in the form of a memorandum in the Administrative Record file, an ESD, or a ROD amendment. This is an order-of-magnitude engineering cost estimate that is expected to be within +50 to -30 percent of the actual project cost.

4. Expected Outcomes of the Selected Remedy

The expected outcome of the selected remedy is that the Site will no longer present an unacceptable risk to human health because the contaminated soil and sediment will be excavated, treated, and disposed of off-site and the property will be suitable for residential and recreational land use. In addition, institutional controls, such as the deed notice, will prevent future human exposure to soil contamination below 5 feet. By addressing the unacceptable human health risks in the sediment contamination in the Creek, we are also addressing contamination that affects the wetlands and other habitat in the Creek, thereby providing environmental and ecological benefits such as wetlands restoration. Groundwater monitoring will ensure that the remedy is protective. It is anticipated that the selected remedy will also provide socio-economic and community revitalization impacts such as increased tax revenues due to proposed redevelopment efforts and planning for the property by the local Parish authority.

Table 8 (1 of 2 pages)- Estimated Costs of Selected Remedy

Table 8
Cost Estimate Detail, Alternative 2
Central Wood Preserving Company Site

002181

PREPARED BY K. Swanson/ CH2M HILL

CENTRAL WOOD PRESERVING COMPANY SITE - REMEDIATION COSTS
(Accuracy Range: +50% / -30%)

DESCRIPTION	QUANTITY	UNIT	$/UNIT	TOTAL COST	REFERENCE
INCLUDES: Disposal of Asbestos Insulated Boiler, Thermal Desorption of soils above LDRs, Excavate & Dispose of Metals and Organics-Contaminated Soils at Carlyss, LA (Subtitle C Landfill).					
CAPITAL COSTS:					
General Sitework:					
Air Monitoring During Site Work	1,800	HR	$65.00	$117,000	Onsite Air monitoring technician, assume 10 hour days for 180 day duration
Clear & Grub Site	10	AC	$2,500.00	$25,000	Information from local construction contractor, includes clearing debris piles and building debris
Installation of Groundwater Monitoring System	1	LS	$35,000.00	$35,000	Installation of 9 monitoring wells
Asbestos Abatement:					
Industrial Hygiene Technician	1	LS	$800.00	$800	Information from local asbestos contractor
Report Generation	1	LS	$300.00	$300	Information from local asbestos contractor
Removal of Boiler Insulation	1	LS	$3,100.00	$3,100	Information from local asbestos contractor
Removal of Flooring and Mastic	1	LS	$2,100.00	$2,100	Information from local asbestos contractor
Building Demolition and Debris Pile Disposal (assume 0.5 ton per cy):					
Controlled Demolition of 7 onsite buildings	24,400	SF	$10.00	$244,000	Information from local construction contractor, includes loading
Transport building and pile debris to RCRA Subtitle D Landfill	3,800	TON	$10.00	$38,000	Information from local construction contractor
RCRA Subtitle D Landfill Disposal Fee	7,600	CY	$25.00	$190,000	Woodside Landfill, Walker,LA
Sample Debris Materials	15	EA	$125.00	$1,900	2-person sampling team, 1 hour per sample, 1 sample per 500 cy
TCLP Analysis	15	EA	$425.00	$6,460	<3-day turnaround
Thermal Treatment of Contaminated Soils (assume 1.5 tons per cy):					
Performance Testing	1	LS	$40,000.00	$40,000	Williams Environmental Services
Mobilization/Demobilization of Treatment Unit to Site	1	LS	$300,000.00	$300,000	Williams Environmental Services
Excavate Contaminated Soils Up to 5' Deep and Stage	13,800	TON	$5.00	$69,000	Information from local construction contractor
Feed Preparation	13,800	TON	$7.00	$96,600	Williams Environmental Services
Thermal Treatment	13,800	TON	$55.00	$759,000	Williams Environmental Services
Transport Soils to RCRA Subtitle C Landfill	13,800	TON	$23.00	$317,400	Information from local construction contractor
RCRA Subtitle C Landfill Disposal Fee	9,200	CY	$45.00	$414,000	Subtitle C Landfill, Carlyss,LA
Backfill with Clean Material (onsite)	13,800	TON	$8.00	$110,400	Information from local construction contractor, includes material, transport, and compaction
Revegetate (onsite)	9,100	SY	$0.35	$3,185	Information from local construction contractor
Contaminated Soils (assume 1.5 tons per cy):					
Excavate Contaminated Soils Up to 3' Deep and Load (onsite)	27,890	TON	$5.00	$138,450	Information from local construction contractor
Excavate Contaminated Soils Up to 3' Deep and Load (creek)	900	TON	$20.00	$18,000	Information from local construction contractor
Excavate Contaminated Soils Up to 3' Deep and Load (wetland area)	150	TON	$20.00	$3,000	Information from local construction contractor
Transport Soils to RCRA Subtitle C Landfill	28,740	TON	$23.00	$661,020	Information from local construction contractor
RCRA Subtitle C Landfill Disposal Fee	19,160	CY	$45.00	$862,200	Subtitle C Landfill, Carlyss,LA
Confirmation Sampling	40	EA	$125.00	$4,973	2-person sampling team, 1 hour per sample, 1 per 10,000 sf (100' x 100' grid)
SVOC and Metals Analysis	40	EA	$625.00	$24,864	<3-day turnaround
Profiling Fee	1	LS	$150.00	$150	Assume sufficient TCLP information exists for Subtitle C profiling purposes
Backfill with Clean Material (onsite)	27,690	TON	$8.00	$221,520	Information from local construction contractor, includes material, transport, and compaction
Backfill with Clean Material (creek and wetland)	1,050	TON	$10.00	$10,500	Information from local construction contractor, includes material, transport, and compaction
Revegetate (onsite)	32,800	SY	$0.35	$11,480	Information from local construction contractor
Revegetate (creek and wetland)	2,300	SY	$1.00	$2,300	Information from local construction contractor, includes erosion control layer
SUBTOTAL				$4,729,402	
CONTINGENCY	20%		$4,729,402	$945,880	Standard engineering contingency % assumed for order-of-magnitude cost estimates
SUBTOTAL - CONSTRUCTION COST				$5,675,282	
GENERAL REQUIREMENTS:	10%		$4,729,402	$472,940	
PERMITTING & LEGAL	10%		$2,246,782	$224,678	Excludes offsite transport and disposal fee
SERVICES DURING CONSTRUCTION	10%		$2,246,782	$224,678	Excludes offsite transport and disposal fee
ENGINEERING & DESIGN COST	10%		$2,246,782	$224,678	Excludes offsite transport and disposal fee
SUBTOTAL - IMPLEMENTATION COST				$6,597,578	
TOTAL Capital Costs				$6,600,000	
TOTAL O & M COSTS (see following page)				$359,000	
TOTAL				$6,959,000	
ANNUAL O & M COSTS:					
Site Monitoring Cost - groundwater monitoring	48	HR	$150.00	$7,200	2 day/year, 2-person sampling team, includes sampling equipment

Table 8 (page 2 of 2)

Table 8
Cost Estimate Detail, Alternative 2
Central Wood Preserving Company Site

002183

PREPARED BY K. Swanson/ CH2M HILL

CENTRAL WOOD PRESERVING COMPANY SITE - REMEDIATION COSTS

(Accuracy Range: +50% / -30%)

DESCRIPTION	QUANTITY	UNIT	$/UNIT	TOTAL	REFERENCE
Annual laboratory analytical costs	1	LS	$4,000.00	$4,000	Assumes As, Cr, and SVOC analysis
Project Management Costs - groundwater monitoring	32	HR	$100.00	$3,200	4 days/year, management time, clerical time, and contracting costs
subtotal				$14,400	
overhead and profit		20%		$2,880	
subtotal				$17,280	
NO engineering and design (7%) + NO legal, license, permit fees (5%)		0%		$0	
SUBTOTAL				$17,280	
CONTINGENCY		20%		$3,456	
TOTAL - Annual O & M Costs				$20,736	
Net Present Value					
YEAR 0				$0	
YEAR 1				$20,736	
YEAR 2				$20,736	
YEAR 3				$20,736	
YEAR 4				$20,736	
YEAR 5				$20,736	
YEAR 6				$20,736	
YEAR 7				$20,736	
YEAR 8				$20,736	
YEAR 9				$20,736	
YEAR 10				$20,736	
YEAR 11				$20,736	
YEAR 12				$20,736	
YEAR 13				$20,736	
YEAR 14				$20,736	
YEAR 15				$20,736	
YEAR 16				$20,736	
YEAR 17				$20,736	
YEAR 18				$20,736	
YEAR 19				$20,736	
YEAR 20				$20,736	
YEAR 21				$20,736	
YEAR 22				$20,736	
YEAR 23				$20,736	
YEAR 24				$20,736	
YEAR 25				$20,736	
YEAR 26				$20,736	
YEAR 27				$20,736	
YEAR 28				$20,736	
YEAR 29				$20,736	
YEAR 30				$20,736	
net present value (i=4%) of 30 years' O&M costs				$359,000	

20. STATUTORY DETERMINATIONS

The remedial action selected for implementation at the Central Wood Preserving Site is consistent with CERCLA and, to the extent practicable, the NCP. The selected remedy is protective of human health and the environment, will comply with ARARs and is cost effective. In addition, the selected remedy utilizes permanent solutions to the maximum extent practicable, and satisfies the statutory preference for treatment that permanently and significantly reduces the mobility, toxicity or volume of hazardous substances as a principal element.

1. The Selected Remedy is Protective of Human Health and the Environment

The remedy at this Site will adequately protect human health and the environment by eliminating, reducing or controlling exposures to human and environmental receptors through treatment, engineering controls, and institutional controls. More specifically by excavating, treatment of creosote wastes by thermal desorption, and off-site disposal of metal contaminated soil and sediment and residuals from thermal desorption from the Site, the remedy will eliminate the risk from these soils and sediments to human health.

The selected remedy will reduce potential human health risk levels such that they do not exceed EPA's acceptable risk range of 10^{-4} to 10^{-6} for incremental carcinogenic risk and such that the non-carcinogenic hazard index will not exceed 1. It will reduce potential human health risk levels to protective ARARs levels, i.e., the remedy will comply with ARARs.

By addressing the arsenic levels as per the human health risk assessment, the ecological risk assessment concerns regarding copper will be also addressed. Implementation of the selected remedy will not pose any unacceptable short-term risks or cause any cross-media impacts.

2. The Selected Remedy Complies With ARARs

The selected remedy will comply with all Federal and any more stringent State ARARs that pertain to the Site. Section 121(d) of CERCLA states that remedial actions must attain or exceed ARARs. ARARs are derived from both Federal and State environmental facility siting laws and include regulations, standards, criteria, or limitations not promulgated under Federal or State laws. State standards that constitute ARARs are those laws that are not promulgated, substantive in nature, more stringent than federal requirements, consistently applied, and identified by the State in a timely manner. The ARARs are divided into 3 categories: 1) Location-Specific, 2) chemical-specific, and 3) action- specific.

