Second Five-Year Review Report
for
Coleman-Evans Wood Preserving Co.
Superfund Site
Whitehouse, Duval County, Florida

EPA ID FLD991279894

June 2009

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101 Celery Street
Whitehouse, Duval County, Florida

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List of Acronyms

ADR	Alternate Dispute Resolution
AROD	Amended Record of Decision
ARAR	applicable or relevant and appropriate requirements
BLRA	Baseline Risk Assessment
CFR	Code of Federal Regulations
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
COC	Contaminant of Concern
EPA	United States Environmental Protection Agency
ESD	Explanation of Significant Differences
FAC	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
FDER	Florida Department of Environmental Regulation
FDOT	Florida Department of Transportation
ft	foot/feet
FS	Feasibility Study
FYR	five-year review
IAG	Interagency Agreement
IRA	Interim Remedial Action
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
MNA	monitored natural attenuation
MSL	mean sea level
NCP	National Contingency Plan
NPL	National Priorities List
O&M	Operation and Maintenance
OSHA	Occupational Safety and Health Administration
OU	Operable Unit
PCOR	Preliminary Close Out Report
PCP	Pentachlorophenol
POP	proof of performance
ppb	parts per billion
PRP	Potentially Responsible Party
RA	Remedial Action
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design

RD/RA	Remedial Design/Remedial Action
RI	Remedial Investigation
ROD	Record of Decision
RP	Responsible Party
SCTL	Soil Cleanup Target Level
Site	Coleman Evans Wood Preserving Company Superfund Site
SPLP	Synthetic Precipitation Leaching Procedure
S/S	Solidification/Stabilization
SSL	Soil Screening Level
SWMD	Solid Waste Management Department
TEQ	toxicity equivalent quotient
U.S.	United States
USACE	US Army Corps of Engineers
µg/L	micrograms per liter
µmhos/cm	micromhos per centimeter
VOC	volatile organic compound

Executive Summary

Introduction

The Coleman-Evans Wood Preserving Company Superfund Site (the Site) consists of 11 acres that housed a wood preserving facility in Whitehouse, Florida. Coleman-Evans operated at the Site from 1954 until the mid-1980s and treated wood with a mixture of pentachlorophenol (PCP) and fuel oil. During the treatment process, PCP and waste water was discharged into unlined waste pits and a drainage ditch that eventually flows into McGirts Creek. When disposal to the waste pits was discontinued in 1970, Coleman-Evans began storing waste in above ground storage tanks adjacent to the pits, near the southwest edge of the Site. Coleman-Evans voluntarily installed a waste water treatment system designed to clarify the stored waste water. Although wood treating operations ceased in the late 1980s, sawing and kiln drying of untreated lumber continued at the Site until mid-1994.

The City of Jacksonville Department of Health, Welfare, and Bio-Environmental Services confirmed ground water contamination at Coleman-Evans in 1980. As a result, Coleman-Evans integrated an activated carbon filter system into the waste water treatment system to improve the removal of organics. In 1981, a closed-loop steam treatment system was constructed on site, which prevented the discharge of process water. However, that same year the Florida Department of Environmental Regulation (FDER), which is now the Florida Department of Environmental Protection (FDEP), found Coleman-Evans to be in violation of hazardous waste reporting, planning, and safety. As a result, Coleman-Evans was proposed to the US Environmental Protection Agency (EPA) National Priorities List (NPL) in December 1982, and finalized in September 1983.

Several studies were conducted at the Site, and the results showed widespread dioxin and PCP contamination in soil and sediment as well as PCP in the upper surficial aquifer. The aerial extent of the dioxin and PCP contamination covered most of the Site, portions of the off-site residential area, as well as the drainage ditches south of the Site leading to McGirts Creek. These results have been confirmed by subsequent analysis during investigation, remedial design (RD), and remedial action (RA) activities performed at the Site. Remedial construction has been completed at the site and the remedy is operational and functional (O&F). Ground water contamination remains only in a localized group of monitoring wells located on the former facility property and is being monitored for natural attenuation. The triggering action for this statutory Site-wide Five-Year Review (FYR) was the signing of the previous FYR on June 20, 2004.

Remedy Components

Contamination at the Site was addressed in two operable units. Operable Unit (OU) 1 addressed soil, sediment, debris, surface water, and ground water contamination found at the former facility property. OU2 addressed residual site-related dioxin contamination in soils at adjacent residential and commercial properties that was not addressed during the OU1 RA.

The OU1 Record of Decision (ROD) was signed in September 1986. The major remedial components of this ROD were excavation and incineration of PCP-contaminated soils and sediments and treatment of PCP-contaminated ground water with carbon adsorption. In 1990, a ROD Amendment (AROD) was signed. It changed the selected remedy to soil excavation and treatment by soil washing, bioremediation, and solidification and stabilization (S/S). Washing soil prior to treatment was expected to reduce the amount of soil needing treatment from 27,000 cubic yards to 2,700 cubic yards. Approximately 25,000 cubic yards of soil contaminated with less than 25 milligrams per kilogram (mg/kg) of PCP after treatment would be backfilled into the excavation areas. In 1997, another AROD was signed. It selected high temperature thermal desorption (HTTD) with ground water recovery and treatment as the new OU1 remedy. The selected remedy required excavation and on-site treatment of contaminated soil and sediments from the facility and the drainage ditch across Celery Avenue, ground water treatment, and site restoration.

EPA issued four Explanations of Significant Difference (ESDs) during remedial action in June 2001, August 2003, February 2004, and September 2005 that were supported by FDEP. The first ESD addressed changes to the air pollution control system, two other ESDs made subsequent revisions to the total excavation quantities, and the final ESD determined that monitored natural attenuation (MNA) was the appropriate technical approach to complete the ground water restoration. Soil treatment of PCP-contaminated soils was completed in May 2004, and cleanup goals for soils and sediment established in the 1997 AROD were achieved for the Site. Ground water contamination was reduced to a slight exceedance of the 1997 AROD ground water cleanup goals in a single well. During the course of the OU1 RA, over 210,000 net wet tons of soil and sediments were treated and disposed of on the facility property and approximately 73,500,000 gallons of ground water and storm water were treated and discharged.

The OU2 ROD was signed in September 2006 and included the following components:

- excavation and on-facility disposal of site-attributable dioxin contamination in exceedance of cleanup goals. This included soil in areas on, and adjacent to the former facility property and adjacent to surface water drainage pathways that may have been impacted by contaminated storm water runoff from the Site;
- restoration of excavation areas with clean fill and re-vegetation;
- placement of a nominal 2-foot cover over the excavated and treated soils disposed of on the former facility property during OU1 and OU2 RAs; and
- establishment of a restrictive covenant limiting on-facility land use to commercial/recreational use (including use as a municipal park).

The 2006 OU2 ROD represents the final remedy selected for the Site, and is compatible with the expected future use of the Site as a municipal park for the City of Jacksonville.

Remedial Action Objectives (RAOs)

The RAOs of the 1997 OU1 AROD are:

- prevent ingestion/direct contact with contaminated soils and sediments in excess of the interim dioxin action level and final PCP cleanup levels;
- protect ground water as a current or potential drinking water supply by reducing contaminants to Maximum Contaminant Levels (MCLs) or other protection levels established by EPA and the Florida Department of Environmental Protections (FDEP);
- prevent future ground water contamination;
- prevent incidental ingestion, dust inhalation, or direct contact with surface soil that contain concentrations of dioxin toxicity equivalent (TEQ) attributable to the Site; and
- control future releases of contaminants to ensure long-term protection of human health and the environment.

The RAOs of the 2006 OU2 ROD are:

- prevent incidental ingestion, dust inhalation, or direct contact with surface soil that contain concentrations of dioxin TEQ attributable to the Site in excess of the soil cleanup goals; and
- control future releases of contaminants to ensure long-term protection of human health and the environment.

