FIRST FIVE-YEAR REVIEW REPORT FOR DAVIS TIMBER COMPANY SUPERFUND SITE LAMAR COUNTY, MISSISSIPPI

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Prepared by

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LIST OF ABBREVIATIONS & ACRONYMS

ARAR	Applicable or Relevant and Appropriate Requirement
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
COC	Contaminant of Concern
COPC	Contaminant of Potential Concern
EPA	U.S. Environmental Protection Agency
FYR	Five-Year Review
HQ	Hazard Quotient
IC	Institutional Control
MDEQ	Mississippi Department of Environmental Quality
µg/kg	Microgram per Kilogram
µg/L	Microgram per Liter
mS/cm	Millisiemens per centimeter
NCP	National Contingency Plan
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
O&M	Operation and Maintenance
OSWER	Office of Solid Waste and Emergency Response
OU	Operable Unit
PCP	Pentachlorophenol
PRP	Potentially Responsible Party
RAO	Remedial Action Objective
RCRA	Resource Conservation and Recovery Act
RI	Remedial Investigation
ROD	Record of Decision
RSL	Regional Screening Level
TEQ	Toxic Equivalency Quotient
UCL95	Upper Ninety Fifth Limit
UU/UE	Unlimited Use and Unrestricted Exposure

I. INTRODUCTION

The purpose of a five-year review (FYR) is to evaluate the implementation and performance of a remedy to determine if the remedy is and will continue to be protective of human health and the environment. The methods, findings and conclusions of reviews are documented in FYR reports such as this one. In addition, FYR reports identify issues found during the review, if any, and document recommendations to address them.

The U.S. Environmental Protection Agency (EPA) is preparing this FYR pursuant to the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Section 121, consistent with the National Contingency Plan (NCP) (40 CFR Section 300.430(f)(4)(ii)), and considering EPA policy.

This is the first FYR for the Davis Timber Company Superfund site (the Site). The triggering action for this statutory review is the on-site construction start date of the remedial action. The FYR has been prepared due to the fact that hazardous substances, pollutants or contaminants remain at the Site above levels that allow for unlimited use and unrestricted exposure (UU/UE).

The Site consists of one operable unit (OU), which will be addressed in this FYR. OU1 addresses all contaminated media, which includes soil and sediment, associated with the Site.

The FYR was led by Scott Martin, the EPA. Participants included Kirby Webster and Alison Cattani of Skeo (contract support) and Trey Hess and Phillip Weathersby (Mississippi Department of Environmental Quality, MDEQ). The review began on 3/29/2016.

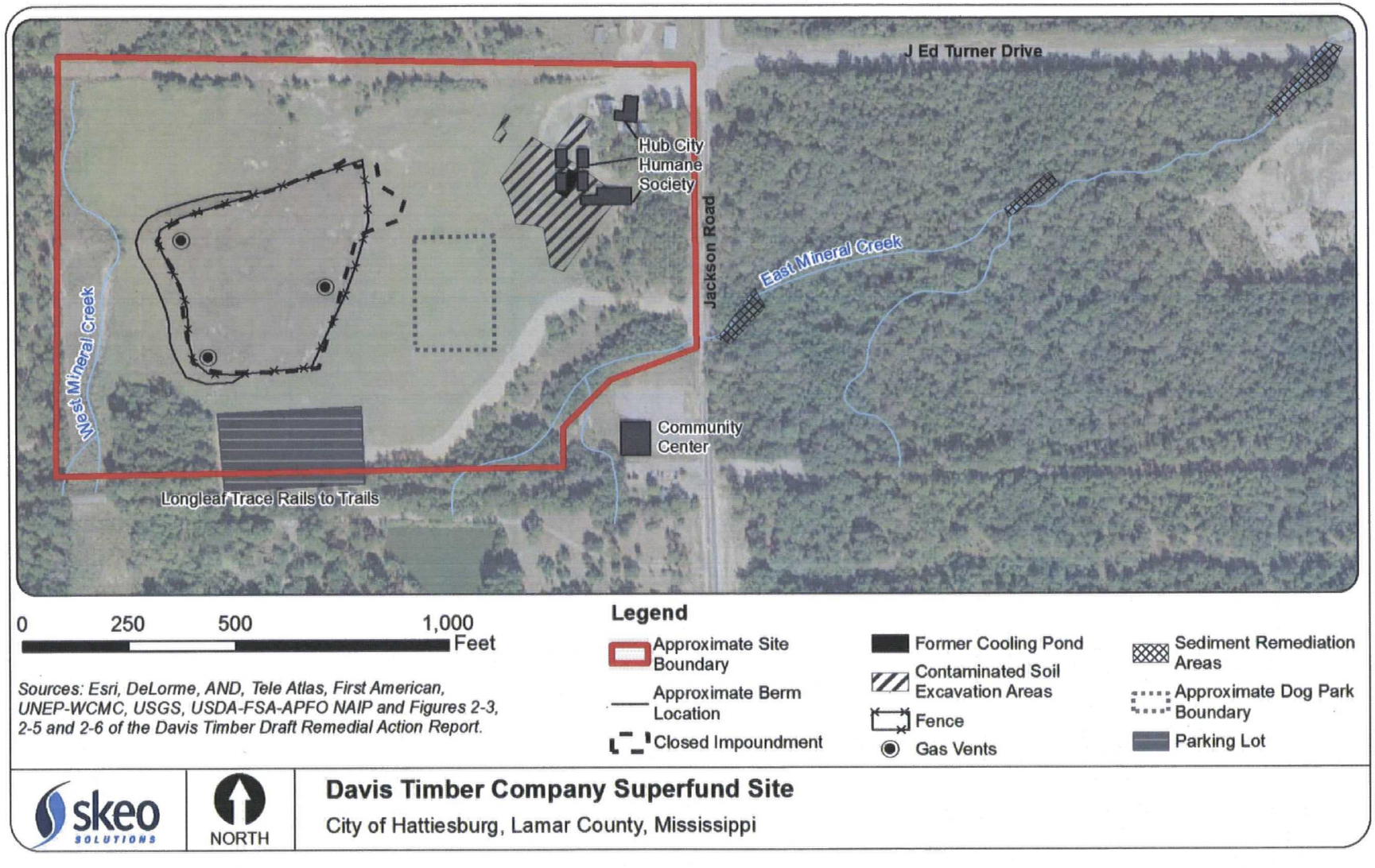
Site Background

The 30-acre Site is located on Jackson Road, about 6 miles northwest of Hattiesburg, Lamar County, Mississippi (Figure C-1 in Appendix C). The Davis Timber Company produced pentachlorophenol (PCP)-treated pine poles, pilings and timber at the facility from 1972 until 1987. The Site consisted of wood treating facilities, above-ground tanks, a cooling pond and a 2-acre impoundment. Process wastewater containing PCP was discharged to the impoundment. In 1980, the cooling pond was closed, backfilled and capped with approximately 6 to 8 inches of clay. In 1987, MDEQ ordered Davis Timber Company to discontinue treatment operations. Davis Timber Company declared bankruptcy in 1990. The property was then operated by Lamar Industries, which conducted debarking operations. Current site uses consist of a parking area and a fenced dog park (15 acres) as well as the Hub City Humane Society animal shelter (Figure 1). The organization plans to build a shelter for abused horses and to expand their on-site facilities. Plans also include implementing a wide range of community-oriented programs, especially for disadvantaged children and children with disabilities.

The area surrounding the Site is mainly rural. The Site is bounded to the north by a power line (which is also the Forrest County line), to the west by a wetland and West Mineral Creek, to the south by a former railroad track, which is now a walking trail (Longleaf Trace Rails to Trails), and Community Center, and to the east by Jackson Road (Figure 1). The site terrain is hilly with elevation increasing to the northeast corner of the Site. Surface water runoff from the property flows into two intermittent tributaries: East Mineral Creek and West Mineral Creek. These tributaries flow northeast into Country Club Lake, a 66-acre lake located approximately 1.25 miles northeast of the Site. Country Club Lake is a recreational fishery and designated recreation area.

MDEQ conducted a groundwater use assessment in 1990 and updated it in 2005. MDEQ determined that there were no wells utilized for domestic or public supply in the site area with the exception of a public supply well located over a mile southeast of the Site. Groundwater is not present beneath the Site in appreciable quantities. The 2009 Record of Decision (ROD) describes the site geology in more detail.

Figure 1: Detailed Site Map



Disclaimer: This map and any boundary lines within the map are approximate and subject to change. The map is not a survey. The map is for informational purposes only regarding the EPA's response actions at the Site.

FIVE-YEAR REVIEW SUMMARY FORM

SITE IDENTIFICATION		
Site Name: Davis Timber Company		
EPA ID: MSD046497012		
Region: 4	**State:** MS	**City/County:** Hattiesburg/Lamar
SITE STATUS		
NPL Status: Final		
Multiple OUs? No	**Has the site achieved construction completion?** Yes	
REVIEW STATUS		
Lead agency: EPA		
Author name: Scott Martin, with additional support provided by Skeo		
Author affiliation: EPA Region 4		
Review period: 3/29/2016 – 11/28/2016		
Date of site inspection: 5/12/2016		
Type of review: Statutory		
Review number: 1		
Triggering action date: 11/28/2011		
Due date *(five years after triggering action date)*: 11/28/2016		

II. RESPONSE ACTION SUMMARY

Basis for Taking Action

The Site has been the subject of numerous previous investigations as described in the 2009 ROD. Between 1974 and 1987, the Mississippi Bureau of Pollution Control documented six fish kills in Country Club Estates Lake. Several of the fish kills were attributed to releases of PCP and dioxins from the Site. In 1989, MDEQ issued an advisory against both commercial fishing and fish consumption in Country Club Estates Lake due to high levels of dioxin compounds in fish tissue. MDEQ conducted an expanded site investigation in February 1995 and detected concentrations of dioxins and furans in sediment samples from the Country Club Estates Lake, West Mineral Creek and East Mineral Creek. PCP was detected in sediment samples from West Mineral Creek downgradient of the Site.

The EPA conducted the remedial investigation (RI) between May 2000 and September 2001. The RI results indicated the main contaminants of potential concern (COPCs) are dioxins and furans, PCP, arsenic and iron. Arsenic and iron were identified as COPCs based on human health and residential use of the Site; however, the EPA determined the likely future land use would be recreational. Therefore, arsenic and iron were not considered contaminants of concern (COCs). As a result, the ROD limited COCs to PCP and dioxins/furans (Table 1). The EPA added the Site to the Superfund program's National Priorities List (NPL) on July 27, 2000.

Table 1: COCs by Media

COC	Receptors	Media
PCP	Human and Ecological	Soil
	Ecological	Sediment
Dioxin and furans	Human	Soil
	Ecological	Sediment
	Human	Surface Water

Response Actions

The Site's ROD, signed on September 24, 2009, identified Remedial Action Objectives (RAOs) for the Site as follows:

- Reduce or eliminate human exposure to contaminated surface and subsurface soil.
- Reduce human exposure to contaminated surface water.
- Reduce exposure of ecological receptors to contaminated surface soil and sediment.

The final remedy identified in the 2009 ROD included:

- Extraction and treatment of impoundment liquid to remove dissolved contamination and discharge clean water into West Mineral Creek.
- Relocation of a 500- to 1,000-foot portion of West Mineral Creek (located immediately adjacent to the impoundment area) approximately 200 feet west of its current location.
- Construction of an earthen retaining wall or berm structure along the western boundary of the impoundment area between it and the relocated portion of West Mineral Creek.
- Excavation and transportation of contaminated soil into the impoundment area.
- Construction of a cap over the impoundment area.
- Backfilling of excavated and dredged locations with clean borrow material.
- Implementation of institutional controls to limit soil excavation activities below surface soils and prohibit residential use of the Site.
- Grading and preparation of the Site for stormwater drainage control.
- Establishment and implementation of a long-term monitoring program to assess effectiveness of the remedial action.
- Demolition of existing structures.

Figure 1 depicts the impoundment and excavated areas of the Site. Table 2 provides the cleanup levels for the Site. The remedial design delineated contamination in surface soil based on ecological and human health cleanup goals for PCP and a human health cleanup goal for dioxin toxic equivalency quotient (TEQ). Additional delineation for dioxin TEQ was conducted prior to the remedial action. Post-excavation subsurface samples were analyzed for PCP and dioxins and furans and compared to the dioxin TEQ cleanup goal for subsurface soil. Pre-excavation sediment samples were compared to the sediment cleanup goals for PCP and dioxin TEQ. Post-excavation samples were collected and results are discussed in Section IV.

impoundment. After achieving both of these objectives a rip-rap channel lining was added to provide for future erosion control.

Impoundment Berm Construction
The ROD objectives for the impoundment berm were to prevent leaching of contamination from the closed impoundment to West Mineral Creek, to provide stability for the impoundment material and to provide for a secure footing for the impoundment cap. The EPA expects the berm to achieve those objectives for the long term by providing a barrier of compacted, low permeability clay keyed into the underlying Hattiesburg Formation clay. The performance standard specified in the remedial design for the in-place permeability of the berm was a hydraulic conductivity of less than 1×10^{-7} centimeters per second; the constructed berm achieved that standard.