In particular, this remedy will comply with the following federal ARARs:

Particular provision of the Resource Conservation and Recovery Act, as specified herein,
Particular provisions of the Toxic Substances Control Act, as specified herein,
Particular provisions of the Clean Air Act, as specified herein,

1. **Potential Location-Specific ARARs**

Location-specific ARARs are restrictions placed on remedial activities solely on the basis of the location of the remedial activity. Some examples of locations that might prompt a location-specific ARAR include wetlands, sensitive ecosystems or habitats, floodplains, and areas of historical significance. The following location-specific ARARs are applicable:

a. Executive Order on Floodplain Management, Order No. 11988
Requires all Federal agencies and associates to avoid long- and short-term adverse impacts associated with occupancy and modification of floodplains. Any actions taken to reduce the risk or impact of remedial actions should accomplish the following:

(1) Reduce the risk of flood loss.
(2) Minimize the impacts of floods on human safety, health, and welfare.
(3) Restore and preserve the natural and beneficial values served by floodplains.

This requirement is applicable only if the site lies within the 100-year floodplain or the remedy impacts a 100-year floodplain. According to East Feliciana Parish Police Jury, floodplain information has not been developed for Feliciana Parish by FEMA. In the absence of this information, it will be assumed that the creek does lie within a 100-year floodplain and this order is applicable if any dredging activities are performed as part of the remedial action.

b. Fish and Wildlife Coordination Act, 16 USC § 661 et seq., 16 USC § 742 a, 16 USC § 2901
Requires adequate provision for protection of fish and wildlife resources. Relevant and appropriate to CWP for removal of contaminated soils along the offsite creek if the remedy requires the soils to be removed.

c. Archeological and Historic Preservation Act, 16 USC § 469, 40 CFR § 6.301
Establishes procedures to provide for preservation of scientific, historical, and archeological data that might be destroyed through alteration of terrain as a result of a Federal construction project or a federally licensed activity or program. If scientific, historical, or archaeological artifacts are discovered at the site, work in the area of the site affected by such discovery will be halted pending the completion of any data recovery and preservation activities required pursuant to the act and its implementing regulations. May be relevant and appropriate at CWP during the remedial activities if scientific historic, or archeological artifacts are identified during implementation of the remedy.

d. Endangered Species Act, 16 USC § 1531 et. seq., 50 CFR Part 402
Requires that proposed action minimize impacts on endangered species within critical habitats upon which endangered species depend, including consulting with Department of Interior. Endangered or threatened species have not been identified at the site; the Act is not an ARAR for the CWP site.

2. **Chemical-Specific ARARs**

Chemical specific ARARs are usually health or risk based numerical values or methodologies that, when applied to site specific conditions, result in the establishment of numerical values. These values establish the acceptable amount or concentration of a chemical that may be found in, or discharged to, the environment. Potential exposure pathways for contamination include air and soil. The State of Louisiana has not identified MCL values for PAHs. Also, no Federal or State of

Louisiana regulatory cleanup standards have been promulgated for soil; therefore, risk based criteria have been identified for this media (see SITE RISKS).

3. **Action-Specific ARARs**

Action-specific ARARs are typically technology- or activity-based requirements applicable to actions involving special categories of wastes. Action-specific requirements are usually triggered by certain remedial activities that may be a component of the overall cleanup alternative. The following action-specific requirements are applicable:

a. Toxic Substances Control Act (TSCA), Asbestos Abatement Projects, 40 CFR §763.121

Specifies operational and personal protection requirements for asbestos abatement workers not covered under 29 CFR 1925.58 or under an OSHA-approved state asbestos abatement plan. May be relevant and appropriate to CWP.

b. Clean Air Act (CAA) §112, 42 U.S.C. § 7412, 40 CFR Part 61

Specifies asbestos and inorganic arsenic as hazardous air pollutants. The asbestos requirement would be applicable to CWP during the abatement activities. The inorganic arsenic requirements are for facilities not sufficiently similar to CWP and therefore are not ARARs.

c. Asbestos Standards for Demolition and Renovation, 40 CFR Part 61.145

Specifies national standards for asbestos abatement during demolition or renovation. Applicable to CWP during removal of the boiler in B-10 with asbestos-containing insulation and portions of B-1that contain asbestos.

d. Prevention of Significant Deterioration of Air Quality, 42 USC § 7475, 40 CFR § 52.21

These provisions impose various requirements (e.g., use of best available control technology) on any new major stationary source of a federally regulated air pollutant in an area that has been designated attainment or unclassifiable for that pollutant. A "major stationary source" is a source listed in 40 CFR § 52.21 that emits, or has the potential to emit, 100 tons per year of a federally regulated air pollutant or any nonlisted source that emits, or has the potential to emit, 250 tons per year of a federally regulated air pollutant. Activities at CWP are not expected to constitute a major stationary source of any federally regulated air pollutant, but this requirement is relevant and appropriate.

e. Hazardous Waste Burned in Boilers and Industrial Furnaces, 40 CFR 266 Subpart H

The Boiler and Industrial Furnace Final Rule was promulgated by EPA on August 21, 1991. This rule expanded control on hazardous waste combustion by regulating the burning of hazardous waste in boilers and industrial furnaces (BIF). BIFs are now subject to essentially the same general facility standards as are other RCRA treatment, storage and disposal facilities. Topics covered by 40 CFR 266 Subpart H include management prior to burning, permit standards and interim status standards, emissions control, exemptions, and regulation of residues.

f. Permits and Enforcement, CERCLA § 121(e), 42 U.S.C. § 9612(e)

This section specifies that no "federal, state, or local permit" shall be required for any portion of a CERCLA remedial action that is conducted on the site of the facility being remediated. This includes exemption from the RCRA permitting process.

g. Land Ban, 40 CFR Part 268, Subpart C - Prohibitions on Land Disposal, Subpart D-Treatment Standards

40 CFR Part 268 establishes restrictions on land disposal unless treatment standards are met or a "no migration exemption" is granted. LDRs establish prohibitions, treatment standards, and storage limitations before disposal for certain wastes as set forth in Subparts C and D. Treatment standards are expressed as either concentration-based performance standards or as specific treatment methods. Wastes must be treated according to the appropriate standard before wastes or the treatment residuals of wastes may be disposed in or on the land. The Universal Treatment Standards (UTS) establish a concentration limit for 300 regulated constituents in soil regardless of waste type. Subpart C of 40 CFR Part 268 states that effective May 12, 1999, soil and debris contaminated with F032, F034, and F035 are prohibited from disposal. Subpart D presents the treatment standards for these wastes.

h. Control Facilities to be Installed when Feasible, 33 LAC:III.905

States air pollution control facilities should be installed whenever practically, economically, and technically feasible even though the ambient air quality standards in the affected area are not exceeded. This requirement is relevant and appropriate for thermal treatment.

i. Control of Fugitive Emissions, 33 LAC:III.1305

Requires that all reasonable precautions shall be taken to prevent particulate matter from becoming airborne, including use of water or chemicals for control of dust in the demolition of existing structures, construction operations, clearing of land, and on dirt roads or stockpiles. Applicable during the demolition of buildings, transport of soils, or any other activity that may generate airborne particulate matter at CWP.

j. Monitoring Well Abandonment and Sealing of Bore Holes, 33 LAC:V.3323

Specifies abandonment procedures and requirements for abandonment approval. Applicable to CWP during the abandonment of the monitoring wells.

k. Manifest Requirements, 33 LAC:V.903

Required information for manifest forms for shipments of hazardous waste within the state of Louisiana. Applicable since hazardous soils at CWP will be shipped to an off-site disposal facility.

l. Manifest Document Flow, 33 LAC:V.913

Outlines manifest document flow and procedures from the generator, transporter, and hazardous waste facility operator. Applicable since hazardous soils at CWP will be shipped to an off-site disposal facility.

m. The Manifest System, 33 LAC:V.1107

Specific manifest requirements for generators of hazardous waste. Applicable to CWP since hazardous soils will be shipped off-site.

n. Manifest System Emergency Response Information, 33 LAC:V.1108

Generators must provide guidelines for an emergency situation involving the hazardous waste to accompany the manifest. Applicable to CWP if since hazardous soils will be shipped off-site.

o. Pre-Transport Requirements, 33 LAC:V.1109
Packaging, labeling, and other requirements for generators prior to shipment of hazardous wastes. Applicable to CWP since hazardous soils will be shipped off-site.

p. Preparedness and Prevention, 33 LAC:V.1115
States all generators must comply with the requirements of LAC 33:V.1511, which outlines requirements for on-site communication systems, local authority alert systems, testing equipment. This requirement is applicable if hazardous wastes are generated during implementation of the remedy for CWP.

3. The Selected Remedy is Cost-Effective

The selected remedy is cost-effective because the remedy's costs are proportional to its overall effectiveness (see 40 CFR § 300.430(f)(1)(ii)(D)). This determination was made by evaluating the overall effectiveness of those alternatives that satisfied the threshold criteria (i.e., that are protective of human health and the environment and comply with all Federal and any more stringent State ARARs, or as appropriate, waive ARARs). Overall effectiveness was evaluated by assessing three of the five balancing criteria -- long-term effectiveness and permanence; reduction in toxicity, mobility, and volume through treatment; and short-term effectiveness, in combination. The overall effectiveness of each alternative then was compared to the alternative's costs to determine cost-effectiveness. The relationship of the overall effectiveness of this remedial alternative was determined to be proportional to its costs and hence represents a reasonable value for the money to be spent.

The present worth cost of Alternative 2, The Selected Remedy, at $ 6,959,000 is higher in costs than Alternative 4 (RCRA Vault), and is lower in costs to Alternative 3 (Incineration). However, the Selected Remedy offers a much higher degree of protectiveness and overall effectiveness than Alternative 4 because it offers treatment and removal of wastes versus consolidation of wastes (i.e., containment). The benefits of The Selected Remedy compared to Alternative 4 are much higher than the increase in costs.

4. The Selected Remedy Utilizes Permanent Solutions and Alternative Treatment or Resource Recovery Technologies to the Maximum Extent Practicable

EPA has determined that the Selected Remedy represents the maximum extent to which permanent solutions and treatment technologies can be utilized in a practical manner at the site. The Selected Remedy provides the best balance of trade-offs in terms of the five balancing criteria, considering State and community acceptance, while also considering the statutory preference for treatment as a principal element and the bias against off-site treatment and disposal.