Technical Assessment

The assessment of the Site for this Five-year Review (FYR) is based on a review of documents, applicable or relevant and appropriate requirements (ARARs), risk assumptions, and a site inspection. It indicates that the selected remedy is functioning as intended by the OU1 and OU2 RODs, and subsequent ARODs and ESDs.

The OU1 selected remedy is protective of human health and the environment in the short-term because exposure pathways that could result in unacceptable risks are controlled. The excavation and treatment of contaminated soil at the former facility property eliminated the potential for exposure to contaminated soil and removed any source material that may have contributed to ground water contamination. Residential wells are not exposed to ground water contamination through the surficial aquifer and the intermediate aquifer used for residential drinking water wells has not been impacted with contaminant levels above the MCLs. The majority of the Site is located within a Florida Delineated Area, which restricts potable well placement. Ground water contamination is localized in three monitoring wells in close proximity to each other on the former facility property. MNA is the only ground water treatment required to treat the contaminants.

The OU2 selected remedy is protective of human health and the environment in the short term and in the long term because the excavation and disposal of soil contaminated with residual site-related dioxin TEQ concentrations has been completed. The potential for exposure to

contaminated soil has been eliminated along with any source material that may have been contributing to ground water contamination.

For the OU1 selected remedy to be protective in the long-term, contaminant concentrations in ground water should continue to decrease and an operations and maintenance (O&M) plan needs to be developed to ensure that the vegetative protective cover over the treated and excavated soil on the former facility property is maintained.

For the OU2 selected remedy to be protective in the long-term, institutional controls (ICs) in the form of a restrictive covenant need to be finalized to limit future land use to commercial and recreational uses and to prevent removal of the protective cover in the areas of the former facility property where impacted soils were placed. The restrictive covenant should be reviewed and implemented by FDEP prior to reuse of the former facility property by the City of Jacksonville.

Protectiveness

The remedies at the Site overall currently protect human health and the environment in the short term because all contaminated soil and sediments have been treated; contaminated ground water is restricted to the former facility property; samples from private wells demonstrate that ground water contamination has not impacted the intermediate aquifer being used by residents in the immediate area, and the Site is located in a Florida Delineated Area which restricts the installation of ground water wells. For the OU1 selected remedy to be protective in the long-term, contaminant concentrations in ground water need to continue to decrease, the restrictive covenant (which limits future land use on the former facility property to commercial and recreational use and limits disturbance of the soil cap) needs to be finalized to prevent the creation of exposure pathways at the site, and an O&M plan needs to be developed to ensure the vegetative cover over the treated soil on the former facility property is maintained. For the OU2 selected remedy to be protective in the long-term, the restrictive covenant, which limits future land use to commercial and recreational uses and also restricts disturbing of the cover in the areas of the former facility property where impacted soils were placed, needs to be finalized to eliminate the potential for creation of exposure pathways at the Site.

Five-Year Review Summary Form

SITE IDENTIFICATION		
Site name *(from WasteLAN)*: Coleman-Evans Wood Preserving Co.		
EPA ID *(from WasteLAN)*: FLD991279894		
Region: 4	**State:** FL	**City/County:** Whitehouse/Duval County

SITE STATUS	
NPL status: ☒ Final ☐ Deleted ☐ Other (specify)	
Remediation status (choose all that apply): ☐ Under Construction ☐ Operating ☒ Complete	
Multiple OUs?* ☒ YES ☐ NO	**Construction completion date:** 09/18/2007
Has site been put into reuse? ☐ YES ☒ NO	

REVIEW STATUS	
Lead agency: ☒ EPA ☐ State ☐ Tribe ☐ Other Federal Agency	
Author name: Christy Cunnington and Johnny Zimmerman-Ward reviewed by EPA	
Author title: E² Inc. Associates	**Author affiliation:** E² Inc.
Review period**: 12/20/2008 to 06/20/2009	
Date(s) of site inspection: 02/12/2009	

Type of review:

☒ Post-SARA ☒ Pre-SARA ☐ NPL-Removal only
☐ Non-NPL Remedial Action Site ☐ NPL State/Tribe-lead
☐ Regional Discretion

Review number: ☐ 1 (first) ☒ 2 (second) ☐ 3 (third) ☐ Other (specify)

Triggering action:

☐ Actual RA Onsite Construction at OU# ☐ Actual RA Start at OU#
☐ Construction Completion ☒ Previous Five-Year Review Report
☐ Other (specify)

Triggering action date *(from WasteLAN)*: 06/20/2004

Due date *(five years after triggering action date)*: 06/20/2009

* ["OU" refers to operable unit.]
** [Review period should correspond to the actual start and end dates of the Five-Year Review in WasteLAN.]

Five-Year Review Summary Form continued

Issues:

1) Institutional controls as required by the selected remedy for OU2 have not been implemented.
2) The ground water phase of the RD/RA, (MNA) should be completed as scheduled.
3) No operations and maintenance (O&M) plan has been developed for the Site.
4) The ROD/ARODs/ESDs for OU1 did not require institutional controls for groundwater, although ICs in the form of a Florida Delineation Area are in place.

Recommendations and Follow-up Actions:

1) Restrict future uses at the Site by finalizing a restrictive covenant from the City of Jacksonville.
2) Complete ground water phase (MNA) of the remedial action.
3) Develop an O&M plan for the Site.

Protectiveness Statement(s):

The remedy at the Site currently protects human health and the environment because all contaminated soil has been treated; contaminated ground water is restricted to the former facility property; samples from private wells demonstrate that ground water contamination has not impacted the surficial aquifer; and the Site is located in a Florida Delineated Area which restricts the installation of ground water wells. For the selected remedy at OU1 to be protective in the long-term, contaminant concentrations in ground water need to continue to decrease and an O&M plan needs to be developed to ensure the vegetative cover over the treated soil on the former facility property is maintained. For the selected remedy at OU2 to be protective in the long-term, the restrictive covenant, which limits future land use to commercial and recreational uses, needs to be finalized to prevent the creation of exposure pathways at the Site.

Other Comments:

None.

Second Five Year Review
for
Coleman-Evans Wood Preserving Co. Superfund Site

1.0 Introduction

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

The EPA prepares FYRs pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 121 and the National Contingency Plan (NCP). CERCLA 121 states:

> "If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than each five years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented. In addition, if upon such review it is the judgment of the President that action is appropriate at such site in accordance with section [104] or [106], the President shall take or require such action. The President shall report to the Congress a list of facilities for which such review is required, the results of all such reviews, and any actions taken as a result of such reviews."

EPA interpreted this requirement further in the NCP; 40 Code of Federal Regulations (CFR) Section 300.430(f)(4)(ii), which states:

> "If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such actions no less often than every five years after the initiation of the selected remedial action."

E^2 Inc., an EPA Region 4 contractor, prepared this report regarding the remedy implemented at the Coleman-Evans Wood Preserving Company Site in Whitehouse, Duval County, Florida. EPA conducted this FYR from December 2008 through June 2009. EPA is the lead agency for developing and implementing the remedy for the Superfund financed cleanup at the Site. FDEP, as the support agency representing the State of Florida, has reviewed all supporting documentation and provided input to EPA during the FYR process.

This is the second FYR for the Site. The triggering action for this statutory review is the previous FYR. The FYR is required due to the fact that hazardous substances, pollutants, or contaminants remain at the site above levels that allow for unlimited use and unrestricted exposure. The Site consists of two OUs, both of which are addressed in this FYR.

2.0 Site Chronology

The following table lists the dates of important events for the Coleman-Evans Wood Preserving Company Superfund Site.