Green Remediation Measures
The remedial action construction incorporated green remediation measures through reuse, repurposing and recycling of materials and onboard design optimization measures, including:

- Recycling of 325,200 pounds of steel recovered during demolition of site structures.
- Repurposing clean concrete slab material into 3,000 cubic yards of rip-rap for erosion protection in the re-aligned reach of West Mineral Creek.
- Reuse of trees and shrubs collected from site clearing and grubbing for 2,000 cubic yards of mulch.
- Optimization of the re-seeding design to incorporate drought tolerant indigenous species and soil amendments, reducing the watering requirement by 30 to 35 percent.
- Reuse of treated impoundment water for irrigation of re-seeded areas.

Institutional Controls (ICs)
The selected remedy included institutional controls to control and limit activities on site. The objectives of the institutional controls for the Site included preserving the integrity of the capped impoundment area and all components of the engineered containment system and restricting future residential or agricultural uses on the impoundment (Table 3). The environmental covenant also restricts residential use for the entire Site. The site parcel, which is the only parcel required to have institutional controls, is shown on Figure C-2.

Table 3: Summary of Implemented ICs

Media, Engineered Controls and Areas That Do Not Support UU/UE Based on Current Conditions	ICs Needed	ICs Called for in the Decision Documents	Impacted Parcel(s)	IC Objective	Title of IC Instrument Implemented and Date (or Planned)
Soil	Yes	Yes	Entire Property	No excavation of any kind before meeting notification requirements of Mississippi's One-Call law and land shall not be used for residential purposes.	Environmental Covenant

Table 2: Cleanup Levels

COC	Media	Potentially Impacted Receptor	ROD Cleanup Level
PCP	Surface Soil	Ecological	13,000 µg/kg[a]
		Human	23,800 µg/kg[b]
	Sediment	Ecological	7,600 µg/kg[a]
Dioxin TEQ[e]	Surface Soil	Human	1 µg/kg[c]
	Subsurface Soil	Human	5 µg/kg[c]
	Sediment	Ecological	1.9 µg/kg[a]
	Surface Water	Human	1×10^{-6} µg/L[d]

Notes:
µg/kg = micrograms per kilogram
a. Site-specific, based on ecological risk assessment
b. MDEQ Regulation HW-2, Subpart II, Appendix A (Tier 1 Target Remediation Goal Table)
c. Approach for Addressing Dioxin in Soil at CERCLA and RCRA [Resource Conservation and Recovery Act] Sites, U.S. EPA, Office of Solid Waste and Emergency Response (OSWER) Directive 9200.4-26 (1998)
d. MDEQ Regulation WPC-2
e. 2,3,7,8-tetrachlorodibenzo-*p*-dioxin TEQ

Status of Implementation

Remedial action activities, which began in October 2011 and reached completion in September 2012, included:

- Demolition of all on-site structures and concrete slabs.
- Extraction, treatment and discharge of about 539,000 gallons of contaminated water from the closed impoundment.
- Relocation of West Mineral Creek 160 feet west of its former location along the western site boundary.
- Construction of low permeability cutoff trench and berm along the western perimeter of the closed impoundment.
- Excavation of about 3,060 cubic yards of contaminated surface soil and placing it in the closed impoundment area.
- Excavation of 101 cubic yards of contaminated sediment from three sections of East Mineral Creek and placing it in the closed impoundment.
- Construction of an engineered cap over the closed impoundment to create an on-site containment cell.
- Restoration of the Site including grading for optimal stormwater runoff control and establishing vegetative cover.

Impoundment Cap Construction

The objectives established for the impoundment cap were to cover and contain contaminated solid media (both previously existing and media disposed of in the impoundment area during the remedial action), to minimize stormwater infiltration, to divert stormwater runoff away from contaminant source material, and to minimize further migration of contaminated media. The cap is expected to meet those objectives by providing multiple vertical layers with decreasing hydraulic conductivity from top to bottom to prevent intrusion into the waste layer. The integrity of the cap must be preserved in the future through regular maintenance and institutional controls.

West Mineral Creek Relocation

According to the 2009 ROD, the objectives of relocating West Mineral Creek were to reestablish uncontaminated upland stream habitat and provide space for construction of the berm along the western boundary of the closed

Media, Engineered Controls and Areas That Do Not Support UU/UE Based on Current Conditions	ICs Needed	ICs Called for in the Decision Documents	Impacted Parcel(s)	IC Objective	Title of IC Instrument Implemented and Date (or Planned)
			Impoundment	No excavation or subsurface land disturbance over or near the containment cell and no interference with or disturbance of the engineered cover. Area over the containment cell should not be used for agricultural or residential use.	Environmental Covenant

Systems Operations/Operation and Maintenance

Operation and Maintenance (O&M) procedures are provided as an attachment to the Environmental Covenant. Mowing is conducted by the Hub City Humane Society. Semi-annual inspections are conducted to ensure the impoundment cap and berm retain their integrity and ensure stormwater and sediment controls, the West Mineral Creek channel and revegetated areas operate as intended.

III. PROGRESS SINCE THE LAST REVIEW

This is the first FYR for the Site.

IV. FIVE-YEAR REVIEW PROCESS

Community Notification, Involvement & Site Interviews

A public notice was made available by publication of a press release in the *Hattiesburg American*, on 10/16/2016, stating that there was a FYR and inviting the public to submit any comments to the EPA. The results of the review and the report will be made available at the Site's information repository, located at Oak Grove Public Library, located at 4958 Old Highway 11, Hattiesburg, Mississippi.

During the FYR process, interviews were conducted with representatives from MDEQ and the Hub City Humane Society to document any perceived problems or successes with the remedy that has been implemented to date. The results of these interviews are summarized below and the interviews are included in Appendix I.

Trey Hess from MDEQ indicated that the remedy performance is satisfactory and the approach to reuse at the Site is innovative. He is unaware of any complaints regarding site-related environmental issues or remedial activities from residents in the past five years. He recommends the next FYR should be conducted by MDEQ staff through a FYR Cooperative Agreement. Phillip Weathersby from MDEQ indicated the remedy performance was successful and functioning including O&M and reuse. He is unaware of any issues or complaints regarding the Site. He suggested that shrubbery around the cap fence should be controlled.

The director of Hub City Humane Society indicated she has a positive impression of the Site and has reported no problems with vandalism or trespassing. She feels well informed of site activities.

Data Review

During the last five years, data collected included impoundment water extraction and treatment and post-excavation soil and sediment sampling. The results of these sampling activities are included below.

Impoundment Water Extraction and Treatment

The water extraction and treatment system removed and treated 539,454 gallons of contaminated water from the closed impoundment. Approximately 77 percent of the water was removed from the impoundment. The remedial design established performance standards for the treatment system discharge to West Mineral Creek as the Mississippi Water Quality Criteria for Intrastate, Interstate and Coastal Waters. These standards comply with the requirements of a Mississippi National Pollutant Discharge Elimination System (NPDES) permit. Samples were collected during system startup testing, which was initiated on March 30, 2012, and continued through April 4, 2012. All parameters analyzed met the discharge standards during final startup testing with the exception of bis(2-ethylhexyl)phthalate (3 micrograms per liter (µg/L) versus a discharge standard of 2.2 µg/L), manganese (151 µg/L versus a discharge standard of 100 µg/L), zinc (92 µg/L versus a discharge standard of 65 µg/L), and specific conductance (1.097 millisiemens per centimeter [mS/cm] versus a discharge standard of 1 mS/cm). No additional treatment system effluent samples were collected after the startup testing. Operation of the treatment system continued until May 30, 2012, when diminishing recovery volumes and water levels indicated the practical limit of dewatering had been reached. The water treatment analytical results were provided in the 2013 Remedial Action Report and are included in Appendix G, Table G-1.

Soil

The remedial design specified excavation of contaminated soil from two areas of the Site:

- Within the footprint of the former cooling pond.
- Within the delineated area of surface soil contamination surrounding the former cooling pond and process area.

Two additional areas of contaminated soil were discovered during the remedial action and were also excavated:

- Beneath the former maintenance building.
- Beneath the location of the former treatment cylinder.

No post-excavation sampling was conducted in the additional areas because contamination appeared to be petroleum related and no cleanup levels were established for those constituents. Contaminated soils in these additional soil areas were excavated until the visible extent of contamination was removed and vapor screening indicated total organic vapors of less than 10 parts per million.

Post-excavation subsurface soil samples collected from the base of the cooling pond excavation and the surface soil excavation were analyzed for dioxins, furans and PCP. The 2013 Remedial Action Report summarized the sampling results as follows (see Table G-2 and G-3 in Appendix G for analytical results):

- Three composite subsurface soil samples were collected from the base of the cooling pond excavation and compared to the dioxin TEQ cleanup level of 5 micrograms per kilogram (µg/kg). All three sample results were below the cleanup level, ranging from 0.088 to 0.40 µg/kg.
- Five composite subsurface soil samples and one duplicate sample were collected from the bottom of the surface soil excavation area. All of the sample results were below the dioxin TEQ cleanup goal of 5 µg/kg.

Sediment

Prior to the excavation, the EPA contractor collected additional sediment samples from East Mineral Creek and analyzed for dioxins and furans. All results were below the cleanup goal for dioxin TEQs (Table G-4). Contaminated sediment was excavated from three areas of East Mineral Creek that had shown the highest concentrations during the RI. A total of 101 cubic yards of sediment was removed and disposed of in the closed impoundment area. Three post-excavation sediment samples and one duplicate sample were collected from the creek to confirm that cleanup goals were achieved. Dioxin TEQ results were below the ROD cleanup level of 1.9 µg/kg for all samples, with values ranging from 0.21 to 0.73 µg/kg (Table G-5). Post-excavation sediment samples were not analyzed for PCP. Sediment samples collected during the RI in East Mineral Creek were analyzed for PCP. All samples collected during the RI were below the sediment cleanup goal for PCP except for one (8,200 µg/kg, performance standard 7,600 µg/kg).

Site Inspection

The site inspection took place on 5/12/2016. In attendance were Scott Martin of the EPA, Kristin Sprinkle and Alison Cattani of Skeo, and Trey Hess and Phillip Weathersby of MDEQ. The purpose of the inspection was to assess the protectiveness of the remedy.

Site inspection participants met at the front entrance gate for the Hub City Humane Society. Site participants toured the area around the impoundment. The grass on the impoundment was high and low bushes were observed along the fence line on the eastern side. The Hub City Humane Society representative indicated that mowing and bushwhacking would be conducted soon. Participants observed an invasive plant species, with the common name cogongrass, growing in front of and around the impoundment area. Participants observed erosion along the eastern side of the impoundment, outside the fenced area with evidence of water seepage. Just inside the fence in the same area, there was a patch of unvegetated sand. Participants observed the berm and West Mineral Creek. Participants then observed the new parking area located in the former pollinator garden adjacent to the Long Trace Rail Trail and the newly installed dog park. Next, inspection participants toured the animal shelter. Following inspection of the Site, participants drove to the Community Center and observed another small parking area serving the rail trail.

Skeo staff visited the site information repository, the Oak Grove Public Library, located at 4958 Old Highway 11, Hattiesburg, Mississippi. They noted that the repository only contained the Administrative Record up to and including the ROD (October 2009), but no other site documents.

The completed Site Inspection Checklist is included in Appendix D and the site photographs are in Appendix F.

V. TECHNICAL ASSESSMENT

QUESTION A: Is the remedy functioning as intended by the decision documents?

Question A Summary:

A review of the relevant site documents (Appendix A), Applicable, Relevant and Appropriate Requirements (ARARs) and site inspection indicates that the remedy is functioning as specified in the ROD. The source remedy required excavation of contaminated soil and sediment and disposal into a capped impoundment constructed with an earthen berm to prevent leaching of contaminants into West Mineral Creek. According to available documentation, soil and sediment cleanup goals have been met for analyzed contaminants. Sediment samples were not analyzed for PCP; however, the pre-remediation analytical data were below the cleanup goal with the exception of one sample collected in 2001. Pre- and post-excavation sediment sampling indicated that the dioxin TEQ cleanup goal was met.

The Environmental Covenant includes the O&M Plan for the Site as Appendix A. Inspections are conducted on a semi-annual basis and consist of cap and berm inspections to ensure the impoundment remains intact and functional.

The ROD requires institutional controls to prevent disturbance of the cap area and residential land use for the Site. The Environmental Covenant referenced but did not contain an Exhibit A map. The Environmental Covenant should be updated with the map. Fencing around the impoundment area prevents vehicular trespassing. A fence is also located at the entrance to the Hub City Humane Society off of Jackson Road.

During the site inspection, a small area of sparse vegetation was observed inside the fenced impoundment and a corresponding wet, eroded area was located just outside the impoundment fence. There was no exposed cap material and the erosion appeared to be clean surface soil. Maintenance is needed in this area to prevent further erosion.

QUESTION B: Are the exposure assumptions, toxicity data, cleanup levels and remedial action objectives (RAOs) used at the time of the remedy selection still valid?