The Selected Remedy utilizes treatment of the creosote wastes to address the principal threat waste at the site. All creosote-contaminated soil and sediment will be treated via thermal desorption. For the arsenic and other metal contaminated soil and sediment wastes, the preference for treatment will not be satisfied because soil and sediment contaminated with metals are not amenable to treatment. These metal-contaminated materials will be excavated, stabilized, and disposed of off-site.

5. The Selected Remedy Satisfies the Preference for Treatment Which Permanently and Significantly Reduces the Toxicity, Mobility or Volume of the Hazardous Substances as a Principal Element

By excavating the creosote-contaminated soil and sediment and treating them via thermal desorption, the Selected Remedy addresses principal threats posed by the Site through the use of treatment technologies. By utilizing treatment as a significant portion of the remedy, the statutory preference for remedies that employ treatment as a principal element is satisfied.

6. Five-Year Reviews of the Selected Remedy are Required.

Because this remedy will result in hazardous substances remaining on-site at concentration levels that are above levels that allow for unlimited use and unrestricted exposure, a review will be conducted within five years after initiation of the remedial action to ensure that the remedy continues to provide adequate protection of human health and the environment.

21. DOCUMENTATION OF SIGNIFICANT CHANGES

The proposed plan for the Central Wood Preserving Site was released on November 30, 2000. The Proposed Plan identified Alternative 2 (Excavation wastes, on-site thermal desorption; off-site stabilization and disposal of residual wastes; back-fill excavated areas and revegetate) as the preferred alternative. The public comment period was held from November 30, 2000, to January 25, 2001. EPA reviewed all written and verbal comments submitted during the public comment period. It was determined that no significant changes to the remedy, as originally identified in the proposed plan, were necessary.

One change from the Proposed plan is a change in EPA's estimate of the approximate volume of creosote contaminated soil and sediments and the resulting costs. The human health risk assessment evaluated the risks from creosote contamination for a residential scenario for the 0-3 foot interval and for a future utility worker scenario for the 3- 5 foot interval. In the HHRA, the incorrect number of days per year exposure rate was calculated for the utility worker. (We used a higher number of days per year exposure rate for the utility worker than is typically used.) Please refer to the memorandum written by EPA toxicologist, Dr. Jon Rauscher, PhD., and the addendums to HHRA and to the FS found in Appendix D. As a result, the following information has changed from the proposed plan:

a) **Risk for the 3-5 foot interval of contaminated soil on the North Property**

The prior risk for a utility worker operating in the 3-5 foot interval on the North property was 8.9×10^{-4} (slightly outside the acceptable risk range). With the correct exposure rate, the risk is 5.7×10^{-6}, and therefore is within the acceptable risk range. With the exception of hot spots on the North property within the 3-5 foot interval that corresponds to an HI= 2, there is not an overall unacceptable risk for the interval 3-5 feet on the North property, and therefore no excavation of creosote contaminated soil is necessary for this interval.

b) **Volume of creosote contaminated soil for the Site**

The volume of contaminated soil that poses an unacceptable risk for the Site was reduced from 32,760 cubic yards to 27,360 cubic yards based on the recalculated exposure rate scenario. This 27,360 cubic yards translates to approximately 19,060 cubic yards of arsenic waste and 9,200 cubic yards of creosote waste (previous information released during the public meeting indicated approximately 14,300 cubic yards of creosote waste and 19,660 cubic yards of arsenic waste).

c) **Costs of the Options**

All of the costs for each remedial options are lower (with the exception of the No Action Alternative) because of the reduced volume from the North Property. This translates to a cost reduction for Alternative 2 (thermal desorption) from $8,349,000 to a revised cost of $ 6,959,000; Alternative 3 (incineration) from $ 16,329,000 to a revised cost of $ 11,909,000, and Alternative 4 (RCRA vault) from $ 3,646,000 to a revised cost of $3,336,000.

The information cited above is not considered a significant change because the only impact is a volume change. The volume change does not impact the process used by EPA in its selection of the remedy.

22. STATE ROLE

The Louisiana Department of Environmental Quality, on behalf of the State of Louisiana, has reviewed the various alternatives and has indicated its support for the selected remedy. The State has also reviewed the Remedial Investigation, Risk Assessment and Feasibility Study to determine if the selected remedy is in compliance with applicable or relevant and appropriate State environmental and facility siting laws and regulations. The State of Louisiana concurs with the selected remedy for the Central Wood Preserving Site (See Appendix A).

RESPONSIVENESS SUMMARY

The East Feliciana Parish Policy Jury submitted a letter on January 24, 2001; stating their preference for EPA's preferred alternative. In addition, the East Feliciana Parish Police Jury provided a letter on November 2, 2000 to voice support for a remedy that either removed the wastes totally from the site or for a remedy that treated the contaminated wastes. During the public meeting on January 24th, Ann Jones, Police Juror and Project Director of the East Feliciana Parish Policy Jury stated that their letter of November 2, 2000, which was voted on, was intended to be part of the comments submitted during the public comment period. During the comment period, EPA also received a letter from Bennett Environmental challenging the effectiveness of thermal desorption for treatment of creosote wastes.

The following is EPA's response to the 3 letters received during the public comment period.

East Feliciana Parish Police Jury comment letter dated January 24, 2001

1. We would like to encourage EPA and its contractors to employ as many local citizens as possible in this project, as we are a small, rural, high poverty-rate area, with a trainable, unskilled or low-skilled workforce that would substantially benefit from training and employment. Ms. Barbara Greenfield had mentioned the possibility of a Brownfields grant that might fund some training programs that would present long-term positive effects on the employment picture.

EPA response:

The RPM will work with the EPA Region 6 Brownfields' Coordinator, Ms. Barbara Greenfield, to provide the Parish with information on possible grants that are available under the Brownfields's program. In addition, during the remedial design phase of this project, EPA and its contractor will consider strategies that include a variety of contracting approaches.

2. Please consider and comment on the possibility of the metal-truss, tarp-covered building being left on site for re-use after the project is completed.

EPA's response:

The metal-truss photos used during the powerpoint presentation were for the purposes of illustrating how to control dust emissions from stockpiled contaminated soil. The photos that were presented were taken from the Madisonville site. During the remedial design, EPA will require the contractor to design a method to prevent air emissions from stockpiled contaminated soil from being airborne (prevent dust emissions). Any structure used to contain the contaminated soil will need to be removed to address any residual contamination.

3. Please conduct a timber cruise before construction begins to determine if there is any merchantable timber that can be salvaged.

EPA's response:

EPA and its contractor will work to protect as much of the natural environment during the remedial action. Because EPA will need access to areas to bring in equipment, it will be necessary for some clearing and grubbing to occur. EPA recommends that the Parish contractor

accompany us on a site tour to determine trees that the Parish wishes to remain on-site. Again, every effort will be made to preserve the natural environment.

4. Please advise if any buildings on site are salvagable; there is the possibility that one shed on the south side of the property may have some structural integrity. Of course we understand that contamination might dictate that all structures be removed.

EPA response:

In the ROD, EPA is proposing to demolish buildings for the purposes of excavating the contaminated soil. Again, EPA recommends that the Parish and its contractor accompany us on a site tour to identify potential buildings that you wish to retain, and every effort will be made by the Agency to preserve buildings.

5. Please coordinate the timber cruise with our contractor, Les Kent, so that he may flag any specimen trees or other vegetation that we may want to save, if possible, and that would not interfere with the construction.

EPA response:

EPA's agrees. See response to question 3 above.

East Feliciana Parish comment letter dated November 2, 2000 (included because of a request during the public meeting on January 24, 2001, and because of a request through a letter to EPA dated January 25, 2001. This January 25th letter was faxed to EPA on January 25, 2001 at 11:28 am).

1. We on the Policy Jury, the owner of the above-referenced site, have been apprised of the EPA options for action at the Central Wood Preserving site in East Feliciana Parish, and we want all parties involved in the decision-making process to understand that East Feliciana's citizens fully support a remedy that removes the contamination totally from the site or that treats the contamination to such extent that any matter remaining on the site is benign and completely clean.

EPA's response:

EPA's selected Remedy will provide treatment and removal of the contaminated wastes that pose an unacceptable risk. The creosote waste will undergo thermal desorption for treatment and the arsenic wastes will be excavated and disposed in an off-site RCRA Subtitle C landfill. The wastes below 5 feet do not pose an unacceptable risk and therefore will not be treated or excavated.

Bennett Environmental Letter dated January 24, 2001 (Hand delivered to the RPM at the Public Meeting on January 24, 2001.).

1. **On-site thermal desorption has many technical difficulties and unknowns associated with the construction and operation of the technology.**

a. Thermal desorbers are typically run at temperatures near 800 °F. They can operate up to a maximum of about 1,000 °F. It must be stressed, that this is only the temperature within the kiln and NOT the temperature achieved within the soil. The material is normally run through the unit very fast, typically 20 to 30 tons per hour. This means the residence time is very low. The attached graph compares the temperature profile of soil in a desorber, and an incinerator. Several PAH constituents at CWP have boiling points near 1,000 °F (i.e., Indeno (1,2,3-cd) pyrene = 997 °F, Benzo (a) anthracene = 975 °F, and Benzo (a) pyrene = 923 °F). As can be seen, even though the kiln temperature may approach the boiling points, the soil temperature never comes close. This means that a large proportion of the contaminants will remain in the soil. Complete destruction of site COCs cannot be guaranteed using on-site thermal desorption.

b. For thermal desorption, site specific parameters such as percent moisture, BTU content, soil type, and contaminant levels will affect the effectiveness and cost. High moisture makes material handling more difficult, requires more fuel, and results in a lower soil temperature. This will lead to higher cost, and could result in incomplete removal of the contaminants. The kiln is rated for a limited heat release. High BTU soil means a larger heat release in the kiln, which will reduce the soil feed rate. Thermal desorption can typically handle a maximum BTU content of approximately 1,000 BTU per lb.

c. High sulfur content leads to the production of acid gases. Desorption units will not carry any acid scrubbing equipment. Typically the maximum concentration of sulfur allowable in a desorber is 0.1 percent sulfur in the feed.

d. Particle size affects the amount of dust carryover to the off-gas treatment equipment and could potentially affect particulate emissions. The amount of space available for construction of the desorption treatment unit and supporting structures (i.e., treated soil pad, trailers, etc.) could affect the feasibility of thermal treatment (See Feasibility Study Report 4-8 November 2000).

e. None of these factors affect an incineration unit, since it is designed to handle heterogenous feed with hazardous constituents.