Table 1: Chronology of Site Events

Event	Date
Initial discovery of problem or contamination	September 1980
Preliminary Assessment	March 1981
Hazardous Ranking System Package	October 1981
NPL listing	September 1983
Site Inspection	September 1984
Removal Order	June 1985
Emergency Removal Action (ERA) performed by EPA	July 1985
Remedial Investigation/Feasibility Study complete	April 1986
ROD signature – excavation and incineration of 9,000 cubic yards	September 1986
General Notice Letter	October 1986
Special Notice Letter	December 1987
CERCLA Section 106 Order	April 1988
Department of Justice suit against Coleman-Evans (Mr. Jack Coleman)	July 1988
Treatability Study	March 1990
Department of Justice suit settled and Covenant Not To Sue	April 1990
AROD signed – soil washing of 27,000 cubic yards	September 1990
Discovery of dioxin contamination	June 1992
ERA performed by EPA in residential properties	May 1993
Focused Feasibility Study	April 1995
AROD signed – thermal desorption of 45,000 cu.yds	September 1997
Remedial Design(RD) start	February 1998
RD complete	December 1998
Remedial Action(RA) start (Phase I - soil)	January 1999
RA Contractor first mobilizes to Site	May 1999
Thermal Desorption Unit (TDU) mobilized to Site	April 2000
TDU operations stopped due to operational problems	October 2000
All site work stopped while TDU is redesigned	December 2000
Explanation of Significant Difference (ESD) regarding thermal oxidizer issued by EPA	June 2001
Site work re-started	June 2001
TDU operations re-started	October 2001
TDU Proof of Performance (POP) Test performed	December 2001
TDU POP Test results approved – Full scale TDU operations start	January 2002
TDU Subcontractor and RA Prime Contractor enter into binding Alternate Dispute Resolution (ADR) proceedings	September 2002
Treated quantity to date equals original contract quantity = 77,000 tons	October 2002
ADR ruling issued against RA Prime Contractor	January 2003
Ground water RD re-evaluation start	April 2003
ESD regarding revised treatment quantities issued by EPA	August 2003
ESD regarding revised treatment quantities issued by EPA	February 2004
Complete soil treatment	March 2004
Complete decontamination/demobilization of Phase I – soil for OU1	May 2004
First Five-Year Review	June 2004
Draft Phase I - Soil Interim Remedial Action (IRA) Report	July 2004

Event	Date
Ground water RD re-evaluation complete	August 2004
Phase I - Soil RA complete	September 2004
ESD regarding the ground water MNA phase	September 2005
OU2 Remedial Investigation Report	September 2006
OU2 ROD signed	September 2006
OU2 RD submitted	May 2007
Preliminary Close-out Report (PCOR)	September 2007
OU2 RA start	July 2007
OU2 RA complete	September 2007
Final Site-wide Interim RA Report	August 2008

3.0 Background

3.1 Physical Characteristics

The Coleman-Evans Site is an 11-acre, former wood preserving facility, located in the town of Whitehouse, Duval County Florida, approximately eight miles west of Jacksonville. Figure 1 shows the location of the site. The Site is bordered on the north by the Seaboard Coastline Railroad, on the south by residential homes along General Avenue, on the east by a low-lying wooded area, and on the west by residential homes across Celery Avenue. The Site is currently zoned for light industrial use. The parcel IDs for the Site are provided in Table 2.

Table 2. Parcel IDs for the Coleman-Evans Superfund Site

006708 0000	006699 0000	006706 0000
006689 0000	006700 0000	006707 0000
006692 0000	006701 0000	006732 0000
006693 0000	006702 0000	006733 0000
006694 0000	006703 0000	006735 0000
006694 0010	006704 0000	006736 0000
006695 0000	006704 0010	006737 0000
006697 0000	006705 0000	006768 0000
006698 0000	006705 0060	006785 0100

The Site is relatively flat, with less than ten feet of relief over the entire 11 acres. The Site drains by way of drainage ditches, which combine and flow southward approximately two miles to McGirts Creek. Drainage off the Site contaminated an additional three-acre, low-lying area beyond the Coleman-Evans property adjacent to the ditch. This contaminated area extended from the Site boundary south across General Avenue to the vicinity of Interstate Highway 10 as shown in Figure 2.

The top four to six feet of material covering the Site consists of poorly cemented fine grained quartz sand with minor amounts of clay and silt. Below this soil cover is a well cemented fine grained quartz sand unit that extends 35 feet below ground surface. This unit is considered the upper surficial aquifer at the Site. A sandy clay unit with intermittent clay lenses and sand layers exists from 35 feet below ground surface to approximately 100 feet below ground surface. This 65-foot thick unit appears to act as a confining layer that separates the upper surficial aquifer from the deeper limestone aquifer. The limestone unit is present from 100 feet below ground surface to approximately 130 feet below ground surface.

In the upper surficial aquifer, ground water flow is predominantly northeast to southwest. The depth to water is generally between two to five feet below ground surface, and the average horizontal hydraulic gradient is approximately 0.01. The saturated thickness of the upper surficial aquifer is 31 feet, horizontal hydraulic conductivity is 5.4 feet/day,

specific yield is estimated to be 0.02, and storativity is 0.003. Recharge to the upper surficial aquifer occurs in the vicinity of the Site and ground water discharges to McGirts Creek to the southwest.

Ground water flow in the deeper intermediate limestone aquifer is toward the west-southwest under a horizontal hydraulic gradient of 0.04. The saturated thickness of the deeper limestone aquifer is 30 feet, horizontal hydraulic conductivity is 9.7 feet/day, and storativity is 0.0015. Based on water level measurements collected from both units, the upper surficial aquifer and the deeper intermediate limestone aquifer are not in hydraulic communication.