Question B Summary:
The remedy as implemented has achieved the RAOs by eliminating or reducing human and ecological exposure to contaminated surface soil, subsurface soil and sediment. There have been no changes in site conditions that would suggest the presence of new exposure pathways. Some standards and toxicity factors have changed since the EPA issued the ROD. The surface water ARAR for dioxin TEQ is more stringent, changing from 1×10^{-6} µg/L to 5×10^{-8} µg/L. Since surface water samples have not been collected since the remedial action was implemented, the effect of this change on potential exposure is not known. Post-remedial action surface water samples should be collected and compared to the more stringent ARAR.

EPA's dioxin reassessment has been developed and undergone review for many years, with the participation of scientific experts in EPA and other federal agencies, as well as scientific experts in the private sector and academia. The Agency followed current guidelines and incorporated the latest data and physiological/biochemical research into the reassessment. On February 17, 2012, EPA released the final human health non-cancer dioxin reassessment, publishing an oral non-cancer toxicity value, or reference dose (RfD), of 7×10^{-10} mg/kg-day for 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) in EPA's Integrated Risk Information System (IRIS). The dioxin cancer reassessment will follow thereafter. The dioxin RfD was approved for immediate use at Superfund sites to ensure protection of human health.

The toxicity factor for dioxin has become more stringent. Based on recreational child exposure, the dioxin TEQ surface soil cleanup goal of 1 µg/kg is less stringent than the current noncancer-based Regional Screening Level (RSL) of 0.344 µg/kg; however, the ROD surface soil cleanup goal remains valid because contaminated soil was placed in the impoundment and remaining soil outside the impoundment was below the current RSL. The subsurface cleanup goal for dioxin of 5 µg/kg based on a worker exposure remains valid despite the noncancer-based RSL of 0.72 µg/kg being more stringent. The post-excavation confirmation data demonstrate that the average (0.29 µg/kg) and upper ninety fifth limit on the mean (UCL95) (0.51 µg/kg) are below the industrial-based RSL of 0.72 µg/kg. The ecological cleanup goals for PCP in sediment and surface soil and dioxin TEQ in sediment also remain valid because they are derived based on food-web models that have not changed since the 2009 ROD was issued.

Additional details on ARARs, toxicity analyses and risk assessment are provided in Appendix H.

QUESTION C: Has any other information come to light that could call into question the protectiveness of the remedy?

No other information has come to light that could call into question the protectiveness of the remedy.

VI. ISSUES/RECOMMENDATIONS

Issues and Recommendations Identified in the FYR:
None

OU: 1 (Sitewide)	**Issue Category: Remedy Performance**			
	Issue: None.			
	Recommendation: None.			
Affect Current Protectiveness	**Affect Future Protectiveness**	**Party Responsible**	**Oversight Party**	**Milestone Date**
N/A	N/A	N/A	N/A	N/A

Other Findings

In addition, the following are recommendations that were identified during the FYR but do not affect current and/or future protectiveness:

- The O&M Plan was only located as an attachment to the draft restrictive covenant. The O&M Plan should be a stand-alone document and should clearly indicate who is responsible for ongoing maintenance. In addition, the O&M Plan may need to be updated to reflect completion of the remedy, frequency of monitoring and reporting on the status of the impoundment.
- The filed environmental covenant is difficult to locate. Alternative institutional controls options should be investigated.
- The small area sparse vegetation area observed inside the fenced impoundment and a corresponding wet, eroded area was located just outside the impoundment fence and overgrowth of bushes along the impoundment fence should be addressed.
- Determine if cogongrass poses a risk to the vegetated cap and address accordingly.

VII. PROTECTIVENESS STATEMENT

Sitewide Protectiveness Statement
Protectiveness Determination: Protective
Protectiveness Statement: The remedy at OU1 currently protects human health and the environment because there are no completed exposure pathways; contaminated soil and sediment were excavated and capped, and impoundment water was treated and discharged.

VIII. NEXT REVIEW

The next FYR Report for the Davis Timber Superfund site is required five years from the completion date of this review.

APPENDIX A – REFERENCE LIST

Baseline Human Health Risk Assessment Addendum, Davis Timber Site, Hattiesburg, Lamar County, Mississippi. Prepared by Black and Veatch Special Projects Corp. for the EPA. April 2009.

Feasibility Study of Remedial Alternatives, Davis Timber Site, Hattiesburg, Lamar County, Mississippi. Prepared for EPA Region 4 by Black & Veatch Special Projects Corp. April 2009.

Final Baseline Human Health Risk Assessment, Davis Timber Site, Hattiesburg, Mississippi. Prepared by Black and Veatch Special Projects Corp. for the EPA. May 2006.

Preliminary Close Out Report, Davis Timber Company, Hattiesburg, Lamar County, Mississippi. EPA Region 4. September 2012.

Record of Decision, Davis Timber Site, Hattiesburg, Lamar County, Mississippi. EPA Region 4. September 2009.

Remedial Action Report, Davis Timber Site, Hattiesburg, Lamar County, Mississippi. Prepared for EPA Region 4 by J.M. Waller Associates, Inc. May 2013.

Remedial Investigation Report, Revision 2, Davis Timber Site, Hattiesburg, Lamar County, Mississippi. Prepared for EPA Region 4 by Black and Veatch Special Projects Corp. May 2007.

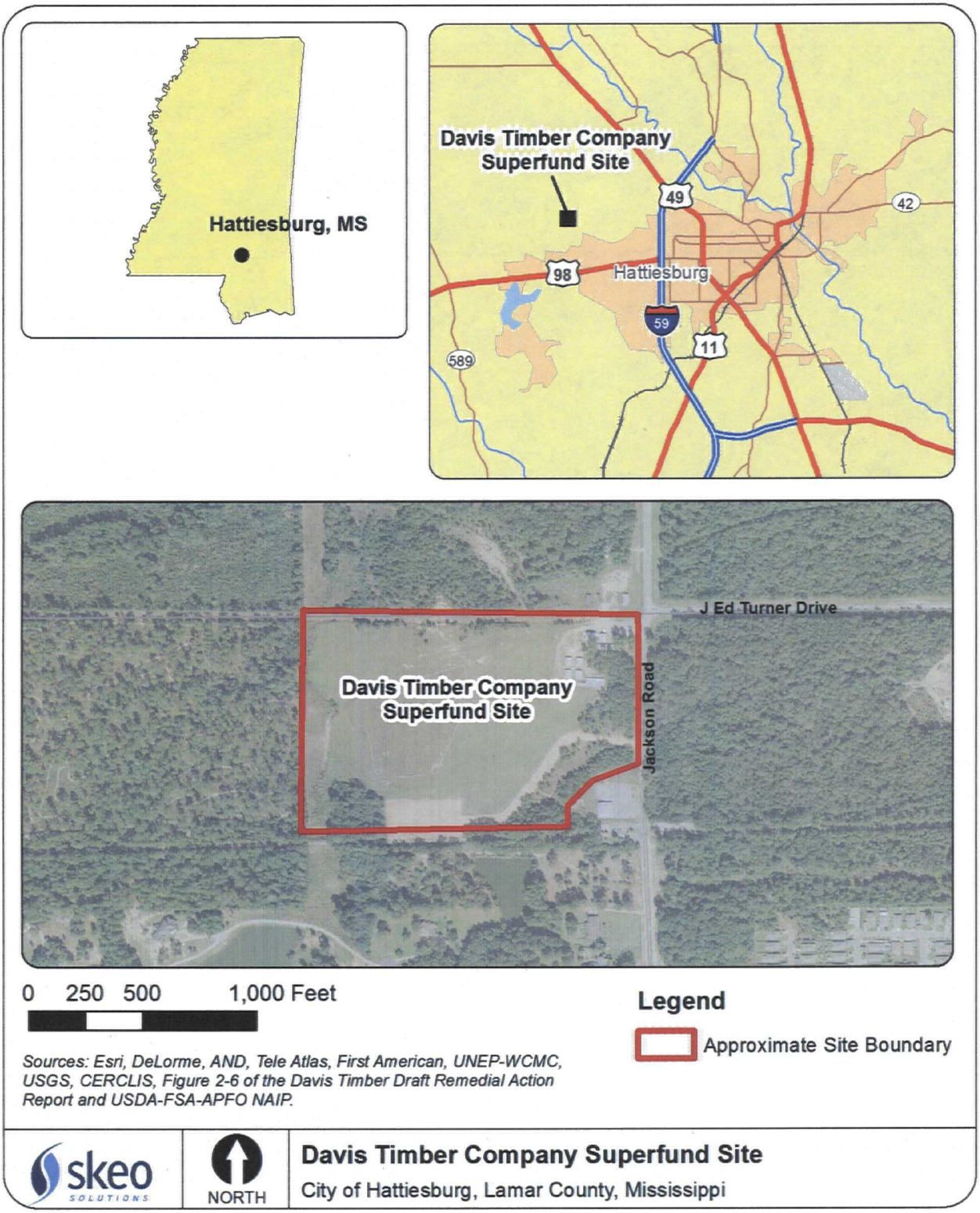
APPENDIX B – SITE CHRONOLOGY

Table B-1: Site Chronology

Event	Date
Initial discovery of contamination	December 16, 1985
MDEQ completed the site inspection	March 31, 1992
MDEQ completed the expanded site inspection	July 1, 1999
The EPA started the RI	September 30, 1999
The EPA listed the Site on the National Priorities List (NPL)	July 27, 2000
The EPA started the feasibility study	December 17, 2004
The EPA completed the RI	May 30, 2006
The EPA started the remedial design	August 24, 2009
The EPA signed the ROD and completed the feasibility study	September 24, 2009
The EPA completed the remedial design	June 7, 2011
The EPA started the remedial action	September 28, 2011
The EPA published the Preliminary Close-Out Report	September 28, 2012
The EPA completed the remedial action	September 23, 2014

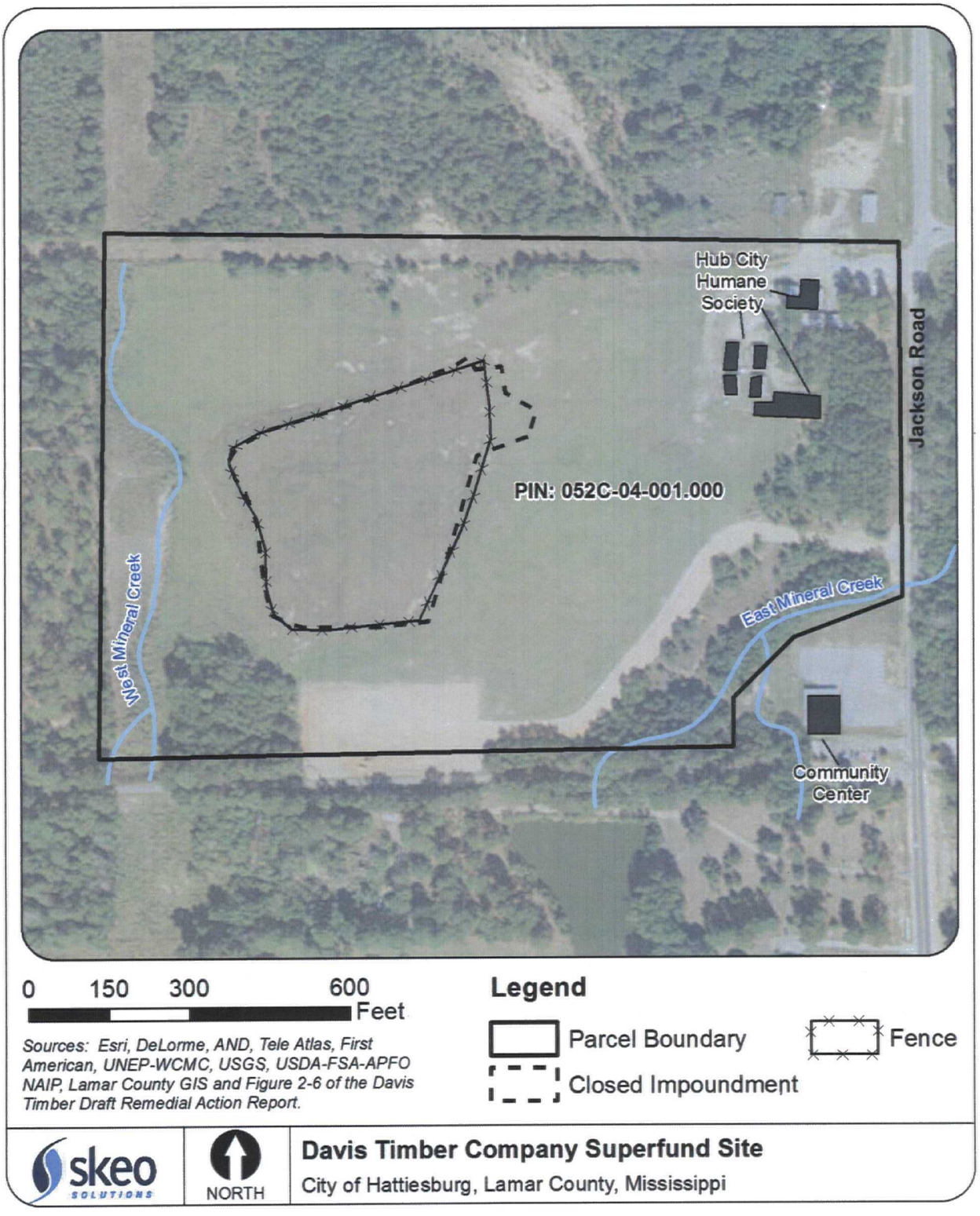
APPENDIX C – SITE MAPS

Figure C-1: Site Vicinity Map



Disclaimer: This map and any boundary lines within the map are approximate and subject to change. The map is not a survey. The map is for informational purposes only regarding the EPA's response actions at the Site.