EPA's response to a:

EPA's presumptive remedy guidance for wood treater sites (EPA/540/R-95/128, December 1995) includes thermal desorption as one of the presumptive remedy technologies suitable for treating organic contamination at wood treater sites. It is not necessary to reach the boiling point of a contaminant to vaporize it. Two mechanisms that lead to contaminant removal include co-vaporization with water (steam stripping) and the use of a high sweep gas volume to maintain a low partial pressure of the volatilized contaminant. There is ample evidence in industry of PAH removal to low levels using thermal desorption equipment. Thermal desorption has been successfully implemented at wood treater sites with contamination sufficiently similar to that of Central Wood (i.e., Madisonville Creosoting Works Superfund Site in Covington, Louisiana, and Cape Fear Wood Preserving Company Superfund Site in Cumberland County,

North Carolina). In addition, complete destruction of PAHs is not necessary at this site, only reduction to LDRs. As described in the FS, neither incineration nor thermal desorption will sufficiently treat or remove arsenic contamination, therefore disposal of treated soils at a hazardous waste landfill will be required following thermal treatment of the organic contamination. The LDR for Indeno (1,2,3-cd) pyrene, Benzo (a) anthracene, and Benzo (a) pyrene is 34 mg/kg. The average soil concentreation of Indeno (1,2,3-cd) pyrene, Benzo(a)anthracene, and Benzo(a)pyrene in soils to be excavated is approximately 102 mg/kg, 140 mg/kg, and 58 mg/kg, respectively. Thermal desorption typically achieves up to 99% destruction, retention times can be adjusted if necessary, and soil temperatures can reach kiln temperatures, depending on residence times, which can be adjusted if necessary.

EPA's response to b:

Feed moisture levels can be significantly reduced at low cost by air drying, blending, and proper materials handling. For the majority of thermal desorption systems, there is no significant effect on operational cost and/or throughput for soils with up to 20% moisture in the feed. Average moisture content for Central Wood soils requiring treatment is about 20%, and therefore this is not anticipated to be a concern. The BTU limitation depends on the size and capacity of the secondary treatment unit (STU) burner and the lower explosive limit (LEL) conditions in the primary treatment unit (PTU). Test burns with hydrocarbon levels up to 3.5 percent have been conducted in thermal desorption systems with the STU located as the last unit operation in the gas treatment train.

EPA response to c:

The desorber unit proposed by the thermal desorption vendor can be modified to include acid scrubbing equipment in the event that acid gasses are produced.

EPA's response to d:

Most thermal desorption systems have hot cyclones and baghouses to remove particulates emissions to acceptable emissions levels. The existing buildings onsite will be demolished prior to soil excavation, providing sufficient space for the desorption treatment unit and supporting structures.

EPA's response to e:

It is untrue that the factors mentioned in the comment do not affect incineration units. Elevated moisture content can reduce the capacity of incinerators, incineration of large volumes of contaminants can be prohibitively costly, and fugitive dusts can be generated if the matrix has a high fraction of fine silt or clay, resulting in a greater dust loading placed on the downstream air pollution control equipment. Incinerator throughput is also limited by BTU content in the feed and utilizes similar equipment to thermal desorption units for particulate and acid gas removal. An incinerator has a refractory lined primary and heats the soil to a temperature that is higher than necessary to remove the contaminants. Incineration is inherently more costly, thermal desorption units are lighter, more transportable and require less fuel.

2. **On-site thermal desorption is not compliant with ARARs.**

The emissions produced by the thermal desorption unit would require consideration (See Feasibility Study Report 4-6 November 2000). The on-site thermal desorption option would require extensive test burn trials to demonstrate compliancy with air emission regulations, whereas a permitted incineration facility has already demonstrated this compliance, and undergoes regular testing to maintain its permit. There are definite risks

due to the fact that the thermal desorption unit may fail the air emission requirements. This could translate into additional costs and time required to meet the overall cleanup goals.

EPA's response:

The onsite thermal desorption unit is anticipated to comply with ARARs. Portable thermal desorption units typically are required to perform a test burn at proposed operating feed conditions over a period of 2 days to verify compliance with air emissions permit requirements. Approval generally takes between two and three weeks. Thereafter gas emissions are monitored using a continuous emissions monitor (CEM). Thermal desorption technology is well understood and consistently meeting air permit requirements is not judged to be a problem. The system assumed for the costing purposes of the FS includes a baghouse dust collector and a thermal oxidizer to provide the necessary off-gas treatment. After the organics are oxidized in the thermal oxidizer, the clean gasses are passed through a stack to the atmosphere. The clean stack gasses are monitored by the CEM as an extra precaution to ensure the emissions levels comply with associated permits and health-based levels.

3. **On-site thermal desorption does not provide the same level of long-term effectiveness and permanence or reduction in toxicity, mobility and volume (TMV) as off-site incineration.**

Thermal desorbers typically achieve a performance efficiency of between 90 to 99% only after initial performance testing indicates that successful treatment can be achieved (See Feasibility Study Report 4-11 November 2000). In contrast, the BEI incinerator consistently achieves a DRE of 99.9999%. For the marginal additional cost it would make sense for the EPA to ensure complete destruction of these contaminants.

EPA's response:

The estimated cost difference between thermal desorption and incineration is $ 4,950,000. Since complete destruction is not required to ensure protection of human health and the environment, the additional costs are not warranted. See also response to Comment 1.

4. **Short-term effectiveness is not achieved using on-site thermal desorption.**

On-site thermal desorption produces stack emissions and increases the risk of inhalation. There is also an increased handling of contaminated material before and after treatment increasing the potential for exposure. The contaminated material would not be treated using on-site thermal desorption only separated and condensed from the soil. Thermal desorption only changes the concentration of the material creating any additional waste stream, which has to be treated later, through incineration. Incineration, on the other hand, completely and immediately destroys the material, eliminating all risks and liability.

EPA's response:

Short-term effectiveness will be achieved by onsite thermal desorption. As stated in the response to Comment 2, stack gasses will be continuously monitored to ensure compliance with air standards and reduce the risk of exposure. The material handling associated with thermal desorption is not significantly more than the excavation and transport activities that would be required to transfer contaminated soils to an offsite incinerator. There are two types of thermal desorption systems - direct fired and indirect fired. The direct fired system destroys the

contaminants just as an incinerator does, but with less energy input. Indirect Fired units that produce condensates are generally used to treat soils contaminated with fuel in which the fuels are recovered and reused. The system assumed for the costing purposes of the FS is a continuous feed direct fired system. An additional waste stream would not be created. This system includes a rotary thermal desorber, a baghouse, and a thermal oxidizer. Vaporized organics would be destroyed in the oxidizer and do not require offsite incineration.

5. **On-site thermal desorption is not the most protective of human health and the environment when compared to off-site incineration.**

a. On-site thermal desorption poses an increase risk to the surrounding community by potentially exposing the community to emissions. Desorbers do not destroy all of the contaminants, and the afterburner, or condensation unit invariably have large emissions due to incomplete combustion, and products of incomplete combustion. As the material is handled on-site, the dust will give rise to fugitive emissions. There will be noise pollution from the operation of the unit and preparation of the material.

b. On-site thermal desorption is not fully protective of the human health and the environment because the contaminated material will have to be prepared and handled both before and after treatment increasing the risk to workers, the environment and the surrounding community.

c. Finally, the thermal desorption unit will require constant emissions monitoring to ensure the mobile air pollution control equipment is operating properly. Using a fixed, controlled, and permitted off-site incineration facility avoids all of these concerns to human health and the environment.

EPA response to a:

Onsite thermal desorption is protective of human health and the environment when compared to offsite incineration. As stated in the responses to Comments 2 and 4, emissions would be monitored to ensure the surrounding community is not exposed to concentrations exceeding permitted and health-based levels, and no additional waste stream would be created. The unit at Central Wood would be placed as far as possible from adjacent residences to mitigate noise pollution issues, and additional controls such as sound barriers will be utilized.

EPA response to b:

Exposure risks to operators are mitigated by air monitoring at the work place and using the appropriate level of personal protective equipment (PPE). Operations would be contained onsite, and offsite exposure risks are mitigated by perimeter air monitoring and engineering controls. The surrounding environment and community could potentially be exposed to the same concentrations of contaminated waste if the untreated material was removed from the site and transported to an offsite incinerator.

EPA response to c:

Incineration facilities do not avoid all concerns to human health and the environment, these facilities also require emissions monitoring. See also responses to Comments 1 and 2.

6. **The full cost of on-site thermal desorption has not been taken into account.**

a. The major difference between thermal desorption and incineration is that incineration oxidizes organic compounds, thereby destroying the hazardous material. Thermal

desorption volatilizes contaminants, and then concentrates them. Thermal desorption reduces the volume of contamination, but the concentration waste stream still requires treatment. Condensed material produced by the thermal desorption unit, which does not meet the LDR's and requires thermal treatment was not factored into the remediation costs for thermal desorption. The incineration cost for condensed materials is significantly higher than the cost for bulk contaminated soils.

b. Furthermore, off-site incineration is cost-effective. The Environmental Technology Council (ETC) website provides current price data for incineration of bulk-contaminated soils in range of $250 to $1,000 per ton. See http://www.etc.org. In today's remediation market, EPA may be able to obtain prices as low as $350 per cubic yard inclusive of transportation and disposal. Thus, the costs of off-site incineration compare very favorably to the estimated cost of the preferred alternative.

EPA response to a:

The full cost of onsite thermal desorption was taken into account. See previous comments on direct fired vs indirect fired systems in the response to Comment 4. No additional waste stream would be created using the direct fired system assumed for the costing purposes of the FS. Costs associated with the off-gas treatment are included in the unit rates listed in the thermal desorption cost estimate provided in the FS. For an indirect fired system, differences in the unit price for incinerating solids and liquids are irrelevant since condensed organics produced in an indirect fired thermal desorption unit are typically less than 1 percent of the weight of the feed.

EPA response to b:

The cost for transportation and incineration of contaminated materials presented in the FS ($425/ton) were obtained from the nearest incineration facility to the Central Wood site, and this cost falls within the lower end of the estimated range listed in Comment 6 ($250 - $1,000/ton). The cost of onsite thermal desorption is significantly less than the cost of offsite incineration.

APPENDIX A

Record of Communication with the Louisiana Department of Environmental Quality

002200

RECORD OF COMMUNICATION

Date: October 23, 2000 Time: 1:00 p.m.

___ Phone Call ___ Discussion ___ Site Visit _X_ Conference Call
___ Other (Specify)

TO: Central Wood Preserving File

FROM: Stacey Bennett

SUBJECT: Proposed Plan for Central Wood

SUMMARY OF COMMUNICATION

On August 24, 2000, Wren Stenger, the EPA Superfund Branch Chief for the Louisiana/New Mexico Remedial branch sent a letter and a copy of the draft proposed plan to Keith Casanova, the LDEQ Administrator of the Remediation Services Division of the Office of Environmental Assessment, requesting comments and concurrence on the proposed plan. Subsequently, Mr. Casanova requested a conference call between Myron Knudson and Jim Brent to discuss the States comments.