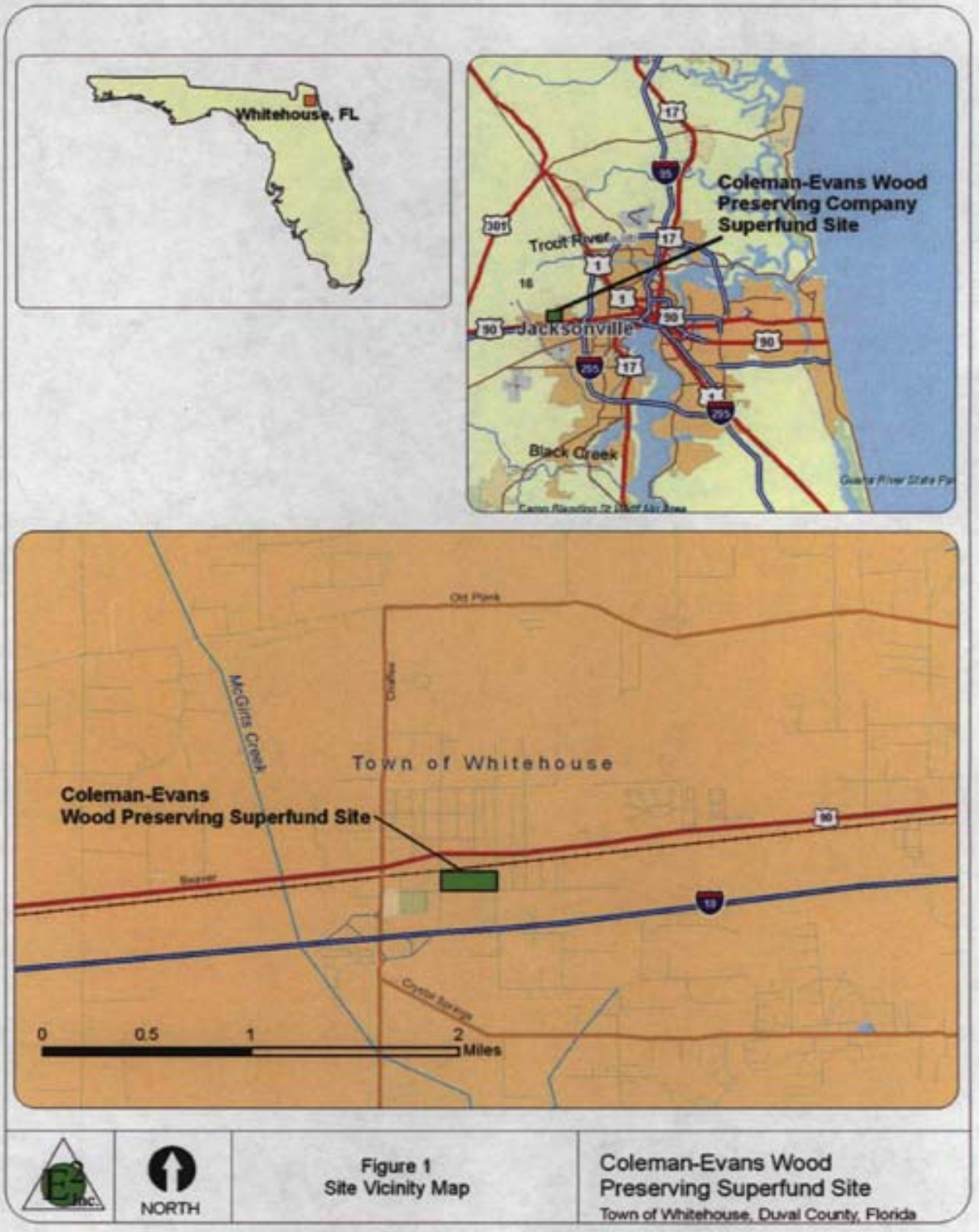
3.2 Land and Resource Use

Within a one mile radius of the Site, land use is primarily residential, light commercial, and industrial. Agriculture near the Site is limited to small gardens. Outside of the one mile radius, the area is primarily undeveloped rural land located approximately eight miles west of the City of Jacksonville. The community of Whitehouse is undergoing significant development as a suburban residential area for the City of Jacksonville.

All of the residences in the vicinity of the Site use private wells as a source of drinking water. All potable water wells for residential use are screened at depths of at least 100 feet below the ground surface. Approximately six homes in Whitehouse share a common boundary with the Site. It is estimated that there are 180 domestic wells within a one mile radius of the Site and 1,620 wells within a three mile radius of the Site. Several homes are down-gradient and very close to the Site. Due to the unknown construction details for theses residential wells, there is the possibility that the surficial aquifer may contribute water to some of these intermediate aquifer wells. The Florida Department of Health and Rehabilitative Services has been sampling private wells for PCP and metals within the immediate vicinity of the Site since 1990 and has consistently found the water safe for human consumption. Dioxin has not been detected in ground water monitoring wells on the Site, and therefore dioxin has not been sampled for in private wells. Surface waters in Duval County are used extensively for sports and recreation. The majority of the Site and surrounding areas are located within a Florida Delineated Area, which restricts potable well placement. The Florida Delineated Areas Program started in 1988, when the Florida Legislature directed FDEP to implement the Delineated Areas Program for potable water well construction and water testing standards within areas of known ground water contamination under Chapter 62-524, F.A.C.

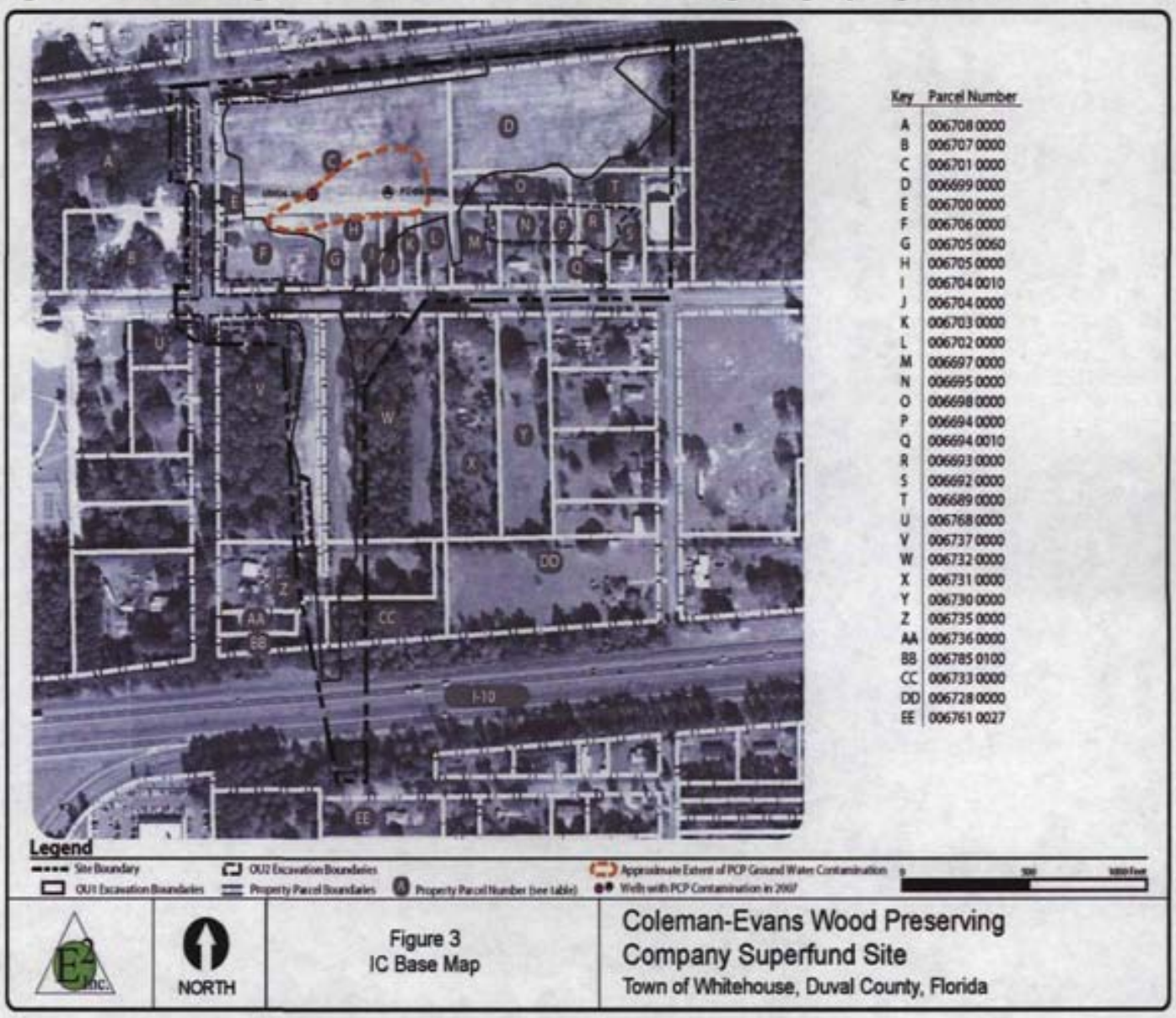
At the time of this review, the Site is not in reuse. However, the City of Jacksonville has plans to redevelop the Site as a community park. The redevelopment plan for the park includes a community center, court facilities, and parking. The City of Jacksonville is trying to secure funding for the construction of the park.

Figure 1: Location Map for the Coleman-Evans Wood Preserving Company Superfund Site



Disclaimer: This map and any boundary lines within the map are approximate and subject to change. The map does not purport to be a survey. The map is for informational purposes only regarding EPA's response actions at the site, and is not intended for any other purpose.

Figure 2: Detailed Map of the Coleman-Evans Wood Preserving Company Superfund Site



This map was created from using maps from the IRA Report from Black & Veatch Special Projects Corporation.

Disclaimer: This map and any boundary lines within the map are approximate and subject to change. The map does not purport to be a survey. The map is for informational purposes only regarding EPA's response actions at the site, and is not intended for any other purpose.