Figure C-2: Institutional Control Map



Disclaimer: This map and any boundary lines within the map are approximate and subject to change. The map is not a survey. The map is for informational purposes only regarding the EPA's response actions at the Site.

APPENDIX D – SITE INSPECTION CHECKLIST

FIVE-YEAR REVIEW SITE INSPECTION CHECKLIST

I. SITE INFORMATION

Site Name: Davis Timber Company	**Date of Inspection:** May 12, 2016
Location and Region: Hattiesburg, MS Region 4	**EPA ID:** MSD046497012
Agency, Office or Company Leading the Five-Year Review: EPA	**Weather/Temperature:** Partly cloudy/70 degrees F

Remedy Includes: (Check all that apply)

- ☒ Landfill cover/containment
- ☒ Access controls
- ☒ Institutional controls
- ☐ Ground water pump and treatment
- ☒ Surface water collection and treatment
- ☐ Other: _____
- ☐ Monitored natural attenuation
- ☐ Ground water containment
- ☐ Vertical barrier walls

Attachments: ☐ Inspection team roster attached ☐ Site map attached

II. INTERVIEWS (check all that apply)

1. **O&M Site Manager** Phillip Weathersby and Trey Hess (Name) | MDEQ (Title) | 6/6/2016 (Date)
   Interviewed ☐ at site ☐ at office ☒ by email Phone: _____
   Problems, suggestions ☐ Report attached: _____

2. **O&M Staff** _____ (Name) | _____ (Title) | _____ (Date)
   Interviewed ☐ at site ☐ at office ☐ by phone Phone: _____
   Problems/suggestions ☐ Report attached: _____

3. **Local Regulatory Authorities and Response Agencies** (i.e., state and tribal offices, emergency response office, police department, office of public health or environmental health, zoning office, recorder of deeds, or other city and county offices). Fill in all that apply.

   Agency _____
   Contact _____ (Name) | _____ (Title) | _____ (Date) | _____ (Phone No.)
   Problems/suggestions ☐ Report attached: _____

   Agency _____
   Contact _____Name | _____ (Title) | _____ (Date) | _____ (Phone No.)
   Problems/suggestions ☐ Report attached:_____

   Agency _____
   Contact _____ (Name) | _____ (Title) | _____ (Date) | _____ (Phone No.)
   Problems/suggestions ☐ Report attached:_____

   Agency _____
   Contact _____ (Name) | _____ (Title) | _____ (Date) | _____ (Phone No.)
   Problems/suggestions ☐ Report attached: _____

Agency _____
Contact _____ _____ _____ _____
Name Title Date Phone No.
Problems/suggestions ☐ Report attached:_____

4. **Other Interviews** (optional) ☐ Report attached: _____

Hub City Humane Society Director, 6/6/2016

III. ON-SITE DOCUMENTS AND RECORDS VERIFIED (check all that apply)

1. **O&M Documents**

☐ O&M manual	☐ Readily available	☐ Up to date	☒ N/A
☐ As-built drawings	☐ Readily available	☐ Up to date	☒ N/A
☐ Maintenance logs	☐ Readily available	☐ Up to date	☒ N/A

Remarks: _____

2. **Site-Specific Health and Safety Plan**	☐ Readily available	☐ Up to date	☒ N/A
☐ Contingency plan/emergency response plan	☐ Readily available	☐ Up to date	☒ N/A

Remarks: _____

3. **O&M and OSHA Training Records**	☐ Readily available	☐ Up to date	☒ N/A

Remarks: _____

4. **Permits and Service Agreements**

☐ Air discharge permit	☐ Readily available	☐ Up to date	☒ N/A
☐ Effluent discharge	☐ Readily available	☐ Up to date	☒ N/A
☐ Waste disposal, POTW	☐ Readily available	☐ Up to date	☒ N/A
☐ Other permits: _____	☐ Readily available	☐ Up to date	☒ N/A

Remarks: _____

5. **Gas Generation Records**	☐ Readily available	☐ Up to date	☒ N/A

Remarks: _____

6. **Settlement Monument Records**	☐ Readily available	☐ Up to date	☒ N/A

Remarks: _____

7. **Ground Water Monitoring Records**	☐ Readily available	☐ Up to date	☒ N/A

Remarks: _____

8. **Leachate Extraction Records**	☐ Readily available	☐ Up to date	☒ N/A

Remarks: _____

9. **Discharge Compliance Records**

☐ Air	☐ Readily available	☐ Up to date	☒ N/A
☐ Water (effluent)	☐ Readily available	☐ Up to date	☒ N/A

Remarks: _____

10. **Daily Access/Security Logs** ☐ Readily available ☐ Up to date ☒ N/A

Remarks: _____

IV. O&M COSTS

1. **O&M Organization**

☒ State in-house ☐ Contractor for state

☐ PRP in-house ☐ Contractor for PRP

☐ Federal facility in-house ☐ Contractor for Federal facility

☐ _____

2. **O&M Cost Records**

☐ Readily available ☐ Up to date

☐ Funding mechanism/agreement in place ☐ Unavailable

Original O&M cost estimate: _____ ☐ Breakdown attached

Total annual cost by year for review period if available

From: _____ Date	To: _____ Date	_____ Total cost	☐ Breakdown attached
From: _____ Date	To: _____ Date	_____ Total cost	☐ Breakdown attached
From: _____ Date	To: _____ Date	_____ Total cost	☐ Breakdown attached
From: _____ Date	To: _____ Date	_____ Total cost	☐ Breakdown attached
From: _____ Date	To: _____ Date	_____ Total cost	☐ Breakdown attached

3. **Unanticipated or Unusually High O&M Costs during Review Period**

Describe costs and reasons: _____

V. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

A. Fencing

1. **Fencing Damaged** ☐ Location shown on site map ☒ Gates secured ☐ N/A

Remarks: _____

B. Other Access Restrictions

1. **Signs and Other Security Measures** ☐ Location shown on site map ☒ N/A

Remarks: _____

C. Institutional Controls (ICs)

1. **Implementation and Enforcement**

Site conditions imply ICs not properly implemented ☐ Yes ☒ No ☐ N/A

Site conditions imply ICs not being fully enforced ☐ Yes ☒ No ☐ N/A

Type of monitoring (e.g., self-reporting, drive by): _____

Frequency:

Responsible party/agency: _____

Contact _____ _____ _____ _____

Name Title Date Phone no.

Reporting is up to date ☐ Yes ☐ No ☒ N/A

Reports are verified by the lead agency ☐ Yes ☐ No ☒ N/A

Specific requirements in deed or decision documents have been met ☐ Yes ☒ No ☐ N/A

Violations have been reported ☐ Yes ☐ No ☒ N/A

Other problems or suggestions: ☐ Report attached

2. **Adequacy** ☒ ICs are adequate ☐ ICs are inadequate ☐ N/A

Remarks:

D. General

1. **Vandalism/Trespassing** ☐ Location shown on site map ☒ No vandalism evident

Remarks: _____

2. **Land Use Changes On Site** ☐ N/A

Remarks: Dog park and parking lot have been constructed in the last six months.

3. **Land Use Changes Off Site** ☒ N/A

Remarks: _____

VI. GENERAL SITE CONDITIONS

A. Roads ☒ Applicable ☐ N/A

1. **Roads Damaged** ☐ Location shown on site map ☒ Roads adequate ☐ N/A

Remarks: _____

B. Other Site Conditions

Remarks: _____

VII. LANDFILL COVERS ☒ Applicable ☐ N/A

A. Landfill Surface

1. **Settlement** (low spots) ☐ Location shown on site map ☒ Settlement not evident

Arial extent: _____ Depth: _____

Remarks: _____

2. **Cracks** ☐ Location shown on site map ☒ Cracking not evident

Lengths: _____ Widths: _____ Depths: _____

Remarks: _____

3.	**Erosion**	☒ Location shown on site map	☐ Erosion not evident
	Arial extent: _____		Depth:
	Remarks: Very small area, eastern side of impoundment		
4.	**Holes**	☐ Location shown on site map	☒ Holes not evident
	Arial extent: _____		Depth: _____
	Remarks: _____		
5.	**Vegetative Cover**	☒ Grass	☒ Cover properly established
	☐ No signs of stress	☐ Trees/shrubs (indicate size and locations on a diagram)	
	Remarks: Invasive species, cogongrass, is present on the cap.		
6.	**Alternative Cover** (e.g., armored rock, concrete)		☒ N/A
	Remarks: _____		
7.	**Bulges**	☐ Location shown on site map	☒ Bulges not evident
	Arial extent: _____		Height: _____
	Remarks: _____		
8.	**Wet Areas/Water Damage**	☐ Wet areas/water damage not evident	
	☒ Wet areas	☐ Location shown on site map	Arial extent: _____
	☐ Ponding	☐ Location shown on site map	Arial extent: _____
	☐ Seeps	☐ Location shown on site map	Arial extent: _____
	☐ Soft subgrade	☐ Location shown on site map	Arial extent: _____
	Remarks: _____		
9.	**Slope Instability**	☐ Slides	☐ Location shown on site map
	☒ No evidence of slope instability		
	Arial extent: _____		
	Remarks: _____		
B. Benches		☒ Applicable	☐ N/A
	(Horizontally constructed mounds of earth placed across a steep landfill side slope to interrupt the slope in order to slow down the velocity of surface runoff and intercept and convey the runoff to a lined channel.)		
1.	**Flows Bypass Bench**	☐ Location shown on site map	☒ N/A or okay
	Remarks: _____		
2.	**Bench Breached**	☐ Location shown on site map	☒ N/A or okay
	Remarks: _____		
3.	**Bench Overtopped**	☐ Location shown on site map	☒ N/A or okay
	Remarks: _____		
C. Letdown Channels		☐ Applicable	☒ N/A
	(Channel lined with erosion control mats, riprap, grout bags or gabions that descend down the steep side slope of the cover and will allow the runoff water collected by the benches to move off of the landfill		

cover without creating erosion gullies.)

1. **Settlement** (Low spots) ☐ Location shown on site map ☐ No evidence of settlement
   Arial extent: _____ Depth: _____
   Remarks: _____

2. **Material Degradation** ☐ Location shown on site map ☐ No evidence of degradation
   Material type:_____ Arial extent: _____
   Remarks: _____

3. **Erosion** ☐ Location shown on site map ☐ No evidence of erosion
   Arial extent: _____ Depth: _____
   Remarks: _____

4. **Undercutting** ☐ Location shown on site map ☐ No evidence of undercutting
   Arial extent: _____ Depth: _____
   Remarks: _____

5. **Obstructions** Type: _____ ☐ No obstructions
   ☐ Location shown on site map Arial extent: _____
   Size: _____
   Remarks: _____

6. **Excessive Vegetative Growth** Type: _____
   ☐ No evidence of excessive growth
   ☐ Vegetation in channels does not obstruct flow
   ☐ Location shown on site map Arial extent: _____
   Remarks: _____

D. Cover Penetrations ☒ Applicable ☐ N/A

1. **Gas Vents** ☐ Active ☒ Passive
   ☐ Properly secured/locked ☐ Functioning ☐ Routinely sampled ☒ Good condition
   ☐ Evidence of leakage at penetration ☐ Needs maintenance ☐ N/A
   Remarks: _____

2. **Gas Monitoring Probes**
   ☐ Properly secured/locked ☐ Functioning ☐ Routinely sampled ☐ Good condition
   ☐ Evidence of leakage at penetration ☐ Needs maintenance ☒ N/A
   Remarks: _____

3. **Monitoring Wells** (within surface area of landfill)
   ☐ Properly secured/locked ☐ Functioning ☐ Routinely sampled ☐ Good condition
   ☐ Evidence of leakage at penetration ☐ Needs maintenance ☒ N/A
   Remarks: _____

4. **Extraction Wells Leachate**

☐ Properly secured/locked ☐ Functioning ☐ Routinely sampled ☐ Good condition

☐ Evidence of leakage at penetration ☐ Needs maintenance ☒ N/A

Remarks: _____

5. **Settlement Monuments** ☐ Located ☐ Routinely surveyed ☒ N/A

Remarks: _____

E. Gas Collection and Treatment ☐ Applicable ☒ N/A

1. **Gas Treatment Facilities**

☐ Flaring ☐ Thermal destruction ☐ Collection for reuse

☐ Good condition ☐ Needs maintenance

Remarks: _____

2. **Gas Collection Wells, Manifolds and Piping**

☐ Good condition ☐ Needs maintenance

Remarks: _____

3. **Gas Monitoring Facilities** (e.g., gas monitoring of adjacent homes or buildings)