On October 23, 2000, at 1:00 p.m., Myron Knudson, Wren Stenger, and Bob Goodfellow of EPA and Jim Brent, Keith Casanova, and John Halk of LDEQ conducted a conference call regarding the draft proposed plan for the Central Wood Preserving Site. The State and EPA discussed two of the remedy alternatives (on-site thermal desorption and the on-site RCRA vault) addressed in the proposed plan. As a result of the discussion, EPA agreed to propose the on-site thermal desorption alternative as the preferred alternative.

CONCLUSIONS, ACTION TAKEN OR REQUIRED

Once the proposed plan was drafted with thermal desorption as the preferred alternative, Wren Stenger called Keith Casanova on October 30, 2000, and they agreed to proceed with announcing the proposed plan without further delay. If the state has further comments, they will submit the comments to EPA during the public comment period.

An open house is scheduled for November 29, 2000, in which the proposed plan will be presented to the public. The public comment period is scheduled to begin on November 30, 2000.

INFORMATION COPIES
TO:
Edwin Quinones (6RC)
Wren Stenger (6SF-L)
Bob Goodfellow (6SF-LP)

142561

APPENDIX B

Tables for Risk Level by Depth Interval and Constituent

Table 2
Risk Levels by Depth Interval and Constituent
Central Wood Preserving Company Site

Exposure Area	Interval (feet bgs)	Receptor	Chemical	Carcinogenic Risk[1,2]				Noncarcinogenic HI[2]			
				Ingestion	Inhalation	Dermal	Total	Ingestion	Inhalation	Dermal	Total
North Property	A (0-1.5)	Residential Adult	ARSENIC	8.1E-03	5.9E-07	1.1E-03	9.2E-03	4.E+00	na	6.E-01	5.E+00
			CHROMIUM, TOTAL	na	na	na	na	8.E-04	na	2.E-03	3.E-03
			COPPER	na	na	na	na	2.E-01	na	7.E-03	2.E-01
			BENZO(a)ANTHRACENE	3.2E-05	9.8E-10	1.8E-05	5.0E-05	na	na	na	na
			BENZO(a)PYRENE	2.7E-04	8.2E-09	1.5E-04	4.2E-04	na	na	na	na
			BENZO(b)FLUORANTHENE	1.1E-04	3.5E-09	6.5E-05	1.8E-04	na	na	na	na
			BENZO(k)FLUORANTHENE	8.7E-06	2.7E-10	5.0E-06	1.4E-05	na	na	na	na
			CHRYSENE	1.1E-06	3.5E-11	6.5E-07	1.8E-06	na	na	na	na
			DIBENZ(a,h)ANTHRACENE	1.4E-05	4.2E-10	7.8E-06	2.2E-05	na	na	na	na
			INDENO(1,2,3-c,d)PYRENE	1.3E-05	3.9E-10	7.3E-06	2.0E-05	na	na	na	na
			NAPHTHALENE	na	na	na	na	2.E-03	4.E-06	1.E-03	4.E-03
			Total	8.6E-03	6.1E-07	1.3E-03	**9.9E-03**	4.E+00	4.E-06	6.E-01	**5.E+00**
		Residential Child	ARSENIC					1.E+01	na	4.E+00	2.E+01
			CHROMIUM, TOTAL					4.E-04	na	2.E-02	2.E-02
			COPPER					5.E-01	na	5.E-02	6.E-01
			BENZO(a)ANTHRACENE					na	na	na	na
			BENZO(a)PYRENE					na	na	na	na
			BENZO(b)FLUORANTHENE					na	na	na	na
			BENZO(k)FLUORANTHENE					na	na	na	na
			CHRYSENE					na	na	na	na
			DIBENZ(a,h)ANTHRACENE					na	na	na	na
			INDENO(1,2,3-c,d)PYRENE					na	na	na	na
			NAPHTHALENE					9.E-03	4.E-06	1.E-02	2.E-02
			Total					2.E+01	4.E-06	4.E+00	**2.E+01**
	B (1.5-2)	Residential Adult	ARSENIC	7.0E-03	5.1E-07	9.2E-04	7.9E-03	4.E+00	na	5.E-01	4.E+00
			CHROMIUM, TOTAL	na	na	na	na	4.E-04	na	1.E-03	2.E-03
			BENZO(a)ANTHRACENE	8.0E-05	2.5E-09	4.6E-05	1.3E-04	na	na	na	na
			BENZO(a)PYRENE	2.2E-04	6.7E-09	1.2E-04	3.4E-04	na	na	na	na
			BENZO(b)FLUORANTHENE	2.7E-05	8.5E-10	1.6E-05	4.3E-05	na	na	na	na
			BENZO(k)FLUORANTHENE	4.4E-06	1.4E-10	2.6E-06	7.0E-06	na	na	na	na
			CHRYSENE	7.8E-07	2.4E-11	4.4E-07	1.2E-06	na	na	na	na
			INDENO(1,2,3-c,d)PYRENE	7.0E-06	2.2E-10	4.0E-06	1.1E-05	na	na	na	na
			Total	7.3E-03	5.2E-07	1.1E-03	**8.4E-03**	4.E+00	na	5.E-01	**4.E+00**
		Residential Child	ARSENIC					2.E+01	na	2.E+00	2.E+01
			CHROMIUM, TOTAL					2.E-03	na	6.E-03	8.E-03
			BENZO(a)ANTHRACENE					na	na	na	na
			BENZO(a)PYRENE					na	na	na	na
			BENZO(b)FLUORANTHENE					na	na	na	na
			BENZO(k)FLUORANTHENE					na	na	na	na
			CHRYSENE					na	na	na	na
			INDENO(1,2,3-c,d)PYRENE					na	na	na	na
			Total					2.E+01	na	2.E+00	**2.E+01**

Table 2
Risk Levels by Depth Interval and Constituent
Central Wood Preserving Company Site

Exposure Area	Interval (feet bgs)	Receptor	Chemical	Carcinogenic Risk[1,2]				Noncarcinogenic HI[2]			
				Ingestion	Inhalation	Dermal	Total	Ingestion	Inhalation	Dermal	Total
North Property continued	C (2-3)	Utility Worker	ARSENIC	8.1E-07	2.6E-10	2.5E-07	1.1E-06	1.E-01	na	4.E-02	2.E-01
			CHROMIUM, TOTAL	na	na	na	na	7.E-06	na	6.E-05	6.E-05
			BENZO(a)ANTHRACENE	3.2E-06	4.3E-11	4.4E-06	7.6E-06	na	na	na	na
			BENZO(a)PYRENE	1.6E-05	2.1E-10	2.1E-05	3.7E-05	na	na	na	na
			BENZO(b)FLUORANTHENE	2.5E-06	3.4E-11	3.4E-06	5.9E-06	na	na	na	na
			BENZO(k)FLUORANTHENE	1.9E-07	2.5E-12	2.5E-07	4.4E-07	na	na	na	na
			CHRYSENE	2.8E-08	3.8E-13	3.8E-08	6.6E-08	na	na	na	na
			FLUORANTHENE	na	na	na	na	4.E-03	na	6.E-03	1.E-02
			INDENO(1,2,3-c,d)PYRENE	5.1E-07	6.8E-12	6.9E-07	1.2E-06	na	na	na	na
			NAPHTHALENE	na	na	na	na	2.E-02	1.E-05	3.E-02	4.E-02
			Total	2.3E-05	5.5E-10	3.0E-05	**5.3E-05**	1.E-01	1.E-05	7.E-02	**2.E-01**
	D (3-5)	Utility Worker	ARSENIC	1.9E-06	6.1E-10	6.0E-07	2.5E-06	3.E-01	na	9.E-02	4.E-01
			CHROMIUM, TOTAL	na	na	na	na	8.E-06	na	6.E-05	7.E-05
			MANGANESE	na	na	na	na	6.E-02	6.E-03	1.E-01	2.E-01
			BENZO(a)ANTHRACENE	2.8E-07	3.8E-12	3.8E-07	6.6E-07	na	na	na	na
			BENZO(a)PYRENE	8.6E-07	1.2E-11	1.2E-06	2.0E-06	na	na	na	na
			BENZO(b)FLUORANTHENE	1.2E-07	1.6E-12	1.6E-07	2.8E-07	na	na	na	na
			BENZO(k)FLUORANTHENE	1.1E-08	1.5E-13	1.5E-08	2.6E-08	na	na	na	na
			bis(2-CHLOROETHYL) ETHER	7.2E-08	2.4E-12	7.5E-08	1.5E-07	na	na	na	na
			INDENO(1,2,3-c,d)PYRENE	2.4E-08	3.3E-13	3.3E-08	5.7E-08	na	na	na	na
			NAPHTHALENE	na	na	na	na	6.E-03	4.E-06	8.E-03	1.E-02
			Total	3.3E-06	6.3E-10	2.4E-06	**5.7E-06**	4.E-01	6.E-03	2.E-01	**6.E-01**
North Property - Hotspot	A (0-1.5)	Residential Adult	ARSENIC	6.9E-03	5.1E-06	9.2E-04	7.9E-03	4.E+01	na	5.E+00	4.E+01
			CHROMIUM, TOTAL	na	na	na	na	5.E-03	na	2.E-02	2.E-02
			COPPER	na	na	na	na	4.E-01	na	2.E-02	4.E-01
			BENZO(a)ANTHRACENE	3.2E-04	9.9E-09	1.8E-04	5.0E-04	na	na	na	na
			BENZO(a)PYRENE	3.0E-03	9.2E-08	1.7E-03	4.7E-03	na	na	na	na
			BENZO(b)FLUORANTHENE	5.0E-04	1.6E-08	2.9E-04	7.9E-04	na	na	na	na
			BENZO(k)FLUORANTHENE	4.6E-05	1.4E-09	2.6E-05	7.2E-05	na	na	na	na
			CHRYSENE	6.3E-06	1.9E-10	3.6E-06	9.9E-06	na	na	na	na
			DIBENZ(a,h)ANTHRACENE	1.4E-05	4.2E-10	7.8E-06	2.2E-05	na	na	na	na
			INDENO(1,2,3-c,d)PYRENE	1.5E-04	4.6E-09	8.5E-05	2.3E-04	na	na	na	na
			Total	1.1E-02	5.2E-06	3.2E-03	**1.4E-02**	4.E+01	na	5.E+00	**4.E+01**
		Residential Child	ARSENIC					1.E+02	na	3.E+01	2.E+02
			CHROMIUM, TOTAL					2.E-02	na	1.E-01	1.E-01
			COPPER					2.E+00	na	1.E-01	2.E+00
			BENZO(a)ANTHRACENE					na	na	na	na
			BENZO(a)PYRENE					na	na	na	na
			BENZO(b)FLUORANTHENE					na	na	na	na
			BENZO(k)FLUORANTHENE					na	na	na	na
			CHRYSENE					na	na	na	na
			DIBENZ(a,h)ANTHRACENE					na	na	na	na
			INDENO(1,2,3-c,d)PYRENE					na	na	na	na
			Total					1.E+02	na	3.E+01	**2.E+02**