3.3 History of Contamination

From 1954 until the mid-1980s, the Coleman-Evans facility treated wood products with a mixture of PCP and fuel oil. The treatment process included steaming, drying, and pressure soaking the wood, which was carried out within a single pressurized chamber. During the steaming process, wood products were impregnated with PCP and Number 2 fuel oil, using 255° Fahrenheit steam for a period of eight hours. During this process, wood extracts were driven from the pores of the wood and settled on the bottom of the chamber, along with PCP and waste water from the condensed steam.

Prior to 1970, the effluent waste water from the treatment process was precipitated with caustic soda and aluminum sulfate, passed through a sand filter and discharged into a drainage ditch, which channeled the water south to McGirts Creek. The precipitated sludge was deposited into two unlined pits, each approximately 100 feet by 50 feet, located along the southeastern boundary of the Site. In 1970, the sludge disposal pits were discontinued, and the company began storing waste sludge in above ground storage tanks, which were located adjacent to the pit area near the southwestern edge of the Site. Coleman-Evans installed a waste water treatment system designed to treat the stored waste sludge. Chlorination and lime precipitation were incorporated into the treatment system to clarify waste water.

In 1980, when ground water contamination was confirmed at the Site, Coleman-Evans voluntarily engaged engineering firm Reynolds, Smith and Hill to design a waste water treatment system that included an activated carbon filter system to improve the removal of organic compounds. FDER (now FDEP) inspections between 1981 and 1983 found Coleman-Evans to be in violation of the Resource Conservation Recovery Act (RCRA) hazardous waste reporting, planning, and safety requirements. Coleman-Evans was also found to be a generator of hazardous waste and stored hazardous waste, which was in violation of RCRA requirements. While wood treating operations at the Site ceased in the late 1980s, sawing and kiln drying of untreated lumber continued at the Site until mid-1994.

3.4 Initial Response

OU1

When ground water contamination was found at the Site in September 1980 by the City of Jacksonville Health Department, Coleman-Evans added activated carbon filters to the waste water treatment system to improve the removal of organic compounds. By 1981, a closed-loop steam system was constructed on site, which resulted in no discharge of process water. FDER found Coleman-Evans to be in violation of RCRA requirements later in 1981. The Site was finalized on the NPL in September 1983.

In September 1984, a Remedial Investigation/Feasibility Study (RI/FS) was initiated. The RI was delayed by Coleman-Evans' refusal to allow access to the Site. As a result,

EPA and the Department of Justice filed a motion in Federal Court to obtain an order granting access to the Site.

In June 1985, EPA and its agents were granted access to the Site. That same year, EPA issued a Section 106 Removal Order to Coleman-Evans pursuant to CERCLA. Coleman-Evans did not comply with the Section 106 Removal Order. As a result, in July 1985, EPA conducted an emergency response action at the Site to control the major source of PCP contamination in the upper surficial aquifer. Two unlined pits were excavated and contaminated soil and sludge was shipped off site to a hazardous waste management facility in Emelle, Alabama. The pits were backfilled with clean material and French drains were installed.

In April 1986, the RI, which characterized the extent of contamination at the Site, was completed. In that same year, a baseline risk assessment (BRA) identified PCP as the primary contaminant of concern at the Site. PCP was shown to be present in sediment, soil, surface water, and in the upper surficial aquifer. In July 1986, the draft FS was released to the public, and in August 1986, a public meeting was held to present the FS alternatives to the community. The OU1 ROD was signed in September 1986; the selected remedy was excavation and incineration of 9,000 cubic yards of contaminated material. The 1990 AROD changed the remedy to soil washing of 27,000 cubic yards of contaminated material. The subsequent and final ROD for OU1 has a selected remedy of thermal desorption of 45,000 cubic yards of contaminated material.

EPA sampled soil, ground water, and various wastes in March 1991 to determine the extent of dioxin contamination at the Site. Sample results showed elevated levels of dioxin TEQ in soil and waste on the Site property, which led to additional testing at the Site and properties adjacent to the former facility property. In 1995, soil and ground water samples were taken at residential properties and their private wells. A BRA and focused FS were conducted to evaluate remedies to treat dioxin contamination found off site. In 1996, additional sampling delineated residual dioxin soil contamination. In 2004 the selected remedy for OU1 was carried out by the U.S. Army Corps of Engineers (USACE).

OU2

Once the treatment of contaminated soil was complete for OU1 in 2004, EPA designated OU2 as the soil contaminated with residual dioxin at properties near the former facility property that was not previously treated in the OU1 RA. A focused RI was conducted by Black & Veatch in 2006 to fully characterize the extent of residual dioxin contamination. The OU2 ROD was signed in September 2006. The OU2 RA was completed in September 2007.

3.5 Basis for Taking Action

The initial RI and subsequent investigations and removal actions at the Site were conducted between 1986 and 1997. The 1986 RI evaluated soil and ground water on and

off the former facility property, including neighboring residential properties. The RI, along with additional investigations, found PCP and dioxin contamination present at depths as low as 20 feet below ground surface. Elevated levels of PCP were first found in ground water during the 1986 RI, while dioxin contamination was not found until 1992. In the 1996 BRA addendum, EPA determined that residents living in the vicinity of the Site and users of private water supply wells located down-gradient of the Site risked exposure to Site contamination. Exposure to PCP can cause adverse health effects, including liver and kidney problems, and dioxin is considered a probable carcinogen. Table 3 presents the contaminants of concern (COCs) identified in the OU1 1997 AROD and in the 2006 OU2 ROD.

Table 3: Contaminants of Concern and Cleanup Goals

Contaminant of Concern	Ground water cleanup goal (µg/l)	Soil cleanup goal (mg/kg)	Operable Unit
Dioxin TEQ	0.001	0.001 (on- and off-facility)	1
		0.000030 (site attributable on-facility)	2
		0.000007 (site-attributable off-facility)	2
Pentachlorophenol (PCP)	1.0	2	1

4.0 Remedial Actions

In accordance with CERCLA and the NCP, the overriding goals for any RA are protection of human health and the environment and compliance with applicable or relevant and appropriate requirements (ARARs). A number of remedial alternatives were considered for the Site, and final selection was made based on an evaluation of each alternative against nine evaluation criteria that are specified in Section 300.430(f)(5)(i) of the NCP. The nine criteria include:

1. Overall Protectiveness of Human Health and the Environment
2. Compliance with ARARs
3. Long-Term Effectiveness and Permanence
4. Reduction of Toxicity, Mobility or Volume of Contaminants through Treatment
5. Short-term Effectiveness
6. Implementability
7. Cost
8. State Acceptance
9. Community Acceptance

4.1 Remedy Selection

Contamination at the Site is addressed as two OUs. OU1 addressed soil, sediment, debris, surface water, and ground water contamination found at the former facility property and in the associated drainage features to the south of the facility. OU2

addressed residual site-attributable dioxin contamination that was not addressed during the OU1 RA.

OU1

Soil and ground water contamination associated with the Coleman-Evans former facility operation was addressed in the OU1 RA. The OU1 ROD selecting the remedy was signed in September 1986, and was modified by two ARODs and four ESDs. Several changes were made to the original selected remedy; RAOs were modified in the 1997 AROD to the following:

- prevent ingestion/direct contact with contaminated soils and sediments in excess of the interim dioxin and final PCP cleanup levels;
- protect ground water as a current or potential drinking water supply by reducing contaminants to Maximum Contaminant Levels (MCLs) or other protection levels established by EPA and FDEP;
- prevent future ground water contamination;
- prevent incidental ingestion, dust inhalation, or direct contact with surface soil that contain concentrations of dioxin TEQ attributable to the Site; and
- control future releases of contaminants to ensure long-term protection of human health and the environment.