☐ Good condition ☐ Needs maintenance ☐ N/A

Remarks: _____

F. Cover Drainage Layer ☐ Applicable ☒ N/A

1. **Outlet Pipes Inspected** ☐ Functioning ☐ N/A

Remarks: _____

2. **Outlet Rock Inspected** ☐ Functioning ☐ N/A

Remarks: _____

G. Detention/Sedimentation Ponds ☐ Applicable ☒ N/A

1. **Siltation** Area extent: _____ Depth: _____ ☐ N/A

☐ Siltation not evident

Remarks: _____

2. **Erosion** Area extent: _____ Depth: _____

☐ Erosion not evident

Remarks: _____

3. **Outlet Works** ☐ Functioning ☐ N/A

Remarks: _____

4. **Dam** ☐ Functioning ☐ N/A

Remarks: _____

H. Retaining Walls ☐ Applicable ☒ N/A

1. **Deformations** ☐ Location shown on site map ☐ Deformation not evident

Horizontal displacement: _____ Vertical displacement: _____

Rotational displacement: _____

Remarks: _____

2. **Degradation** ☐ Location shown on site map ☐ Degradation not evident

Remarks: _____

I. Perimeter Ditches/Off-Site Discharge ☒ Applicable ☐ N/A

1. **Siltation** ☐ Location shown on site map ☒ Siltation not evident

Area extent: _____ Depth: _____

Remarks: _____

2. **Vegetative Growth** ☐ Location shown on site map ☒ N/A

☐ Vegetation does not impede flow

Area extent: _____ Type: _____

Remarks: _____

3. **Erosion** ☐ Location shown on site map ☒ Erosion not evident

Area extent: _____ Depth: _____

Remarks: _____

4. **Discharge Structure** ☐ Functioning ☒ N/A

Remarks: _____

VIII. VERTICAL BARRIER WALLS ☐ Applicable ☒ N/A

1. **Settlement** ☐ Location shown on site map ☐ Settlement not evident

Area extent: _____ Depth: _____

Remarks: _____

2. **Performance Monitoring** Type of monitoring: _____

☐ Performance not monitored

Frequency: _____ ☐ Evidence of breaching

Head differential: _____

Remarks: _____

IX. GROUND WATER/SURFACE WATER REMEDIES ☐ Applicable ☒ N/A

A. Ground Water Extraction Wells, Pumps and Pipelines ☐ Applicable ☐ N/A

1. **Pumps, Wellhead Plumbing and Electrical**

☐ Good condition ☐ All required wells properly operating ☐ Needs maintenance ☐ N/A

Remarks: _____

2. **Extraction System Pipelines, Valves, Valve Boxes and Other Appurtenances**

☐ Good condition ☐ Needs maintenance

Remarks: _____

3. **Spare Parts and Equipment**

☐ Readily available ☐ Good condition ☐ Requires upgrade ☐ Needs to be provided

Remarks: _____

B. Surface Water Collection Structures, Pumps and Pipelines ☐ Applicable ☐ N/A

1. **Collection Structures, Pumps and Electrical**

☐ Good condition ☐ Needs maintenance

Remarks: _____

2. **Surface Water Collection System Pipelines, Valves, Valve Boxes and Other Appurtenances**

☐ Good condition ☐ Needs maintenance

Remarks: _____

3. **Spare Parts and Equipment**

☐ Readily available ☐ Good condition ☐ Requires upgrade ☐ Needs to be provided

Remarks: _____

C. Treatment System ☐ Applicable ☐ N/A

1. **Treatment Train** (check components that apply)

☐ Metals removal ☐ Oil/water separation ☐ Bioremediation

☐ Air stripping ☐ Carbon adsorbers

☐ Filters: _____

☐ Additive (e.g., chelation agent, flocculent): _____

☐ Others: _____

☐ Good condition ☐ Needs maintenance

☐ Sampling ports properly marked and functional

☐ Sampling/maintenance log displayed and up to date

☐ Equipment properly identified

☐ Quantity of ground water treated annually: _____

☐ Quantity of surface water treated annually: _____

Remarks: _____

2. **Electrical Enclosures and Panels** (properly rated and functional)

☐ N/A ☐ Good condition ☐ Needs maintenance

Remarks: _____

3. **Tanks, Vaults, Storage Vessels**

☐ N/A ☐ Good condition ☐ Proper secondary containment ☐ Needs maintenance

Remarks: _____

4. **Discharge Structure and Appurtenances**

☐ N/A ☐ Good condition ☐ Needs maintenance

Remarks: _____

5. **Treatment Building(s)**

☐ N/A ☐ Good condition (esp. roof and doorways) ☐ Needs repair

☐ Chemicals and equipment properly stored

Remarks: _____

6. **Monitoring Wells** (pump and treatment remedy)

☐ Properly secured/locked ☐ Functioning ☐ Routinely sampled ☐ Good condition

☐ All required wells located ☐ Needs maintenance ☐ N/A

Remarks: _____

D. Monitoring Data

1. **Monitoring Data**

☐ Is routinely submitted on time ☐ Is of acceptable quality

2. **Monitoring Data Suggests:**

☐ Ground water plume is effectively contained ☐ Contaminant concentrations are declining

E. Monitored Natural Attenuation

1. **Monitoring Wells** (natural attenuation remedy)

☐ Properly secured/locked ☐ Functioning ☐ Routinely sampled ☐ Good condition

☐ All required wells located ☐ Needs maintenance ☐ N/A

Remarks: _____

X. OTHER REMEDIES

If there are remedies applied at the site and not covered above, attach an inspection sheet describing the physical nature and condition of any facility associated with the remedy. An example would be soil vapor extraction.

XI. OVERALL OBSERVATIONS

A. Implementation of the Remedy

Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is designed to accomplish (e.g., to contain contaminant plume, minimize infiltration and gas emissions).

The remedy is designed to contain waste in a closed impoundment to prevent human and environmental exposure. The remedy is effective and functioning as designed. A seep was observed in a small eroded area on the eastern side of the impoundment. Maintenance should be conducted on this wet area.

B. Adequacy of O&M

Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy.

The O&M Plan is included in the environmental covenant. The O&M Plan should be a stand-alone document and should clearly indicate who is responsible for ongoing maintenance. Bushes were high during the inspection and need to be addressed to prevent disruption of the cap. Maintenance on small eroded area should be conducted and inspected during future cap inspections.

C. Early Indicators of Potential Remedy Problems

Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs that suggest that the protectiveness of the remedy may be compromised in the future.

D. Opportunities for Optimization

Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy.

The O&M Plan may need to be updated to reflect completion of the remedy, frequency of monitoring and reporting on the status of the impoundment.

APPENDIX E – PRESS NOTICE

The U.S. Environmental Protection Agency, Region 4 Announces the First Five-Year Review for The Davis Timber Company Superfund Site, Hattiesburg, Lamar County, Mississippi

Purpose/Objective: EPA is conducting a Five-Year Review of the remedy for the Davis Timber Company Superfund site (the Site) in Hattiesburg, Mississippi. The purpose of the Five-Year Review is to make sure the selected cleanup actions effectively protect human health and the environment.

Site Background: The 30-acre area is located on Jackson Road, about six miles northwest of Hattiesburg. From 1972 until 1987, Davis Timber Company operated a wood-preserving facility on site. Operations included discharging wastewater into a storage pond. Facility activities resulted in the contamination of groundwater, soil and sediment. Several agencies conducted site investigations between 1974 and 1995. These investigations were prompted by fish kills downstream of the facility and pollution of Mineral Creek. Contaminants of concern include pentachlorophenol, dioxin and furans. The EPA placed the Site on the Superfund program's National Priorities List (NPL) in 2000.

Cleanup Actions: The EPA selected the Site's long-term remedy in the Site's 2009 Record of Decision (ROD). It included cleaning up impoundment liquid, soil and sediment contamination, controlling surface water flow, placing institutional controls on the site property and conducting long-term monitoring. The EPA dug up contaminated soil and sediment and placed it in an on-site impoundment area. The EPA capped the impoundment area and backfilled and graded the area to address stormwater drainage. The Agency moved a section of West Mineral Creek located next to the impoundment area. An earthen retaining wall separates the western boundary of the impoundment area and the relocated portion of West Mineral Creek.

Five-Year Review Schedule: The National Contingency Plan requires review of remedial actions that result in any hazardous substances, pollutants or contaminants remaining at the Site above levels that allow for unlimited use and unrestricted exposure every five years to ensure the protection of human health and the environment. The first of the Five-Year Reviews for the Site will be completed by November 2016.

EPA Invites Community Participation in the Five-Year Review Process: EPA is conducting this Five-Year Review to evaluate the effectiveness of the Site's remedy and to ensure that the remedy remains protective of human health and the environment. As part of the Five-Year Review process, EPA staff is available to answer any questions about the Site. Community members who have questions about the Site or the Five-Year Review process, or who would like to participate in a community interview, are asked to contact:

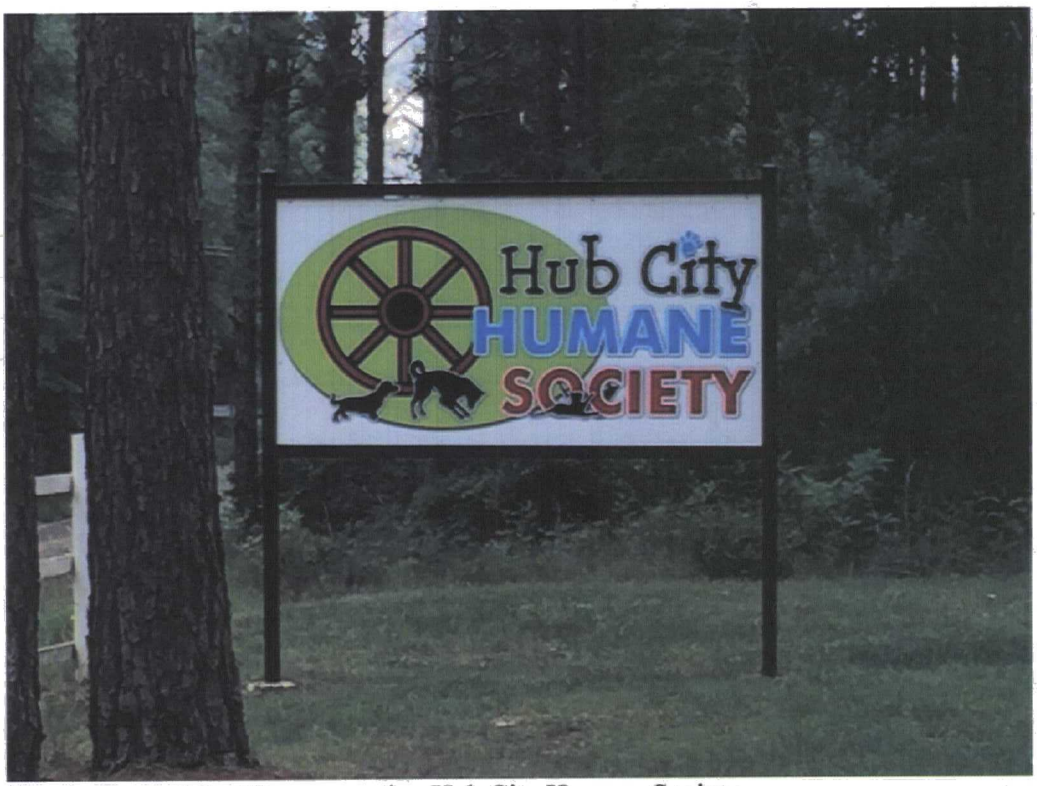
Scott Martin, EPA Remedial Project Manager
Phone: (404) 562-8916
Email: martin.scott@epa.gov

Kyle Bryant, EPA Community Involvement Coordinator
Phone: (404) 562-9037
Email: bryant.kyle@epa.gov

Mailing Address: U.S. EPA Region 4, 61 Forsyth Street, S.W., 11th Floor, Atlanta, GA 30303-8960

Additional information is available at the Site's local document repository, located at Hattiesburg Main Library, 329 Hardy Street, Hattiesburg, Mississippi 39401, and online at https://cumulis.epa.gov/supercpad/cursites/csitinfo.cfm?id=0404172.

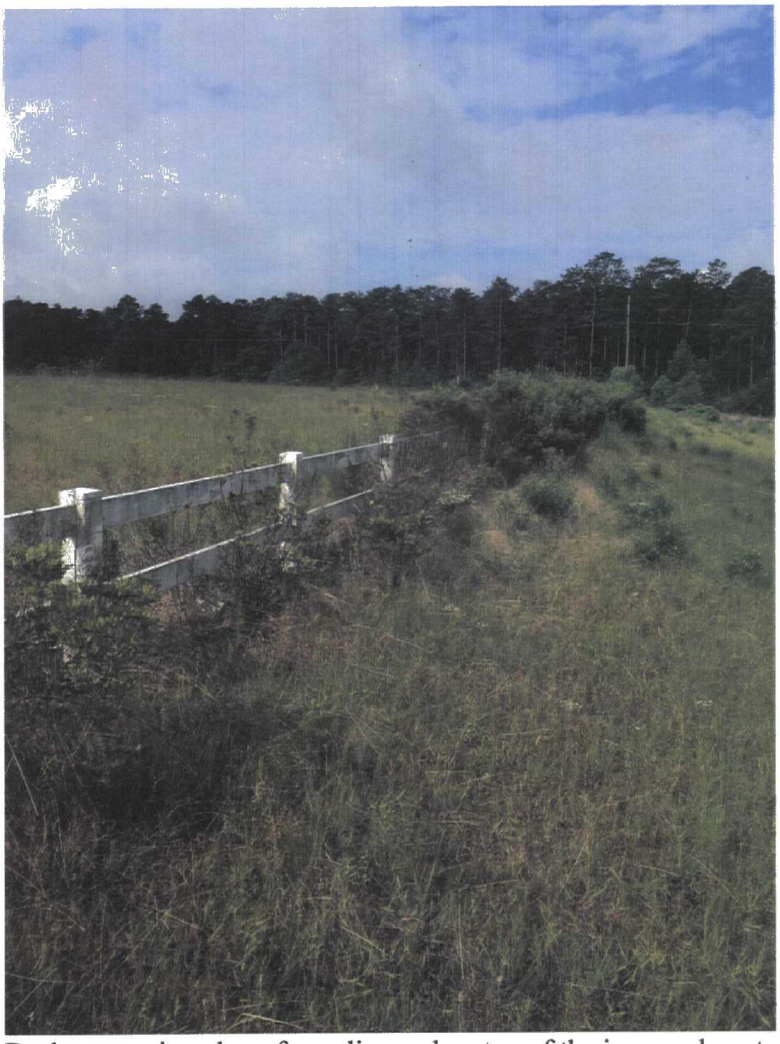
APPENDIX F – SITE INSPECTION PHOTOS



Sign in front of the Site, supporting Hub City Humane Society.