Table 2
Risk Levels by Depth Interval and Constituent
Central Wood Preserving Company Site

Exposure Area	Interval (feet bgs)	Receptor	Chemical	Carcinogenic Risk[1,2]				Noncarcinogenic HI[2]			
				Ingestion	Inhalation	Dermal	Total	Ingestion	Inhalation	Dermal	Total
North Property - Hotspot continued	B (1.5-2)	Residential Adult	ARSENIC	1.9E-03	1.4E-06	2.6E-04	2.2E-03	1.E+01	na	1.E+00	1.E+01
			CHROMIUM, TOTAL	na	na	na	na	2.E-03	na	5.E-03	7.E-03
			BENZO(a)ANTHRACENE	8.0E-05	2.5E-09	4.6E-05	1.3E-04	na	na	na	na
			BENZO(a)PYRENE	2.2E-04	6.7E-09	1.2E-04	3.4E-04	na	na	na	na
			BENZO(b)FLUORANTHENE	2.7E-05	8.5E-10	1.6E-05	4.3E-05	na	na	na	na
			BENZO(k)FLUORANTHENE	4.4E-06	1.4E-10	2.6E-06	7.0E-06	na	na	na	na
			CHRYSENE	7.8E-07	2.4E-11	4.4E-07	1.2E-06	na	na	na	na
			INDENO(1,2,3-c,d)PYRENE	7.0E-06	2.2E-10	4.0E-06	1.1E-05	na	na	na	na
			Total	2.3E-03	1.4E-06	4.5E-04	**2.7E-03**	1.E+01	na	1.E+00	**1.E+01**
		Residential Child	ARSENIC					5.E+01	na	7.E+00	6.E+01
			CHROMIUM, TOTAL					8.E-03	na	3.E-02	3.E-02
			BENZO(a)ANTHRACENE					na	na	na	na
			BENZO(a)PYRENE					na	na	na	na
			BENZO(b)FLUORANTHENE					na	na	na	na
			BENZO(k)FLUORANTHENE					na	na	na	na
			CHRYSENE					na	na	na	na
			INDENO(1,2,3-c,d)PYRENE					na	na	na	na
			Total					5.E+01	na	7.E+00	**6.E+01**
	C (2-3)	Utility Worker	ARSENIC	6.4E-06	2.0E-09	2.0E-06	8.4E-06	1.E+00	na	3.E-01	1.E+00
			CHROMIUM, TOTAL	na	na	na	na	4.E-05	na	3.E-04	4.E-04
			BENZO(a)ANTHRACENE	3.2E-06	4.3E-11	4.4E-06	7.6E-06	na	na	na	na
			BENZO(a)PYRENE	1.6E-05	2.1E-10	2.1E-05	3.7E-05	na	na	na	na
			BENZO(b)FLUORANTHENE	2.5E-06	3.4E-11	3.4E-06	5.9E-06	na	na	na	na
			BENZO(k)FLUORANTHENE	1.9E-07	2.5E-12	2.5E-07	4.4E-07	na	na	na	na
			CHRYSENE	2.8E-08	3.8E-13	3.8E-08	6.6E-08	na	na	na	na
			FLUORANTHENE	na	na	na	na	4.E-03		6.E-03	1.E-02
			INDENO(1,2,3-c,d)PYRENE	5.1E-07	6.8E-12	6.9E-07	1.2E-06	na	na	na	na
			NAPHTHALENE	na	na	na	na	7.E-03	5.E-06	9.E-03	2.E-02
			Total	2.9E-05	2.3E-09	3.2E-05	**6.0E-05**	1.E+00	5.E-06	3.E-01	**1.E+00**
	D (3-5)	Utility Worker	ARSENIC	7.9E-06	2.5E-09	2.5E-06	1.0E-05	1.E+00	na	4.E-01	2.E+00
			CHROMIUM, TOTAL	na	na	na	na	3.E-05	na	2.E-04	3.E-04
			MANGANESE	na	na	na	na	6.E-02	6.E-03	1.E-01	2.E-01
			BENZO(a)ANTHRACENE	1.0E-06	1.4E-11	1.4E-06	2.4E-06	na	na	na	na
			BENZO(a)PYRENE	7.4E-07	1.0E-11	1.0E-06	1.8E-06	na	na	na	na
			BENZO(b)FLUORANTHENE	1.2E-07	1.6E-12	1.6E-07	2.8E-07	na	na	na	na
			BENZO(k)FLUORANTHENE	9.4E-09	1.3E-13	1.3E-08	2.2E-08	na	na	na	na
			bis(2-CHLOROETHYL) ETHER	7.2E-08	2.4E-12	7.5E-08	1.5E-07	na	na	na	na
			INDENO(1,2,3-c,d)PYRENE	2.4E-08	3.3E-13	3.3E-08	5.7E-08	na	na	na	na
			NAPHTHALENE	na	na	na	na	2.E-02	2.E-05	3.E-02	5.E-02
			Total	9.9E-06	2.5E-09	5.1E-06	**1.5E-05**	1.E+00	6.E-03	5.E-01	**2.E+00**

Table 2
Risk Levels by Depth Interval and Constituent
Central Wood Preserving Company Site

Exposure Area	Interval (feet bgs)	Receptor	Chemical	Carcinogenic Risk[1,2]				Noncarcinogenic HI[2]			
				Ingestion	Inhalation	Dermal	Total	Ingestion	Inhalation	Dermal	Total
South Property	A (0-1.5)	Residential Adult	ARSENIC	4.8E-04	3.5E-07	6.3E-05	5.4E-04	2.E+00	na	3.E-01	3.E+00
			CHROMIUM, TOTAL	na	na	na	na	7.E-04	na	2.E-03	3.E-03
			BENZO(a)ANTHRACENE	5.6E-07	1.8E-11	3.2E-07	8.9E-07	na	na	na	na
			BENZO(a)PYRENE	4.6E-06	1.4E-10	2.6E-06	7.2E-06	na	na	na	na
			BENZO(b)FLUORANTHENE	7.4E-07	2.3E-11	4.3E-07	1.2E-06	na	na	na	na
			DIBENZ(a,h)ANTHRACENE	2.3E-06	7.1E-11	1.3E-06	3.6E-06	na	na	na	na
			Total	4.8E-04	3.5E-07	6.8E-05	**5.5E-04**	2.E+00	na	3.E-01	**3.E+00**
		Residential Child	ARSENIC					9.E+00	na	2.E+00	1.E+01
			CHROMIUM, TOTAL					4.E-04	na	3.E-03	3.E-03
			BENZO(a)ANTHRACENE					na	na	na	na
			BENZO(a)PYRENE					na	na	na	na
			BENZO(b)FLUORANTHENE					na	na	na	na
			DIBENZ(a,h)ANTHRACENE					na	na	na	na
			Total					*9.E+00*	*na*	*2.E+00*	**1.E+01**
	C (2-3)	Utility Worker	ARSENIC	1.1E-07	3.5E-11	3.5E-08	**1.5E-07**	2.E-02	na	5.E-03	**2.E-02**
	D (3-5)	Utility Worker	ARSENIC	7.7E-08	2.5E-11	2.4E-08	**1.0E-07**	1.E-02	na	4.E-03	**2.E-02**

Notes:
1. Grey cells: The carcinogenic scenario does not apply to children because carcinogenic mechanisms occur over a lifetime (children become adults).
2. na - not applicable: no chemical toxicity/carcinogenicity data exists for this pathway.

Table 3
Total Risk Levels by Depth Interval
Central Wood Preserving Company Site

Exposure Area	Interval (feet bgs)	Receptor	Carcinogenic Risk				Noncarcinogenic HI			
			Ingestion	Inhalation	Dermal	Total	Ingestion	Inhalation	Dermal	Total
North Property	A (0-1.5)	Future Residential Adult	8.6E-03	6.1E-07	1.3E-03	**9.9E-03**	4.E+00	4.E-06	6.E-01	**5.E+00**
		Future Residential Child	na	na	na	na	2.E+01	4.E-06	4.E+00	**2.E+01**
	B (1.5-2)	Future Residential Adult	7.3E-03	5.2E-07	1.1E-03	**8.4E-03**	4.E+00	na	5.E-01	**4.E+00**
		Future Residential Child	na	na	na	na	2.E+01	na	2.E+00	**2.E+01**
	C (2-3)	Future Utility Worker	2.3E-05	5.5E-10	3.0E-05	**5.3E-05**	1.E-01	1.E-05	7.E-02	**2.E-01**
	D (3-5)	Future Utility Worker	3.3E-06	6.3E-10	2.4E-06	**5.7E-06**	4.E-01	6.E-03	2.E-01	**6.E-01**
North Property - Hotspot	A (0-1.5)	Future Residential Adult	1.1E-02	5.2E-06	3.2E-03	**1.4E-02**	4.E+01	na	5.E+00	**4.E+01**
		Future Residential Child	na	na	na	na	1.E+02	na	3.E+01	**2.E+02**
	B (1.5-2)	Future Residential Adult	2.3E-03	1.4E-06	4.5E-04	**2.7E-03**	1.E+01	na	1.E+00	**1.E+01**
		Future Residential Child	na	na	na	na	5.E+01	na	7.E+00	**6.E+01**
	C (2-3)	Future Utility Worker	2.9E-05	2.3E-09	3.2E-05	**6.0E-05**	1.E+00	5.E-06	3.E-01	**1.E+00**
	D (3-5)	Future Utility Worker	9.9E-06	2.5E-09	5.1E-06	**1.5E-05**	1.E+00	6.E-03	5.E-01	**2.E+00**
South Property	A (0-1.5)	Future Residential Adult	4.8E-04	3.5E-07	6.8E-05	**5.5E-04**	2.E+00	na	3.E-01	**3.E+00**
		Future Residential Child	na	na	na	na	9.E+00	na	2.E+00	**1.E+01**
	C (2-3)	Future Utility Worker	1.1E-07	3.5E-11	3.5E-08	**1.5E-07**	2.E-02	na	5.E-03	**2.E-02**
	D (3-5)	Future Utility Worker	7.7E-08	2.5E-11	2.4E-08	**1.0E-07**	1.E-02	na	4.E-03	**2.E-02**

Notes:
1. na - not applicable: no chemical toxicity/carcinogenicity data exists for this pathway.