1986 ROD

The original selected remedy from the 1986 site-wide ROD included the following components:

- excavate all soil with PCP contamination in excess of 10 mg/kg;
- destruct contamination through onsite incineration;
- backfill excavated areas with decontaminated soils;
- treat ground water with PCP concentrations above 1.0 µg/L recovered during de-watering during soil excavation by active carbon adsorption and discharge into an on-site drainage ditch; and
- clean other incidental site-specific hazardous substance list compounds identified in ground water to levels that comply with federal drinking water standards.

1990 AROD

The original selected remedial component to treat contaminated soil through incineration was changed to treat contaminated soil by soil washing, bioremediation, and S/S in the 1990 AROD. Changing the treatment technology used for contaminated soil was expected to reduce the final volume of soil from 27,000 cubic yards to 2,700 cubic yards. Other changes made to the original selected remedy also included the following:

- backfill soil with PCP concentrations below 25 mg/kg after soil washing in the excavated area;

- bioremediate washwater from soil washing;
- treat recovered ground water found to exceed 1.0 µg/L with on-site granular activated carbon (GAC) adsorption units and discharge treated water to an on-site drainage ditch leading to McGirt's Creek;
- stabilize and place contaminated soil fines and woody fractions in excavated areas;
- take additional soil and sediment samples from locations off site, especially drainage ditches, and remediate any soil exceeding cleanup levels using the amended remedy;
- install and maintain a six-inch vegetative cover over the solidified mass (monolith);
- install a fence around the Site during remedial activities;
- appropriately dispose of on-site structures in the processing area and close sand filter units;
- remediate off-site contaminated soils in conjunction with the on-site remediation process; and
- implement institutional controls in the form of deed restrictions.

1997 AROD

In 1997, the selected remedy that was amended in 1990 required further amendment because dioxin was discovered at the Site as a new COC. Treatability studies determined that soil washing, bioremediation, and S/S process was not effective in reducing concentrations of dioxin TEQ to acceptable levels. Because EPA was conducting a human health risk assessment on dioxin, the 1997 AROD was considered an interim remedial action (IRA), pending an EPA final evaluation of the effects of dioxin. The major components of the IRA included:

- excavate approximately 45,000 cubic yards of soil, sediment, and wood debris from on-facility and off-facility areas contaminated with PCP and dioxin TEQ;
- treat excavated soil, sediment, and wood debris using an on-site thermal desorber using high temperature to destroy dioxin, an innovative technology at that time, followed by treatment of the off-gases;
- backfill excavated areas with treated material or clean fill and re-grade and re-vegetate all excavated areas, or both;
- recover and treat PCP-contaminated ground water and collect free-product for recycling or off-facility, or both; and
- relocate residents, as necessary, to facilitate construction.

ESDs

Four ESDs were required to clarify the selected remedy and note significant changes to soil volume and costs for the selected remedy. The 2001 ESD explained that the removal of contaminants from the Site by thermal desorption was accomplished in a non-oxidative environment. The 2001 ESD further clarified that an oxidative device, which was used as a final, or "polishing," step in the off-gas treatment system to address organic compounds

that were not condensed out of the system, was acceptable. The 2003 and 2005 ESDs were used to mark increases in the volume of soil to be treated, as well as increases in cost. In 2003, the estimate of soil to be treated was 135,000 cubic yards compared to 45,000 cubic yards in the 1997 AROD, with a new estimated cost of $49,999,979. The 2004 ESD increased the volume of soil to 155,000 cubic yards at a cost of $51,240,900. The 2005 ESD stated that results from EPA testing determined that the installation and operation of a ground water recovery system was no longer needed because remaining contaminant concentrations were low enough to be treated effectively through MNA.

OU2

The OU2 selected remedy was to remove the remaining site-attributable dioxin-contaminated soil from properties near the former Coleman-Evans facility, dispose of the soil on the former facility property, cover the OU1 treated soil and the OU2 excavated soils with a soil and protective vegetative cover, and implement a restrictive covenant as the IC mechanism. The remedy was selected to be compatible with planned future uses for the former facility property. The OU2 RAOs include:

- prevent incidental ingestion, dust inhalation, or direct contact with surface soil that contains concentrations of dioxin attributable to the Site in excess of the soil cleanup goals; and
- control future releases of contaminants to ensure long-term protection of human health and the environment.

The major components of the OU2 selected remedy include:

- excavation of soil delineated with attributable dioxin contamination above selected cleanup goals with restoration of affected properties with clean soil;
- placement of the soil on the pre-graded former facility property and installation of two-feet of vegetated soil cover;
- selection of ICs through a restrictive covenant to limit future land use to compatible commercial or recreational purposes, or both; and
- completion of FYRs of the remedy to ensure that protectiveness is maintained.

4.2 Remedy Implementation

When the Coleman-Evans owner/operators refused to cooperate with a CERCLA Section 106 Order to implement the RD and RA at the Site in April 1988, EPA decided to use federal funding to implement the RD/RA. In April 1990, Coleman-Evans settled with the United States Government for $350,000 and a complete covenant not to sue.

OU1

In 1997, USACE was tasked to prepare the RD and contract the RA. The RD was completed in 1998. RA began at the Site in 1999, when Fluor Daniel-GTI, Inc. prepared the Site by mobilizing temporary facilities, installing utilities, site access grants,

equipment removal and disposal, and site clearing and grubbing. Roy F. Weston, Inc. (Weston) was subcontracted to conduct the soil treatment and mobilized their Thermal Desorption Unit (TDU) to the Site in April 2000. However, when a proof-of-performance (POP) test showed that soil treatment standards were not being met by the TDU, Weston replaced the original unit with a new design that passed a second POP test in October 2001.

During soil excavations at the Site, soil along the excavation perimeter did not meet cleanup goals, so excavations were deepened and sidewalls were extended. Many of the original excavation zones expanded beyond their original dimensions, and, as a result, the original estimated soil volume of 52,265 cubic yards increased to 170,000 cubic yards of soil requiring treatment. The ground water encountered during excavation activities was managed through dewatering and all ground and storm water collected during the excavation activities and decontamination water produced during the RA was treated on-site with a waster water treatment plant and discharged as part of site RA operations.

By May 2004, all of the contaminated soil from the former facility and from the drainage pathway to the south had been treated. This included over 210,000 wet tons of soil that was treated using thermal desorption and placed back on the former facility property. During the soil cleanup portion of the remedy approximately 73,500,000 gallons of ground water and storm water were treated and discharged, resulting in a large reduction in ground water contaminant concentrations.

Two inspections were conducted in 2004, a pre-final and final inspection. Both were conducted by representatives of USACE, FDEP, and EPA. These inspections fulfilled the requirements for closeout of the construction contracts between USACE and the RA contractors, as well as the joint inspection requirement of the NCP (40 CFR Section 300.515(g)).

During the pre-final inspection, a punch list of items was identified as necessary for the completion of soil-phase activities. The final inspection was performed on August 24, 2004, following substantial completion of the punch list items and RA contractor demobilization. The punch list items were reviewed and formed a basis for the final inspection. All of the punch list items were complete with the exception of the following items:

- decontaminate and demobilize equipment; and
- re-vegetate final surface of the Site (seed and some turf placement).

During the final inspection, some additional items were identified by FDEP and EPA. These items were addressed by USACE and include:

- repair fence where water line passed through to TDU break trailer;
- install additional hay bales to drain area located at the northeast corner for the debris pile to prevent further erosion;

- open concrete berm under former feed prep building to allow standing water to drain;
- move ancillary water treatment plant supplies (hoses, barrels, ladders, pumps, etc.) to the laydown yard for proper storage and disposal;
- re-seed thin areas on site when appropriate; and
- include potable water system as government-owned equipment (GFE) for equipment disposition.

USACE completed these items by September 10, 2004. Ongoing activities included maintaining the vegetative cover and site security. The physical construction of the OU1 remedy – Phase 1 IRA of the Site – was acceptably completed on September 24, 2004.