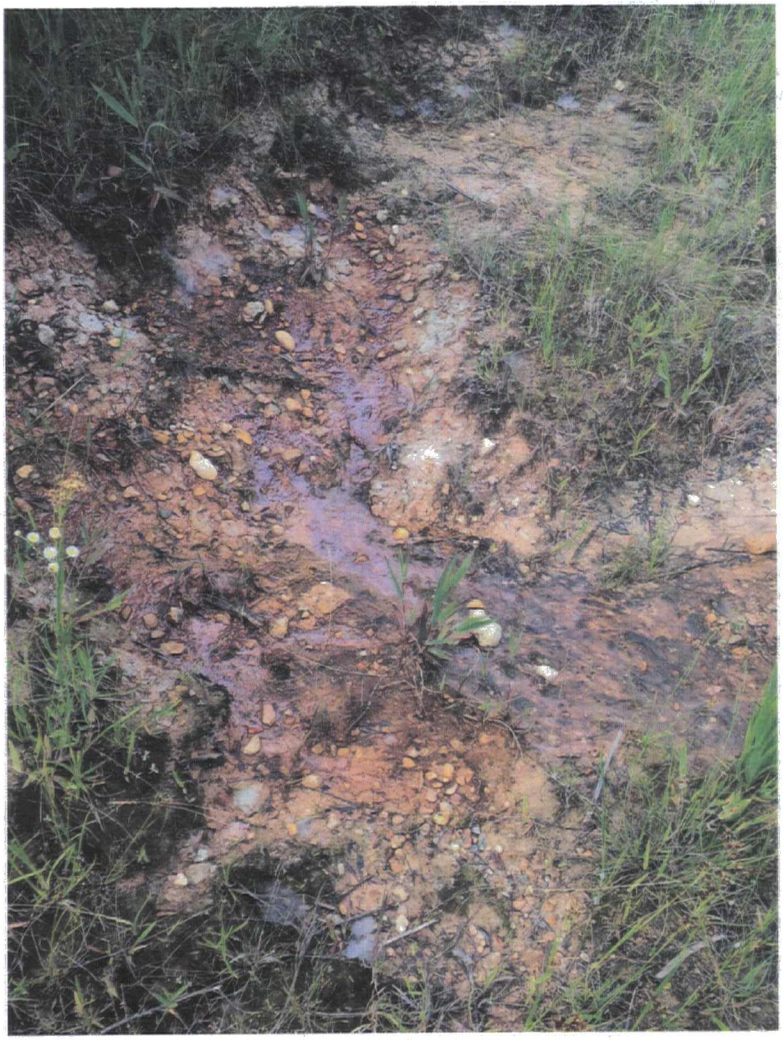
Looking out from Hub City Humane Society trailers toward fenced impoundment.

Invasive grass, cogongrass, growing in front of and around the impoundment area.



Bushes growing along fence line and on top of the impoundment area.

Erosion on side of the impoundment area with evidence of water seepage.



Standing water from seepage on side of the impoundment area.

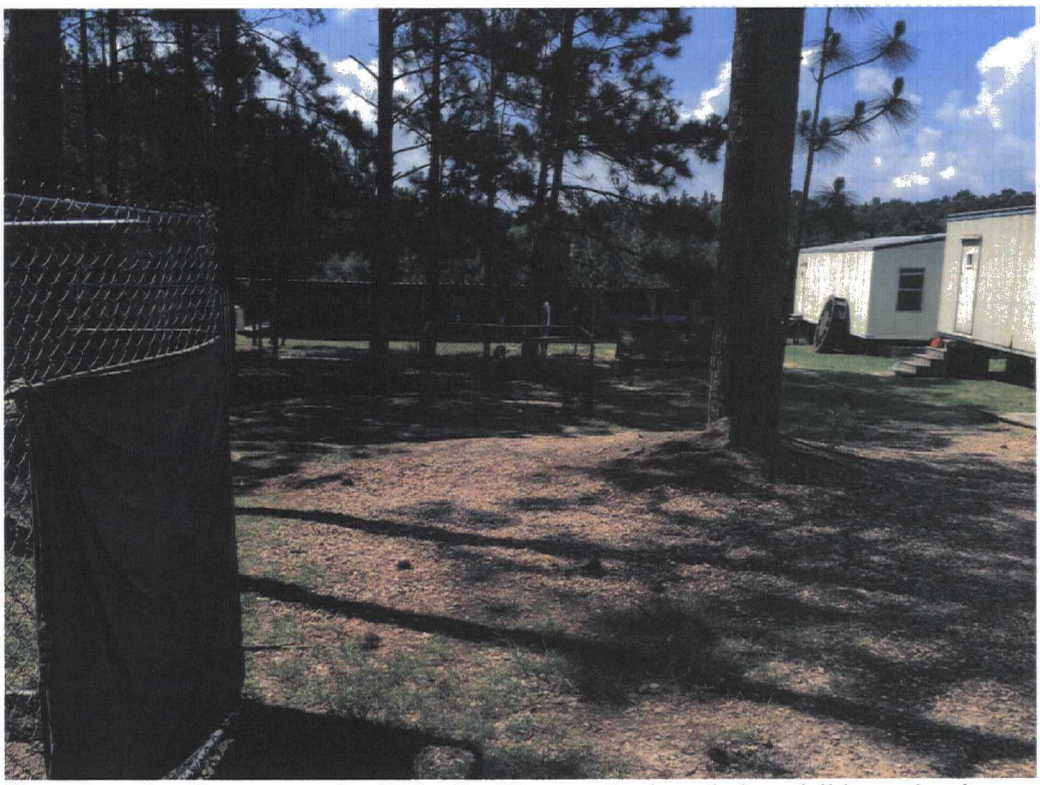
Well-vegetated berm behind the impoundment area.

Relocated creek.

One of two gas vents located on the capped impoundment area.

Sparsely vegetated patch on capped impoundment area, near seepage location.

Wildflowers to support pollinator habitat across top of cap with dog park in background.



Kennels and trailers supporting Hub City Humane Society shelter visible on the site property.

APPENDIX G – DATA TABLES

Table G-1: Water Treatment System Analytical Results

TABLE 2-1
WATER TREATMENT SYSTEM ANALYTICAL RESULTS
Davis Timber Site
Hattiesburg, Lamar County, Mississippi

Parameter	Required Effluent Discharge Standards (from RD)	Expected Influent Concentrations (from RD)	Baseline Impoundment Water Sample	8-Hour Test (Initial) Effluent	8-Hour Test (Re-Run) Effluent	48-Hour Test Effluent
			001	WT-T-01	WT-T-002	WT-T-003
			12/22/11	3/6/12	3/26/12	4/4/12
Volatile Organics (µg/L)						
1,1-Dichloroethene	7100	0.77	NA	< 1	NA	< 1
4-Methyl-2-pentanone	--	24	NA	< 1	NA	< 1
Bromodichloromethane	--	ND	NA	2	NA	< 1
Carbon Disulfide	--	3.1	NA	< 1	NA	< 1
Chloroform	470	ND	NA	3	NA	< 1
Ethylbenzene	2100	5.4	NA	< 1	NA	< 1
Tetrahydrofuran	--	ND	NA	< 1	NA	15
Toluene	15000	510	NA	< 1	NA	< 1
m,p-Xylene	--	5.1	NA	NA	NA	NA
o-Xylene	--	2.7	NA	NA	NA	NA
Xylenes (Total)	--	7.8	NA	< 1	NA	< 1
Semivolatile Organics (µg/L)						
Bis(2-ethylhexyl)phthalate	2.2	ND	NA	< 2	NA	3
2-Methylnaphthalene	--	44	NA	< 1	NA	< 0.5
4-Methylphenol	--	160	NA	< 2	NA	< 2
Pentachlorophenol	6.7	510	500	< 2	NA	< 2
Phenol	102	1100	NA	< 2	NA	< 2
Metals (µg/L)						
Aluminum	87	6750	NA	59	< 3	< 3
Arsenic	24	77	< 5	< 9	11	< 5
Barium	--	460	452	< 1	61	82
Boron	--	ND	NA	< 5	31	11
Cadmium	0.15	ND	10	< 1	< 1	< 1
Calcium	--	86000	NA	NA	NA	NA
Chromium	42	14	< 5	< 5	< 5	< 5
Cobalt	--	16	NA	< 5	< 5	< 5
Copper	5	7.9	NA	21	< 5	< 5
Iron	1000	240000	NA	24	< 5	10
Lead	1.18	5.6	12	< 5	< 1	< 5
Magnesium	--	21000	NA	2876	16680	17380
Manganese	100	3700	NA	< 5	78	151
Mercury	0.151	ND	0.5	NA	NA	NA
Nickel	29	17	NA	< 10	< 10	< 10
Potassium	--	29000	NA	NA	NA	NA
Selenium	4.6	ND	22	< 5	< 5	< 5
Thallium	--	ND	NA	< 5	9	< 5
Vanadium	--	13	NA	NA	NA	NA
Zinc	65	270	NA	< 5	< 2	92
Dioxin (pg/L)						
2,3,7,8 TCDD (dioxin)	1	5	23.9	< 0.34	NA	< 0.81

TABLE 2-1
WATER TREATMENT SYSTEM ANALYTICAL RESULTS
Davis Timber Site
Hattiesburg, Lamar County, Mississippi

Parameter	Required Effluent Discharge Standards (from RD)	Expected Influent Concentrations (from RD)	Baseline Impoundment Water Sample	8-Hour Test (Initial) Effluent	8-Hour Test (Re-Run) Effluent	48-Hour Test Effluent
			001	WT-T-01	WT-T-002	WT-T-003
			12/22/11	3/6/12	3/26/12	4/4/12
Pesticides (µg/L)						
Alpha-chlordane 12	--	0.042	NA	NA	NA	NA
Alpha-BHC	0.0049	0.16	NA	< 0.025	NA	< 0.025
beta-BHC	0.017	0.34	NA	< 0.025	NA	< 0.025
4,4'-DDD	0.00031	0.06	NA	< 0.025	NA	< 0.025
4,4'-DDE	0.00022	0.099	NA	< 0.025	NA	< 0.025
delta-BHC	--	0.18	NA	< 0.025	NA	< 0.025
Dieldrin	0.000144	0.041	NA	< 0.025	NA	< 0.025
Endosulfan I (alpha)	0.056	0.077	NA	< 0.025	NA	< 0.025
Endosulfan II (beta)	0.056	0.079	NA	< 0.025	NA	< 0.025
Endosulfan sulfate	89	0.11	NA	< 0.025	NA	< 0.025
gamma-BHC (Lindane)	0.95	0.029	NA	< 0.025	NA	< 0.025
Methyloxychlor	0.03	0.11	NA	< 0.025	NA	< 0.025
Other Parameters						
Turbidity (NTU)	50	55	NA	NA	4.97	0.05
Dissolved Oxygen (mg/L)	> 5	1.47	NA	NA	NA	6.99
pH	6 - 9	5.59	NA	8.30	8.00	7.45
Specific Conductance (mS/cm)	1	1.361	NA	NA	1.0	1.097
Temperature (°F)	90	69	NA	48.7	73.2	70.6
Total Dissolved Solids (mg/L)	750	1000	NA	488	NA	578

Table G-2: Post-Excavation Soil Analytical Results – Cooling Pond Excavation

TABLE 2-3
POST-EXCAVATION SOIL ANALYTICAL RESULTS - COOLING POND EXCAVATION
Davis Timber Site
Hattiesburg, Lamar County, Mississippi