Exhibit 7 - Summary of Risk by Exposure Scenario - Unnamed Creek

	Excess Lifetime Cancer Risk				Noncarcinogenic Hazard Indices			
Expsosure Scenario	**Ingestion**	**Inhalation**	**Dermal Absorption**	**Total**	**Ingestion**	**Inhalation**	**Dermal Absorption**	**Total**
UNK Segment 1 - Surface Soil and Sediment: Recreational Youth	5.0E-04	1.0E-05	2.9E-03	**3.4E-03**	2	0.0006	5	**7**
UNK Segment 1 - Surface Water: Recreational Youth	1.1E-06	--	1.1E-10	**1.1E-06**	0.02	--	0.00001	**0.02**
UNK Segment 2 - Surface Soil and Sediment: Recreational Youth	2.4E-06	3.6E-09	4.1E-06	**6.5E-06**	0.04	--	0.06	**0.1**
UNK Segment 2 - Surface Soil and Sediment: Adult Hunter	3.7E-06	5.5E-09	6.3E-06	**1.0E-05**	0.03	--	0.04	**0.06**
UNK Segment 2 - Surface Water: Recreational Youth	2.9E-08	--	2.9E-12	**2.9E-08**	0.0006	--	0.0000002	**0.0006**
UNK Segment 2 - Surface Water: Adult Hunter	4.5E-08	--	4.5E-12	**4.5E-08**	0.0004	--	0.0000001	**0.0004**
UNK Segment 3 - Surface Soil and Sediment: Recreational Youth	2.2E-07	3.4E-10	3.4E-07	**5.6E-07**	0.01	--	0.001	**0.009**
UNK Segment 3 - Surface Soil and Sediment: Adult Hunter	3.4E-07	5.3E-10	5.2E-07	**8.6E-07**	0.008	--	0.006	**0.01**
UNK Segment 3 - Surface Water: Recreational Youth	2.1E-08	--	2.1E-12	**2.1E-08**	0.0004	--	0.0000001	**0.0004**
UNK Segment 3 - Surface Water: Adult Hunter	3.2E-08	--	3.2E-12	**3.2E-08**	0.0002	--	0.00000006	**0.0002**

Notes:
NC - Not calculated

APPENDIX C

References

REFERENCES

Carlock and Associates, 1999. *Summary Appraisal Report, 15 +/- Acres, Vacant Land, "Known as Central Wood Preserving Property", Loacted in Section 77, T3S,R2E, East Feliciana Parish, Louisiana.* Prepared for CH2MHill. May 20, 1999.

CH2MHILL, September 2000. *Remedial Investigation Report, Central Wood Preserving Company, East Feliciana Parish, Louisiana.* Remedial Action Contract Work Assignment 029-RI-CO-067E. Version 1.2, September 2000.

CH2MHILL, 2000a. *Feasibility Study Report, Central Wood Preserving Company, East Feliciana Parish, Louisiana.* Remedial Action Contract Work Assignment 029-RI-CO-067E. Version 1.2, September 2000.

CH2MHILL, 2000b. *Human Health Risk Assessment Technical Memorandum, Central Wood Preserving Company, East Feliciana Parish, Louisiana.* Remedial Action Contract Work Assignment 029-RI-CO-067E. Version 1.2, September 2000.

Ecology and Environment, Inc., 1993. *Site Assessment Report (Initial, Phase I).* January 27, 1993.

Ecology and Environment, Inc., 1994. *Preliminary Assessment Report.* October 31, 1994.

Ecology and Environment, Inc., 1995a. *Site Assessment Report,* March 27, 1995.

Ecology and Environment, Inc., 1995d. *Expanded Site Inspection Report,* December 27, 1995.

Louisiana Department of Environmental Quality, 1998. Direct communication with Keith Horn/LDEQ. October 21, 1998. [regarding lack of PCP use at CWP site].

EPA, 1995. *Polrep #5.* October 18, 1995.

APPENDIX D

Administrative Record File Index

Prepared for

United States Environmental Protection Agency

Region 6

ADMINISTRATIVE RECORD INDEX

for

CENTRAL WOOD PRESERVING COMPANY SUPERFUND SITE

EPA ID No. LAD008187940

ESS II
Task Order No. 083-009

Stacey Bennett
Remedial Project Manager
U.S. EPA Region 6

Prepared by:

TechLaw, Inc.
750 N. St. Paul Street, Suite 600
Dallas, Texas 75201

November 27, 2000

PREAMBLE

The purpose of this document is to provide the public with an index to the Administrative Record (AR) for a U.S. Environmental Protection Agency's (EPA) selected remedial action to respond to conditions at the Central Wood Preserving Company Superfund site (the "Site"). EPA's remedial action is authorized by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. Section 9601 et seq.

Section 113 (j)(1) of CERCLA, 42 U.S.C. Section 9613 (j)(1), provides that judicial review of the adequacy of a CERCLA response action shall be limited to the administrative record. Section 113 (k)(1) of CERCLA, 42 U.S.C. Section 9613 (k)(1), requires the EPA to establish an administrative record upon which it shall base the selection of its remedial actions. As the EPA decides what to do at the site of a release of hazardous substances, it compiles documents concerning the site and the EPA's decision into an "administrative record file." This means that documents may be added to the administrative record file from time to time. Once the EPA Regional Administrator or the Administrator's delegate signs the Action Memorandum or the Record of Decision memorializing the selection of the action, the documents which form the basis for the selection of the response action are then known as the "administrative record."

Section 113(k)(1) of CERCLA requires the EPA to make the administrative record available to the public at or near the site of the response action. Accordingly, the EPA has established a repository where the record may be reviewed near the Site at:

Audubon Library
12220 Woodville St.
Clinton, LA. 70722
(225)683-8753

The public may also review the administrative record at the EPA Region 6 offices in Dallas, Texas, by contacting the Remedial Project Manager at the address listed below. The record is available for public review during normal business hours. The record is treated as a non-circulating reference document. Any document in the record may be photocopied according to the procedures used at the repository or at the EPA Region 6 offices. This index and the record were compiled in accordance with the EPA's Final Guidance on Administrative Records for Selecting CERCLA Response Actions, Office of Solid Waste and Emergency Response (OSWER) Directive Number 9833.3A-1 (December 3, 1990), and in accordance with Superfund Removal Procedures Public Participation Guidance for On-Scene Coordinators: Community Relations and the Administrative Record, OSWER 9360.3-05 (July 1992).

Documents listed as bibliographic sources for other documents in the record might not be listed separately in the Site index. Where a document is listed in the Site index but not located among the documents which EPA has made available in the repository, EPA will, upon request, include the document in the repository or make the document available for review at an alternate location. This applies to documents such as verified sampling data, chain of custody forms, guidance

and policy documents, as well as voluminous site-specific reports. Copies of guidance documents also can be obtained by calling the RCRA/Superfund/Title 3 Hotline at (800) 424-9346. It does not apply to documents in EPA's confidential file. These requests should be addressed to :

Stacey Bennett
Remedial Project Manager
U.S. EPA Region 6
1445 Ross Avenue
Dallas, Texas 75202-2733
(214) 665-6729

The EPA response-selection guidance compendium index has not been updated since March 22, 1991 (see CERCLA Administrative Records: First Update of the Compendium of Documents Used for Selecting CERCLA Response Actions [March 22, 1991]); accordingly, it is not included here. Moreover, based on resource considerations, the Region 6 Superfund Division Director has decided not to maintain a Region 6 compendium of response-selection guidance. Instead, consistent with 40 CFR Section 300.805(a)(2) and 300.810(a)(2) and OSWER Directive No. 9833.3A-1 at page 37, the AR Index includes listings of all guidance documents which may form a basis for the selection of the response action in question.

The documents included in the AR index are arranged predominantly in chronological order. The AR index helps locate and retrieve documents in the file. It also provides an overview of the response action history. The index includes the following information for each document:

- **Bates** - The sequential numbers stamped on each page of the AR.
- **Date** - The date the document was published and/or released.
- **Pages** - Total number of printed pages in the document, including attachments.
- **Title**
- **Doc Type** - General identification, (e.g. correspondence, Remedial Investigation Report, Record of Decision.)
- **Author** - Name and title of originator, and the name of the organization that the author is affiliated with.
- **Recipient** - Name, title, and affiliation of the recipient.

ADMINISTRATIVE RECORD INDEX

FILE 11/27/2000

REMEDIAL

002214

Site Name: CENTRAL WOOD PRESERVING COMPANY
Cerclis: LAD008187940
Ouid: N/A
Ssid: (067E) - CENTRAL WOOD PRESERVING COMPANY
Rec Type (Desc.): N/A

Bates: From: 000001 To: 000009
Date: 10/31/1995
Pages: 9
Title ADMINISTRATIVE RECORD FILE INDEX FOR REMOVAL ACTION, CENTRAL WOOD PRESERVING SITE, EAST FELICIANA PARISH, LOUISIANA
Doc Type: OUTLINE

Author(s):

Name: N/A,
Organization: U S EPA
JobTitle: N/A
Department(s)
REGION 6

Recipient(s):

Name: N/A,
Organization: PUBLIC
JobTitle: N/A

Bates: From: 000010 To: 000067
Date: 12/01/1995
Pages: 58
Title PRESUMPTIVE REMEDIES FOR SOILS, SEDIMENTS, AND SLUDGES AT WOOD TREATER SITES (DIRECTIVE: 9200.5 - 162)
Doc Type: OTHER

Author(s):

Name: N/A,
Organization: U S EPA
JobTitle: N/A
Department(s)
HEADQUARTERS
OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE
Location(s)
WASHINGTON, D.C.