OU2

In October 2006, EPA tasked Black & Veatch Special Projects Corporation (Black & Veatch) to prepare the OU2 RD. The RD was completed in May 2007. Vertical delineation soil sampling performed as part of the RD determined that some of the proposed excavation areas needed to be excavated deeper. In early 2007, EPA, FDEP, and USACE held a meeting at the Site to verify boundaries of the excavation areas based on site features. They also needed to identify the locations of an additional four "hot spots" included in the 2006 ROD. All of the areas were identified and the RD was finalized.

EPA awarded Black & Veatch the RA work in May 2007 and Black & Veatch subcontracted WRS Environmental & Infrastructure, Inc. (WRS) in June 2007 to perform the RA activities at the Site, including soil excavation and backfilling, grading and site surveying, tree inventory and removal, property access agreements (executed by USACE), installation of protective vegetative cover, and upgrades to the Site erosion and sediment controls.

All excavation areas for OU2 have been excavated and backfilled as specified in the RD. A total of 42,318 cy of imported backfill was brought to the site; 2,159 tons or 1,542 cy of soil and construction debris were disposed as non-hazardous waste; 3,056 cy or 4,126 tons of soil were excavated and brought back on to the Coleman-Evans property; and 35 containers totaling 475.04 tons of soil classified as F032 hazardous waste were disposed of by off-site incineration. The work was completed in August 2007.

Other RA activities including repair to the head wall on the northern end of the 36-inch elliptical pipe, repairs to a damaged section of the pipe and installation of the storm water conveyance structures were also completed in August 2007. Construction of the nominal 2-foot cover and final site grading and surveying also were complete in August 2007. Sod was laid on the residential properties as part of Site restoration. Hydro-seeding of the facility property was performed in late August 2007.

During OU2 RA activities, selected monitoring wells, which were agreed upon by EPA and FDEP, were abandoned properly in accordance with State of Florida requirements on

August 13 and 14, 2007. The remaining on-site monitoring wells are being used as part of the ground water MNA program

EPA and FDEP performed a joint Pre-final Inspection of the RA for the final remedy at the Site on August 24, 2007. The inspection involved reviewing the physical condition and status of each remedy component and the corresponding records, beginning with the components of the remedy located off the former facility property. A punch list of items to be completed was created for each remedy component.

EPA and FDEP conducted a joint Final Inspection on September 14, 2007 and determined that the contractors constructed the OU2 remedy in accordance with the RD plans and specifications, which were developed in accordance with the final RODs for the Site. The only items left from the punch list were to dispose of the remaining hazardous soil in the roll-offs and to monitor the protective cover for adequate vegetative growth and sediment erosion, which has since been completed.

4.3 Operation and Maintenance (O&M)

The OU1 1997 AROD estimated that O&M would cost $2.7 million for ground water treatment and O&M for nine years. However, since the OU1 ground water did not require treatment after the completion of the OU1 soil remedy, the remaining ground water contamination is being addressed through MNA. The 2005 ESD established a ground water monitoring plan that called for samples to be taken on a quarterly basis the first year, semi-annually the second year, and annually the following years until cleanup goals were met. The estimated cost for ground water monitoring at the Site was $50,000 per year for five years. The OU2 O&M included one year of erosion and sediment control monitoring and repair as necessary from September 2007 through September 2008, when the site became Operational and Functional. These costs were included in the OU2 RA costs. Additionally, conducting the FYRs for the Site is part of the OU2 O&M costs. However, because FYRs were already included as part of the OU1 selected remedy, there has been no increase to the overall O&M cost for the Site.

Ground water monitoring has followed the sampling schedule and was monitored on a quarterly basis between 2004 and 2005, semi-annually in 2006, and annually since 2007. The last sampling event was performed in December 2008. The ground water monitoring is performed and samples are analyzed internally at the EPA using the Science and Ecological Support Division (SESD) in Athens, Georgia, with sampling planned on an annual basis until MNA is complete.

The Site was determined by EPA to be Operational and Functional as of September 18, 2008 and the responsibility for O&M was turned over to the State of Florida. There are no annual regular O&M costs to date for the site since the Site has been in actual regular O&M for less than one year.

Table 4: Annual O&M Costs

Date Range		Total Cost (rounded to the nearest $1,000)
From	To	
9/08	present	NA

5.0 Progress Since the Last Five-Year Review

This report documents the second FYR for the Site. Since the 2004 FYR, OU2 was created to address off-site soils contaminated with residual dioxin (above the applicable 30 ppt or 7 ppt). The Preliminary Close Out Report (PCOR) was completed for OU1 and OU2, and the site is construction complete. The site-wide IRA report was also finalized in July 2008, and the remedy is operational and functional for OU1 and OU2.

The protectiveness statement from the 2004 FYR for the Site stated the following:

> The remedy at the Coleman-Evans Superfund Site (sitewide operable unit) is expected to be protective of human health and the environment upon completion, and in the interim, exposure pathways that could result in unacceptable risks are being controlled. The remedy currently protects human health and the environment because the excavation and treatment activities eliminated the potential for exposure to contaminated soil and have also reduced or eliminated any "source" material that may have been contributing to groundwater contamination. The surficial aquifer is not used for potable supply purposes by any of the local residents, and natural attenuation is thought to be occurring. The residential drinking water wells in the intermediate aquifer have not been shown to be impacted at levels above MCL's. However, in order for the remedy to remain protective in the long-term, the following actions need to be taken: completion of both phases of the Remedial Action; development of a final cleanup level for dioxin in soil and a corresponding decision document; and, performance of a potable well survey in the vicinity of the site to ensure there are no new exposure points.

The 2004 FYR presented recommendations for completing the soil phase of the RA and performing a final inspection. The 2004 FYR also recommended completing the RD for the ground water phase of selected remedies and implementing the remedial actions. Developing a consensus and decision document for the final cleanup level for dioxin was also recommended in the 2004 FYR. Additional recommendations included performing a detailed assessment of monitoring wells; implementing a plan to test potable wells at nearby residents; and completing a survey of existing potable and surficial wells within one mile of the Site.

Table 5 provides a summary of all recommendations made in the 2004 FYR, as well as follow up actions taken to address the recommendations.

Table 5: Progress on Recommendations from the 2004 FYR

Section	Recommendations	Party Responsible	Milestone Date	Action Taken and Outcome	Date of Action
5.1	Complete punch list items for soil phase of RA and perform final inspection.	Contractors, USACE, and EPA	May 2004	A punch list was developed during the pre-final inspection. Punch list items were addressed prior to the final inspection conducted in August 2004.	September 2004
5.2	Complete RD for the ground water phase of the on-going RA.	USACE and EPA	September 2004	An ESD was issued in 2005 to change the selected ground water remedy to MNA.	September 2005
5.3	Implement the RA for ground water phase of the RD.	EPA and FDEP	September 2005	Ground water monitoring wells that were installed in May 2004 were used to monitor the remaining ground water contamination.	September 2005
5.4	Develop consensus for a final clean-up level for dioxin in soil and corresponding decision document.	EPA	September 2005	The 2006 OU2 ROD was developed to address the additional contamination that was not covered in the 1986 OU1 ROD.	September 2006
5.5	Perform a detailed assessment of all existing monitoring wells. Re-develop or abandon wells as appropriate.	EPA	September 2004	During the RA for OU2, several monitoring wells were abandoned.	August 2007
5.6	Develop and implement a formal plan for curtailment of testing nearby residential potable wells.	EPA	September 2005	Since no contamination has ever been detected in any of the nearby residential potable wells, testing of these nearby residential potable wells has been curtailed.	September 2005

Section	Recommendations	Party Responsible	Milestone Date	Action Taken and Outcome	Date of Action
5.7	Perform a new survey of existing potable and surficial wells within one mile of the Site.	EPA	September 2004	The area is relatively built out and newer residences are on public water. The City of Jacksonville performed a permitted well survey and there are no known new potable and surficial wells within a one mile radius of the Site.	April 2009

5.1 Phase 1 - Soil IRA Punch List

During the pre-final inspection, a punch list of items that needed to be addressed as part of the Phase 1 Soil IRA was developed. The items in the punch list were addressed prior to the final inspection conducted in August 2004.