Sample ID: Sample Type: Depth Interval (feet): Sample Date:	Units	ROD Cleanup Level	DTC-SB-CP-01 Composite 6 - 7 4/16/12	DTC-SB-CP-02 Composite 9 - 10 4/16/12	DTC-SB-CP-03 Composite 3 - 4 4/16/12
% Moisture	%	--	14	28.9	22
Pentachlorophenol	mg/kg	--	35	20.9	1.6
1,2,3,4,6,7,8-Heptachlorodibenzodioxin	µg/kg	--	20	8.9	4.0
1,2,3,4,6,7,8-Heptachlorodibenzofuran	µg/kg	--	3.0	3.8	1.4
1,2,3,4,7,8,9-Heptachlorodibenzofuran	µg/kg	--	0.33	0.76	0.26
1,2,3,4,7,8-Hexachlorodibenzodioxin	µg/kg	--	0.060	< 0.027	< 0.013
1,2,3,4,7,8-Hexachlorodibenzofuran	µg/kg	--	0.11	0.12	0.44
1,2,3,6,7,8-Hexachlorodibenzodioxin	µg/kg	--	0.83	0.20	0.80
1,2,3,6,7,8-Hexachlorodibenzofuran	µg/kg	--	< 0.058	< 0.027	< 0.013
1,2,3,7,8,9-Hexachlorodibenzodioxin	µg/kg	--	0.15	0.060	0.031
1,2,3,7,8,9-Hexachlorodibenzofuran	µg/kg	--	< 0.058	< 0.027	< 0.013
1,2,3,7,8-Pentachlorodibenzodioxin	µg/kg	--	< 0.058	< 0.027	< 0.013
1,2,3,7,8-Pentachlorodibenzofuran	µg/kg	--	< 0.058	< 0.027	< 0.013
2,3,4,6,7,8-Hexachlorodibenzofuran	µg/kg	--	0.060	< 0.027	< 0.013
2,3,4,7,8-Pentachlorodibenzofuran	µg/kg	--	< 0.058	< 0.027	< 0.013
2,3,7,8-Tetrachlorodibenzodioxin	µg/kg	--	< 0.012	< 0.0053	< 0.0025
2,3,7,8-Tetrachlorodibenzofuran	µg/kg	--	< 0.012	< 0.0053	< 0.0025
Heptachlorodibenzodioxin (Total)	µg/kg	--	30	12	5.5
Heptachlorodibenzofuran (Total)	µg/kg	--	16	24	7.9
Hexachlorodibenzodioxin (Total)	µg/kg	--	2.1	0.49	0.23
Hexachlorodibenzofuran (Total)	µg/kg	--	3.4	2.4	0.83
Octachlorodibenzodioxin	µg/kg	--	140	77	41
Octachlorodibenzofuran	µg/kg	--	16	33	12
Pentachlorodibenzodioxin (Total)	µg/kg	--	< 0.058	< 0.027	< 0.013
Pentachlorodibenzofuran (Total)	µg/kg	--	0.15	< 0.027	0.014
Tetrachlorodibenzodioxin (Total)	µg/kg	--	< 0.012	< 0.0053	< 0.0025
Tetrachlorodibenzofuran (Total)	µg/kg	--	0.013	0.0061	< 0.0025
TEQ (WHO 2005 - Mammalian)	µg/kg	5	0.40	0.21	0.088

Notes:

1. ROD = Record of Decision
2. mg/kg = milligrams per kilogram
3. pg/g = picograms per gram
4. TEQ (WHO 2005 - Mammalian) = 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) toxic equivalent (TEQ) for mammals calculated by WHO TEQ-2005

Table G-3: Post-Excavation Soil Analytical Results – Surface Soil Excavation

TABLE 2-4
POST-EXCAVATION SOIL ANALYTICAL RESULTS - SURFACE SOIL EXCAVATION
Davis Timber Site
Hattiesburg, Lamar County, Mississippi

Sample ID: Sample Type: Depth Interval (feet): Sample Date:	Units	ROD Cleanup Level	DTC-SB-CP-04 Composite 1 - 2 4/18/12	DTC-SS-CP-05 Composite 1 - 1.5 5/1/12	DTC-SS-CP-06 Composite 1 - 1.5 5/1/12	DTC-SB-CP-05 Composite 1 - 1.5 5/21/12	DTC-SB-CP-06 Composite 1 - 1.5 5/21/12	DTC-SB-CP-07 Composite 1 - 1.5 5/21/12
% Moisture	%	--	28.1	18.5	19.8	16	11	11
Pentachlorophenol	mg/kg	--	2.97	NA	NA	NA	NA	NA
1,2,3,4,6,7,8-Heptachlorodibenzodioxin	µg/kg	--	58	1.0	0.061	0.067	17	16
1,2,3,4,6,7,8-Heptachlorodibenzofuran	µg/kg	--	18	0.14	0.0083	0.0084	2.3	2.5
1,2,3,4,7,8,9-Heptachlorodibenzofuran	µg/kg	--	2600	< 1.4	< 0.17	1.5	330	350
1,2,3,4,7,8-Hexachlorodibenzodioxin	µg/kg	--	< 0.13	< 0.00058	< 0.00011	0.00085	0.087	0.088
1,2,3,4,7,8-Hexachlorodibenzofuran	µg/kg	--	0.45	< 0.00047	< 0.00010	< 0.0049	0.12	0.11
1,2,3,6,7,8-Hexachlorodibenzodioxin	µg/kg	--	1.2	0.039	< 0.00011	0.0027	0.68	0.61
1,2,3,6,7,8-Hexachlorodibenzofuran	µg/kg	--	0.14	< 0.00043	< 0.000098	< 0.0049	0.077	0.074
1,2,3,7,8,9-Hexachlorodibenzodioxin	µg/kg	--	0.31	< 0.00053	< 0.00010	0.0019	0.20	0.18
1,2,3,7,8,9-Hexachlorodibenzofuran	µg/kg	--	< 0.13	< 0.00050	< 0.00011	< 0.0049	0.064	0.055
1,2,3,7,8-Pentachlorodibenzodioxin	µg/kg	--	< 0.13	< 0.00084	< 0.00017	< 0.0049	0.021	0.022
1,2,3,7,8-Pentachlorodibenzofuran	µg/kg	--	< 0.13	< 0.00069	< 0.00012	< 0.0049	0.024	0.022
2,3,4,6,7,8-Hexachlorodibenzofuran	µg/kg	--	< 0.13	< 0.00045	< 0.00010	< 0.0049	0.14	0.13
2,3,4,7,8-Pentachlorodibenzofuran	µg/kg	--	< 0.13	< 0.00074	< 0.00013	< 0.0049	0.025	0.019
2,3,7,8-Tetrachlorodibenzodioxin	µg/kg	--	< 0.026	< 0.00043	< 0.00010	< 0.00098	< 0.98	1
2,3,7,8-Tetrachlorodibenzofuran	µg/kg	--	< 26	< 0.51	< 0.087	< 0.98	0.0049	0.0051
Heptachlorodibenzodioxin (Total)	µg/kg	--	80	1.8	1.3	0.12	26	25
Heptachlorodibenzofuran (Total)	µg/kg	--	92	0.76	0.054	0.036	11	11
Hexachlorodibenzodioxin (Total)	µg/kg	--	3.0	0.079	0.11	0.014	2.2	2.0
Hexachlorodibenzofuran (Total)	µg/kg	--	10	0.15	0.036	0.0098	3.5	3.4
Octachlorodibenzodioxin	µg/kg	--	430	10	< 0.00011	1.8	130	120
Octachlorodibenzofuran	µg/kg	--	95	0.97	< 0.00010	0.054	15	16
Pentachlorodibenzodioxin (Total)	µg/kg	--	< 0.13	< 0.00084	< 0.00017	< 0.0049	0.086	0.067
Pentachlorodibenzofuran (Total)	µg/kg	--	< 0.13	< 0.00071	< 0.00012	0.00094	0.57	0.54
Tetrachlorodibenzodioxin (Total)	µg/kg	--	< 0.026	< 0.00043	< 0.00010	< 0.00098	0.0072	0.011
Tetrachlorodibenzofuran (Total)	µg/kg	--	< 0.026	< 0.00051	< 0.000087	< 0.00098	0.064	0.070
TEQ (WHO 2005 - Mammalian)	µg/kg	5	1.1	0.019	0.0011	0.0030	0.41	0.39

Notes:

1. ROD = Record of Decision
2. mg/kg = milligrams per kilogram; µg/kg = micrograms per kilogram
3. TEQ (WHO 2005 - Mammalian) = 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) toxic equivalent (TEQ) for mammals calculated by WHO TEQ-2005

Table G-4: East Mineral Creek Pre-Remediation Sediment Analytical Results

TABLE 2-5
EAST MINERAL CREEK PRE-REMEDIATION SEDIMENT ANALYTICAL RESULTS
Davis Timber Site
Hattiesburg, Lamar County, Mississippi

Sample ID: Sample Type: Depth Interval (feet): Sample Date:	Units	ROD Cleanup Level	DTSDRA-01 Grab 0 - 0.5 2/29/12	DTSDRA-02 Grab 0 - 0.5 2/29/12	DTSDRA-03 Grab 0 - 0.5 2/29/12	DTSDRA-04 Grab 0 - 0.5 2/29/12	DTSDRA-05 Grab 0 - 0.5 2/29/12	DTSDRA-06 Grab 0 - 0.5 2/29/12
% Moisture	%	--	22.3	30.9	32.1	22.4	25.2	18.1
1,2,3,4,6,7,8-Heptachlorodibenzodioxin	µg/kg	--	46	33	0.46	54	31	28
1,2,3,4,6,7,8-Heptachlorodibenzofuran	µg/kg	--	8.2	5.4	0.079	9.2	6.6	5.4
1,2,3,4,7,8,9-Heptachlorodibenzofuran	µg/kg	--	0.89	0.75	0.0095	0.88	1.1	0.6
1,2,3,4,7,8-Hexachlorodibenzodioxin	µg/kg	--	0.32	0.28	< 0.0071	0.37	0.25	0.23
1,2,3,4,7,8-Hexachlorodibenzofuran	µg/kg	--	0.38	0.32	< 0.0071	0.39	0.33	0.27
1,2,3,6,7,8-Hexachlorodibenzodioxin	µg/kg	--	1.6	1.5	0.02	2.1	1.0	1.4
1,2,3,6,7,8-Hexachlorodibenzofuran	µg/kg	--	0.22	0.19	< 0.0071	0.27	0.16	0.18
1,2,3,7,8,9-Hexachlorodibenzodioxin	µg/kg	--	0.77	0.71	0.0093	1.2	0.54	0.55
1,2,3,7,8,9-Hexachlorodibenzofuran	µg/kg	--	< 0.024	0.019	< 0.0071	< 0.030	0.014	< 0.011
1,2,3,7,8-Pentachlorodibenzodioxin	µg/kg	--	0.099	0.08	< 0.0071	0.12	0.080	0.079
1,2,3,7,8-Pentachlorodibenzofuran	µg/kg	--	0.054	0.05	< 0.0071	0.069	0.035	0.048
2,3,4,6,7,8-Hexachlorodibenzofuran	µg/kg	--	0.15	0.14	< 0.0071	0.22	0.084	0.13
2,3,4,7,8-Pentachlorodibenzofuran	µg/kg	--	0.046	0.042	< 0.0071	0.056	0.026	0.04
2,3,7,8-Tetrachlorodibenzodioxin	µg/kg	--	< 0.0048	< 0.0028	< 0.0014	< 0.0059	0.0039	0.0022
2,3,7,8-Tetrachlorodibenzofuran	µg/kg	--	0.010	0.011	< 0.0014	0.015	0.0088	0.0079
Heptachlorodibenzodioxin (Total)	µg/kg	--	72	52	0.72	89	48	46
Heptachlorodibenzofuran (Total)	µg/kg	--	33	24	0.32	33	31	21
Hexachlorodibenzodioxin (Total)	µg/kg	--	7.4	7.5	0.087	12	5.5	5.7
Hexachlorodibenzofuran (Total)	µg/kg	--	9.6	8.6	0.095	11	8.4	7.0
Octachlorodibenzodioxin	µg/kg	--	290	190	3.7	340	210	150
Octachlorodibenzofuran	µg/kg	--	48	34	0.38	46	52	31
Pentachlorodibenzodioxin (Total)	µg/kg	--	0.62	0.75	< 0.0071	1.1	0.59	0.30
Pentachlorodibenzofuran (Total)	µg/kg	--	1.0	0.89	< 0.0071	1.2	0.62	0.65
Tetrachlorodibenzodioxin (Total)	µg/kg	--	0.10	0.20	0.0015	0.23	0.12	0.035
Tetrachlorodibenzofuran (Total)	µg/kg	--	0.10	0.12	< 0.0014	0.16	0.068	0.063
TEQ (WHO 2005 - Mammalian)	µg/kg	1.9	1.1	0.87	0.010	1.4	0.80	0.77

Notes:

1. ROD = Record of Decision
2. µg/kg = micrograms per kilogram
3. TEQ (WHO 2005 - Mammalian) = 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) toxic equivalent (TEQ) for mammals calculated by WHO TEQ-2005

Table G-5: East Mineral Creek Post-Remediation Sediment Analytical Results

TABLE 2-6
EAST MINERAL CREEK POST-REMEDIATION SEDIMENT ANALYTICAL RESULTS
Davis Timber Site
Hattiesburg, Lamar County, Mississippi