ADMINISTRATIVE RECORD INDEX

FILE 11/27/2000

REMEDIAL

002215

Site Name: CENTRAL WOOD PRESERVING COMPANY
Cerclis: LAD008187940
Ouid: N/A
Ssid: (067E) - CENTRAL WOOD PRESERVING COMPANY
Rec Type (Desc.): N/A

Bates: From: 000068 To: 000092
Date: 08/01/1999
Pages: 25
Title COMMUNITY INVOLVEMENT PLAN, CENTRAL WOOD PRESERVING COMPANY SUPERFUND SITE, EAST FELICIANA PARISH, LOUISIANA
Doc Type: REPORT/STUDY

Author(s):
Name: N/A,
Organization: CH2M HILL INC
JobTitle: N/A

Recipient(s):
Name: N/A,
Organization: U S EPA
JobTitle: N/A
Department(s)
REGION 6
Location(s)
SITE FILES

Bates: From: 000093 To: 000119
Date: 11/29/1999
Pages: 27
Title PREDICTING COPPER CONCENTRATIONS USING ARSENIC/ COPPER RELATIONSHIP FOR THE CENTRAL WOOD PRESERVING COMPANY SITE
Doc Type: MEMORANDUM

Author(s):
Name: N/A,
Organization: CH2M HILL INC
JobTitle: N/A

Recipient(s):
Name: BENNETT, STACEY
Organization: U S EPA
JobTitle: N/A
Department(s)
REGION 6

ADMINISTRATIVE RECORD INDEX

FILE 11/27/2000

REMEDIAL

002216

Site Name: CENTRAL WOOD PRESERVING COMPANY
Cerclis: LAD008187940
Ouid: N/A
Ssid: (067E) - CENTRAL WOOD PRESERVING COMPANY
Rec Type (Desc.): N/A

Bates: 000120
Date: 02/23/2000
Pages: 1
Title REQUEST FOR APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS FOR THE CENTRAL WOOD PRESERVING SUPERFUND SITE
Doc Type:

Author(s):

Name: BROYLES, RAGAN
Organization: U S EPA
JobTitle: ACTING CHIEF
Department(s)
REGION 6
LOUISIANA/NEW MEXICO BRANCH

Recipient(s):

Name: CASANOVA, KEITH L
Organization: LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY
JobTitle: ADMINISTRATOR
Department(s)
REMEDIATION SERVICES DIVISION

Bates: **From:** 000121 **To:** 000122
Date: 03/21/2000
Pages: 2
Title POTENTIAL APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS FOR THE CENTRAL WOOD PRESERVING SITE, CFIS #1416
Doc Type: CORRESPONDENCE

Author(s):

Name: PERRY, WILLIAM N
Organization: LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY
JobTitle: ENVIRONMENTAL SCIENTIST 3
Department(s)
REMEDIATION SERVICES DIVISION

Recipient(s):

Name: BROYLES, RAGAN
Organization: U S EPA
JobTitle: ACTING CHIEF
Department(s)
REGION 6
LOUISIANA/NEW MEXICO BRANCH

ADMINISTRATIVE RECORD INDEX

FILE 11/27/2000

REMEDIAL

002217

Site Name: CENTRAL WOOD PRESERVING COMPANY
Cerclis: LAD008187940
Ouid: N/A
Ssid: (067E) - CENTRAL WOOD PRESERVING COMPANY
Rec Type (Desc.): N/A

Bates: From: 000123 To: 000335
Date: 09/01/2000
Pages: 213
Title VERSION 1.2, REMEDIAL INVESTIGATION REPORT, VOLUME 1
Doc Type: REPORT/STUDY

Author(s):
Name: N/A,
Organization: CH2M HILL INC
JobTitle: N/A

Recipient(s):
Name: N/A,
Organization: U S EPA
JobTitle: N/A
Department(s)
REGION 6
Location(s)
SITE FILES

Bates: From: 000336 To: 000740
Date: 09/01/2000
Pages: 405
Title VERSION 1.2, REMEDIAL INVESTIGATION REPORT, VOLUME 2, APPENDICES
Doc Type: REPORT/STUDY

Author(s):
Name: N/A,
Organization: CH2M HILL INC
JobTitle: N/A

Recipient(s):
Name: N/A,
Organization: U S EPA
JobTitle: N/A
Department(s)
REGION 6
Location(s)
SITE FILES

ADMINISTRATIVE RECORD INDEX

FILE 11/27/2000

REMEDIAL

002218

Site Name: CENTRAL WOOD PRESERVING COMPANY
Cerclis: LAD008187940
Ouid: N/A
Ssid: (067E) - CENTRAL WOOD PRESERVING COMPANY
Rec Type (Desc.): N/A

Bates: From: 000741 To: 001157
Date: 09/08/2000
Pages: 417
Title BASELINE HUMAN HEALTH RISK ASSESSMENT CENTRAL WOOD PRESERVING COMPANY. (REVISED NOVEMBER 9, 2000).
Doc Type: REPORT/STUDY

Author(s):
Name: N/A,
Organization: CH2M HILL INC
JobTitle: N/A

Recipient(s):
Name: BENNETT, STACEY
Organization: U S EPA
JobTitle: N/A
Department(s)
REGION 6

Bates: From: 001158 To: 001405
Date: 09/08/2000
Pages: 248
Title BASELINE HUMAN HEALTH RISK ASSESSMENT, ADDENDUM 1
Doc Type: REPORT/STUDY

Author(s):
Name: N/A,
Organization: CH2M HILL INC
JobTitle: N/A

Recipient(s):
Name: BENNETT, STACEY
Organization: U S EPA
JobTitle: REMEDIAL PROJECT MANAGER
Department(s)
REGION 6

ADMINISTRATIVE RECORD INDEX

FILE 11/27/2000

REMEDIAL

002219

Site Name: CENTRAL WOOD PRESERVING COMPANY
Cerclis: LAD008187940
Ouid: N/A
Ssid: (067E) - CENTRAL WOOD PRESERVING COMPANY
Rec Type (Desc.): N/A

Bates: From: 001406 To: 001711
Date: 09/08/2000
Pages: 306
Title BASELINE ECOLOGICAL RISK ASSESSMENT CENTRAL WOOD PRESERVING COMPANY SITE. (REVISED NOVEMBER 9, 2000)
Doc Type: REPORT/STUDY

Author(s):

Name: N/A,
Organization: CH2M HILL INC
JobTitle: N/A

Recipient(s):

Name: BENNETT, STACEY
Organization: U S EPA
JobTitle: REMEDIAL PROJECT MANAGER
Department(s)
REGION 6

Bates: 001712
Date: 10/23/2000
Pages: 1
Title RECORD OF COMMUNICATION REGARDING PROPOSED PLAN FOR CENTRAL WOOD AND THERMAL DESORPTION AS THE PREFERRED ALTERNATIVE
Doc Type: RECORD OF COMMUNICATION

Author(s):

Name: BENNETT, STACEY
Organization: U S EPA
JobTitle: REMEDIAL PROJECT MANAGER
Department(s)
REGION 6

Recipient(s):

Name: N/A,
Organization: U S EPA
JobTitle: N/A
Department(s)
REGION 6
Location(s)
SITE FILES

ADMINISTRATIVE RECORD INDEX

FILE 11/27/2000

REMEDIAL

002220

Site Name: CENTRAL WOOD PRESERVING COMPANY
Cerclis: LAD008187940
Ouid: N/A
Ssid: (067E) - CENTRAL WOOD PRESERVING COMPANY
Rec Type (Desc.): N/A

Bates: From: 001713 To: 001908
Date: 11/01/2000
Pages: 196
Title VERSION 1.3, FEASIBILITY STUDY REPORT CENTRAL WOOD PRESERVING COMPANY, EAST FELICIANA PARISH, LOUISIANA
Doc Type: REPORT/STUDY

Author(s):

Name: N/A,
Organization: CH2M HILL INC
JobTitle: N/A

Recipient(s):

Name: N/A,
Organization: U S EPA
JobTitle: N/A
Department(s)
REGION 6
Location(s)
SITE FILES

Bates: 001909
Date: 11/02/2000
Pages: 1
Title LETTER CONVEYING EAST FELICIANA'S CITIZEN SUPPORT OF REMEDY THAT REMOVES CONTAMINATION FROM THE CENTRAL WOOD PRESERVING SITE.
Doc Type: CORRESPONDENCE

Author(s):

Name: JONES, ANN R
Organization: EAST FELICIANA PARISH
JobTitle: POLICE JUROR AND PROJECT DIRECTOR
Location(s)
CLINTON, LOUISIANA

Recipient(s):

Name: KNUDSON, MYRON
Organization: U S EPA
JobTitle: DIRECTOR
Department(s)
REGION 6
SUPERFUND DIVISION

ADMINISTRATIVE RECORD INDEX

FILE 11/27/2000

REMEDIAL

002221

Site Name: CENTRAL WOOD PRESERVING COMPANY
Cerclis: LAD008187940
Ouid: N/A
Ssid: (067E) - CENTRAL WOOD PRESERVING COMPANY
Rec Type (Desc.): N/A

Bates: 001910
Date: 11/20/2000
Pages: 1
Title MEMORANDUM PROVIDES RECOMMENDATION CONCERNING REMEDIAL ACTIVITIES IN THE WETLAND AREA ALONG UNNAMED CREEK.
Doc Type: MEMORANDUM

Author(s):

Name: RAUSCHER, PH.D., JON D
Organization: U S EPA
JobTitle: TOXICOLOGIST
Department(s)
REGION 6

Recipient(s):

Name: BENNETT, STACEY
Organization: U S EPA
JobTitle: REMEDIAL PROJECT MANAGER
Department(s)
REGION 6

ADMINISTRATIVE RECORD INDEX

FILE 11/27/2000

REMEDIAL

002222

Site Name: CENTRAL WOOD PRESERVING COMPANY
Cerclis: LAD008187940
Ouid: N/A
Ssid: (067E) - CENTRAL WOOD PRESERVING COMPANY
Rec Type (Desc.): N/A

Bates: From: 001911 To: 001925
Date: 11/20/2000
Pages: 15
Title PROPOSED PLAN FOR CENTRAL WOOD PRESERVING COMPANY
Doc Type: PROPOSAL

Author(s):

Name: BENNETT, STACEY
Organization: U S EPA
JobTitle: REMEDIAL PROJECT MANAGER
Department(s)
REGION 6

Name: QUINONES, EDWIN
Organization: U S EPA
JobTitle: REGIONAL COUNSEL
Department(s)
REGION 6
SUPERFUND DIVISION

Name: GOODFELLOW, BOB
Organization: U S EPA
JobTitle: ACTING CHIEF
Department(s)
REGION 6
LOUISIANA PROGRAM SECTION

Name: STENGER, WREN
Organization: U S EPA
JobTitle: CHIEF
Department(s)
REGION 6
LOUISIANA/NEW MEXICO BRANCH

Name: PEYCKE, MARK
Organization: U S EPA
JobTitle: REGIONAL COUNSEL
Department(s)
REGION 6
SUPERFUND DIVISION

Name: BUZZELL, JUNE
Organization: U S EPA
JobTitle: WRITER EDITOR
Department(s)
REGION 6
SUPERFUND DIVISION

Name: KNUDSON, MYRON
Organization: U S EPA
JobTitle: DIRECTOR
Department(s)
REGION 6
SUPERFUND DIVISION

ADMINISTRATIVE RECORD INDEX

FILE 11/27/2000

REMEDIAL

002223

Site Name: CENTRAL WOOD PRESERVING COMPANY
Cerclis: LAD008187940
Ouid: N/A
Ssid: (067E) - CENTRAL WOOD PRESERVING COMPANY
Rec Type (Desc.): N/A

Recipient(s):

Name: N/A,
Organization: PUBLIC
JobTitle: N/A

Bates: **From:** 001926 **To:** 001938
Date: 11/27/2000
Pages: 13
Title ADMINISTRATIVE RECORD INDEX
Doc Type: OUTLINE

Author(s):

Name: N/A,
Organization: TECHLAW INC.
JobTitle: N/A

Recipient(s):

Name: N/A,
Organization: U S EPA
JobTitle: N/A
Department(s)
REGION 6