Sample ID: Sample Type: Depth Interval (feet): Sample Date:	Units	ROD Cleanup Level	DTC-SDRA-07 Composite 0 - 0.5 5/22/12	DTC-SDRA-08 Composite 0 - 0.5 5/22/12	DTC-SDRA-09 Composite 0 - 0.5 5/22/12	DTC-SDRA-10 Composite 0 - 0.5 5/22/12
% Moisture	%	--	19	22	17	23
1,2,3,4,6,7,8-Heptachlorodibenzodioxin	µg/kg	--	9.0	26	28	7.6
1,2,3,4,6,7,8-Heptachlorodibenzofuran	µg/kg	--	1.0	3.5	5.1	1.4
1,2,3,4,7,8,9-Heptachlorodibenzofuran	µg/kg	--	0.22	0.48	0.61	0.22
1,2,3,4,7,8-Hexachlorodibenzodioxin	µg/kg	--	0.15	0.27	0.24	0.07
1,2,3,4,7,8-Hexachlorodibenzofuran	µg/kg	--	0.11	0.20	0.19	0.077
1,2,3,6,7,8-Hexachlorodibenzodioxin	µg/kg	--	0.64	1.2	1.0	0.34
1,2,3,6,7,8-Hexachlorodibenzofuran	µg/kg	--	0.15	0.18	0.16	0.055
1,2,3,7,8,9-Hexachlorodibenzodioxin	µg/kg	--	0.28	0.59	0.50	0.14
1,2,3,7,8,9-Hexachlorodibenzofuran	µg/kg	--	0.09	0.11	0.077	0.036
1,2,3,7,8-Pentachlorodibenzodioxin	µg/kg	--	0.061	0.073	0.053	0.018
1,2,3,7,8-Pentachlorodibenzofuran	µg/kg	--	0.051	0.051	0.033	0.014
2,3,4,6,7,8-Hexachlorodibenzofuran	µg/kg	--	0.24	0.35	0.28	0.11
2,3,4,7,8-Pentachlorodibenzofuran	µg/kg	--	0.059	0.053	0.032	0.011
2,3,7,8-Tetrachlorodibenzodioxin	µg/kg	--	0.0042	0.0039	0.0026	< 0.00099
2,3,7,8-Tetrachlorodibenzofuran	µg/kg	--	0.015	0.015	0.0056	0.0031
Heptachlorodibenzodioxin (Total)	µg/kg	--	16	43	41	12
Heptachlorodibenzofuran (Total)	µg/kg	--	5.9	14	19	6.9
Hexachlorodibenzodioxin (Total)	µg/kg	--	5.0	7.9	4.9	1.5
Hexachlorodibenzofuran (Total)	µg/kg	--	5.4	7.6	6.3	2.6
Octachlorodibenzodioxin	µg/kg	--	38	140	180	41
Octachlorodibenzofuran	µg/kg	--	3.9	14	25	7.6
Pentachlorodibenzodioxin (Total)	µg/kg	--	1.2	1.2	0.61	0.17
Pentachlorodibenzofuran (Total)	µg/kg	--	2.0	2.0	1.3	0.45
Tetrachlorodibenzodioxin (Total)	µg/kg	--	0.58	0.58	0.18	0.04
Tetrachlorodibenzofuran (Total)	µg/kg	--	0.64	0.54	0.24	0.061
TEQ (WHO 2005 - Mammalian)	µg/kg	1.9	0.37	0.73	0.71	0.21

Notes:

1. ROD = Record of Decision
2. µg/kg = micrograms per kilogram
3. TEQ (WHO 2005 - Mammalian) = 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) toxic equivalent (TEQ) for mammals calculated by WHO TEQ-2005

APPENDIX H – DETAILED TOXICITY REVIEW

Changes in Standards and To-Be-Considered Criteria

According to the 2009 ROD, the EPA selected state ARARs as cleanup goals for PCP in soil and for dioxin TEQ in surface water. The cleanup goal for human exposure to PCP in surface soil was based on MDEQ Tier 1 Target Remediation Goal for restricted use; this value has not changed since the 2009 ROD (Table H-1). The surface water cleanup goal for dioxin TEQ was based on MDEQ Regulation WPC, which has become more stringent; the current state WPC is more stringent (Table H-1). The ecological cleanup goals for PCP in sediment and surface soil and dioxin TEQ in sediment were based on the ecological risk assessment conducted as part of the RI. These ecological-based cleanup goals remain valid because they are derived based on food-web models that have not changed since the 2009 ROD was issued.

Table H-1: ARAR Evaluation

COC	Media	ROD Standard[a]	Current Standard
PCP	Surface Soil	23,800 µg/kg	23,800 µg/kg[b]
Dioxin TEQ	Surface Water	1×10^{-6} µg/L	5×10^{-8} µg/L[c]

Notes:
a = Regulatory standards from 2009 ROD
b = MDEQ Regulation HW-2, Subpart II, Appendix A (Tier 1 TRG Table) obtained at http://www.deq.state.ms.us/mdeq.nsf/pdf/Main_HW-2/$File/HW-2.pdf?OpenElement (accessed 6/1/16)
c = MDEQ Regulation WPC-2 http://www.deq.state.ms.us/mdeq.nsf/pdf/WQSB_WQSB-RegulationsforWaterQualityCriteria/$File/Regulations%20for%20Water%20Quality%20Criteria.pdf?OpenElement (accessed 6/1/16)

Changes in Toxicity and Other Contaminant Characteristics

Toxicity factors for some of the COPCs have changed since the risk assessments were published, most notably for dioxin. On February 17, 2012, the EPA released a new noncancer reference dose value for dioxin, which results in a residential soil RSL of 0.051 µg/kg based on a noncancer hazard index of 1.0. The 1×10^{-6} cancer-based residential RSL is 0.005 µg/kg. The residential RSLs are more stringent than the 2009 ROD surface soil cleanup goal of 1 µg/kg; however, the ROD cleanup goal was intended to be protective of recreational exposures not residential exposures. Therefore, a recreational exposure-based RSL was developed using the EPA's online RSL calculator based on the EPA's default toxicity values and default exposure factors with the exception of exposure frequency. The EPA's 2009 recreator risk assessment assumption of 52 days/year was selected, which resulted in a 1×10^{-5} risk-based remedial goal of 0.400 µg/kg for a recreator child (a noncancer value was not calculated because noncancer toxicity values were not available). As shown, the cancer-based RSLs range from 0.0328 µg/kg to 3.280 µg/kg while the noncancer-based RSL for a child is 0.344 µg/kg. The 1×10^{-4} RSL is not protective for a recreational child under the assumed exposure assumptions, since this value exceeds the noncancer-based RSL (Table H-2). This evaluation demonstrates that the ROD surface soil cleanup goal of 1 µg/kg is less stringent than an RSL based on current toxicity values; however, the ROD surface soil cleanup goal remains valid for the following reasons:

- Surface soil requiring remediation has been placed under a cap and the entire area is vegetated.
- Surface soils collected during the pre-design investigation demonstrated that concentrations of surface soils outside of the planned capped area were below 0.344 µg/kg with concentrations ranging from 0.0023 µg/kg to 0.041 µg/kg.
- The impoundment area is fenced and is not being utilized for reuse at this time.

Table H-2: Summary of Recreator Health-Based RSLs

COC	Noncancer-Based Recreator RSL	Cancer Risk-Based Recreator RSLs		
	HQ = 1.0	10^{-6} Risk	10^{-5} Risk	10^{-4} Risk
Dioxin TEQ	0.344 µg/kg	0.0328 µg/kg	0.328 µg/kg	3.280 µg/kg

Notes:
a. Recreator RSLs developed using the RSL calculator located at: https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search (accessed 5/24/16).
HQ = Hazard Quotient

The subsurface cleanup goal for dioxin of 5 µg/kg based on a worker exposure remains valid despite the noncancer-based RSL of 0.72 µg/kg being more stringent. The post-excavation confirmation data demonstrate that the average (0.29 µg/kg) and UCL95 on the mean (0.51 µg/kg) are below the industrial-based RSL of 0.72 µg/kg.

Changes in Risk Assessment Methods

In 2014, the EPA revised some of the standard default exposure factors used in conducting human health baseline risk assessments. However, the slight changes are not expected to impact the cleanup goals for the Site, since the changes in factors (e.g., body weights, ingestion rates, surface area) are less than an order of magnitude from past default assumptions. Further, historically, the vapor intrusion pathway has not been quantitatively evaluated in EPA risk assessments. The EPA finalized vapor intrusion guidance in 2015, which requires evaluation of multiple lines of evidence to confirm the relative significance of this pathway and whether any response action is warranted. Per the guidance, if it can be shown that VOC-contaminated soil and/or groundwater sources are or will come within 100 feet of inhabited structures, screening this exposure pathway is generally warranted. Groundwater is not present beneath the Site in any appreciable amounts and inhabited structures at the Site are located in areas that have not been impacted by subsurface dioxin contamination. Therefore, vapor intrusion is considered an incomplete current and future exposure pathway and did not require further evaluation.

APPENDIX I – INTERVIEW FORMS

Site Name:	**Davis Timber Company**	**EPA ID No.:**	**MSD046497012**
Interviewer Name:	**Alison Cattani**	**Affiliation:**	**Skeo Solutions**
Subject Name:	**Trey Hess**	**Affiliation:**	**EPA**
Subject Contact Information:	**Trey.Hess@dep.state.ms.us**		
Time:		**Date:**	**05/30/2016**
Interview Location:	**Email**		

Interview Format (circle one): **In Person** **Phone** **Mail** **Other: Email**

Interview Category: **State Agency**

1. What is your overall impression of the project, including cleanup, maintenance and reuse activities (as appropriate)?
   Innovative approach to reuse.

2. What is your assessment of the current performance of the remedy in place at the Site?
   Current performance is satisfactory.

3. Are you aware of any complaints or inquiries regarding site-related environmental issues or remedial activities from residents in the past five years?
   No

4. Has your office conducted any site-related activities or communications in the past five years? If so, please describe the purpose and results of these activities.
   Any correspondence would have been coordinated with Phillip Weathersby. Please see his responses.

5. Are you aware of any changes to state laws that might affect the protectiveness of the Site's remedy?
   No

6. Are you comfortable with the status of the institutional controls at the Site? If not, what are the associated outstanding issues?
   Need to confirm that Environmental Covenant was placed on the Land Records. If not, please advise Phillip Weathersby immediately.

7. Are you aware of any changes in projected land use(s) at the Site?
   No

8. Do you have any comments, suggestions or recommendations regarding the management or operation of the Site's remedy?
   Next Five Year review should be conducted by MDEQ staff through a Five Year Review Cooperative Agreement.

Site Name:	**Davis Timber Company**	**EPA ID No.:**	**MSD046497012**
Interviewer Name:	**Alison Cattani**	**Affiliation:**	**Skeo Solutions**
Subject Name:	**Phillip Weathersby**	**Affiliation:**	**EPA**
Subject Contact Information:	**Phillip.Weathersby@dep.state.ms.us**		
Time:		**Date:**	**06/06/2016**
Interview Location:	**Email**		

Interview Format (circle one): **In Person** **Phone** **Mail** **Other: Email**

Interview Category: **State Agency**

1. What is your overall impression of the project, including cleanup, maintenance and reuse activities (as appropriate)?
   All project phases were successful including the O&M and the reuse.

2. What is your assessment of the current performance of the remedy in place at the Site?
   The remedy is functioning well and is a good fit for the surrounding area.

3. Are you aware of any complaints or inquiries regarding site-related environmental issues or remedial activities from residents in the past five years?
   No

4. Has your office conducted any site-related activities or communications in the past five years? If so, please describe the purpose and results of these activities.
   MDEQ has performed occasional site inspections within the past five years.

5. Are you aware of any changes to state laws that might affect the protectiveness of the Site's remedy?
   No

6. Are you comfortable with the status of the institutional controls at the Site? If not, what are the associated outstanding issues?
   Yes

7. Are you aware of any changes in projected land use(s) at the Site?
   No

8. Do you have any comments, suggestions or recommendations regarding the management or operation of the Site's remedy?
   Only that the shrubbery around the cap fence should be controlled.

Site Name:	**Davis Timber Company**	**EPA ID No.:**	**MSD046497012**
Interviewer Name:	**Alison Cattani**	**Affiliation:**	**Skeo Solutions**
Subject Name:	**Hub City Director**	**Affiliation:**	**EPA**
Subject Contact Information:	**hubcityhumsoc@aol.com**		
Time:	**9:05**	**Date:**	**06/06/16**
Interview Location:	**Email**		

Interview Format (circle one): **In Person** **Phone** **Mail** **Other: Email**

Interview Category: **Business Owner**

1. Are you aware of the former environmental issues at the Site and the cleanup activities that have taken place to date?
   Yes

2. What is your overall impression of the project, including cleanup, maintenance and reuse activities (as appropriate)?
   Everything looks great.

3. What have been the effects of this Site on the surrounding community, if any?
   None to my knowledge.

4. Have there been any problems with unusual or unexpected activities at the Site, such as emergency response, vandalism or trespassing?
   No

5. Has EPA kept involved parties and surrounding neighbors informed of activities at the Site?
   Yes.

6. Do you own a private well in addition to or instead of accessing city/municipal water supplies? If so, for what purpose(s) is your private well used?
   No

7. Do you have any comments, suggestions or recommendations regarding any aspects of the project?
   No