5.2 Ground Water Phase of RD

The remedy selected to use a ground water treatment system was changed when ground water contaminant concentrations were determined to be low enough to be treated by MNA. An ESD was issued in 2005 to reflect the new treatment for ground water in OU1.

5.3 Ground Water Phase of RA

Ground water monitoring wells were installed at the Site in May 2004 to monitor the remaining ground water contamination as part of the MNA. Sampling has been conducted from 2004 through 2008 and is still on-going.

5.4 Dioxin Cleanup Standard

In the OU1 1997 AROD the EPA cleanup action level for dioxin soil contamination was determined to be 1.0 µg/kg dioxin TEQ, which was based on EPA's nationally recommended residential cleanup goal for Superfund site RA. The site-attributable dioxin TEQ soil cleanup goals established in the OU2 2006 ROD were derived from the FDEP Soil Cleanup Target Levels (SCTLs) promulgated in April 2005, Florida Administrative Code (FAC), Chapter 62-780, Table II, for residential (0.007 µg/kg) and commercial/industrial (0.030 µg/kg) direct exposure scenarios.

5.5 Monitoring Well Assessment and Abandonment

In August 2007, monitoring wells were inventoried during the OU2 RA and EPA and FDEP determined that 27 monitoring wells could be abandoned. The City of

Jacksonville granted well abandonment permits, and the wells were abandoned and completion reports were submitted by a state licensed well driller. The remaining monitoring wells are being used for the MNA program.

5.6 Plan for Testing Nearby Residential Potable Wells

Since no Site-related contamination has ever been detected in any of the nearby residential potable wells, testing of these nearby residential potable wells was curtailed in 2005.

5.7 Potable and Surficial Well Survey

The immediate area is relatively built out and newer residences are on public water. There are no known new potable wells installed within a one-half mile radius of the Site in the period of time since residential well sampling was discontinued by EPA. The residential well sampling was discontinued approximately three years ago due to no detections ever being found of Site-related contaminants above drinking water MCLs in any residential wells. A well survey was conducted by the City of Jacksonville in April 2009. The well survey included wells known by the City of Jacksonville through the water supply well permitting process to be within a half-mile radius of the Site. This well survey can be found in Appendix F. The area around the Site is in a State of Florida Delineated Ground Water Zone where new potable water wells will not be permitted by the state and local governments due to the presence of a Superfund site. The Florida Delineated Areas Program started in 1988, when the Florida Legislature directed FDEP to implement the Delineated Areas Program for potable water well construction and water testing standards within areas of known ground water contamination under Chapter 62-524, F.A.C.

6.0 Five-Year Review Process

6.1 Administrative Components

EPA Region 4 initiated the FYR in December 2008 and scheduled its completion for June 2009. The FYR Site review team was led by Rusty Kestle of EPA, Remedial Project Manager (RPM) for the Site, and included contractor support provided to EPA by E^2 Inc. In December 2008, EPA held a scoping call with the review team to discuss the Site and items of interest as they related to the protectiveness of the remedy currently in place. A review schedule was established that consisted of the following:

- community notification;
- document review;
- data collection and review;
- site inspection;
- local interviews; and

- FYR report development and review.

6.2 Community Involvement

On May 8, 2009, a public notice was published in the Florida Times-Union announcing the FYR process for the Site, providing the EPA RPM's (Mr. Rusty Kestle) contact information, and inviting community participation. The press notice is available in Appendix B. This FYR Report will be made available to the public once it has been finalized. Copies of this document will be placed in the designated public repository, which has moved from the Whitehouse Elementary School Media Center to the West Regional Jacksonville Public Library at 1425 Chaffee Rd S., Jacksonville, Florida 32221. EPA received no citizen comments as a result of the advertisement.

On February 13, 2009, as part of the Site inspection, E^2 Inc. staff visited the West Regional Library and confirmed that Site documents were readily available to the public in the library. Site documents were available through 2006. Since the Site inspection, actions have been taken to include all relevant and current Site documents at the repository. Upon completion of this FYR, a public notice will be placed in the Florida Times-Union newspaper to announce the availability of the final FYR Report in the Site document repository.

6.3 Document Review

This FYR included a review of relevant, site-related documents, including the 1986 ROD, 1997 AROD, ESDs, 2006 ROD, remedial action reports, and recent monitoring data. A complete list of the documents reviewed can be found in Appendix A.

ARARs Review

Section 121 (d)(2)(A) of CERCLA specifies that Superfund RAs must meet any federal standards, requirements, criteria, or limitations that are determined to be ARARs. ARARs are those standards, criteria, or limitations promulgated under federal or state law that specifically address a hazardous substance, pollutant, contaminant, RA, location, or other circumstance at a CERCLA site. To-Be-Considered criteria (TBCs) are nonpromulgated advisories and guidance that are not legally binding, but should be considered in determining the necessary level of cleanup for protection of human health or the environment. While TBCs do not have the status of ARARs, EPA's approach to determining if a RA is protective of human health and the environment involves consideration of TBCs along with ARARs. Chemical-specific ARARs are specific numerical quantity restrictions on individually listed contaminants in specific media. Examples of chemical-specific ARARs include the MCLs specified under the Safe Drinking Water Act, as well as the ambient water quality criteria that are enumerated under the Clean Water Act. Because there are usually numerous contaminants of potential concern for any Site, various numerical quantity requirements can be ARARs.

The final remedy selected for this Site was designed to meet or exceed all chemical-specific ARARs and meet location- and action-specific ARARs. Chemical-specific ARARs identified in the selected remedy within the RODs, ESDs, and ARODs for the soil and ground water at this Site and considered for this FYR for soil and ground water treatment at the Site are listed in Table 6 and 7, respectively.

Soil ARARs

The 1997 AROD established cleanup goals for pentachlorophenol (PCP) and interim cleanup goals for dioxin TEQ, whose final cleanup goals were established in the 2006 ROD (Table 6). PCP cleanup levels in the 1997 AROD were based upon protection of ground water and were calculated using a site specific assessment. Leach-based Soil Screening Level (SSL) and Synthetic Precipitation Leaching Procedure (SPLP) determined a cleanup goal of 2 mg/kg in soil with a pH of 8.0. Although this cleanup goal is higher than the current SSLs for ground water protection based on EPA's Regional Screening Level[1] and the Soil Cleanup Target Level (SCTL) for ground water protection in Florida's SCTLs[2], the cleanup goal was calculated based on site-specific parameters and is more appropriate for the Site than the generic assumptions used to develop EPA's SSLs and Florida's SCTLs. This review did not find any evidence that the site-specific parameters have changed since the 1997 AROD. Therefore, the cleanup goal of 2 mg/kg for PCP remains effective.

At the time of the 1997 AROD, there were no federal or state ARARs for dioxin. EPA and FDEP, therefore, selected an interim cleanup level of 1 mg/kg while EPA completed a risk-based comprehensive reassessment of dioxin exposure and human health effects. In the 2006 ROD, the final cleanup goals for dioxin TEQ were established based on state clean up target levels (Florida Administrative Code 62-780); applying a future residential land use for the properties surrounding the former facility property; and a commercial land use for the former facility property. This cleanup goal is a more stringent cleanup goal than EPA's nationally recommended residential soil cleanup goal for dioxin TEQ of 0.001 mg/kg for Superfund site remedial actions (EPA, 1998). Although there have been no changes to soil ARARs since the 2006 ROD, EPA is continues work on a comprehensive reassessment of dioxin exposure and human health effects. The final version of this report may affect the dioxin cleanup goals at this Site.

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[1] EPA's Regional Screening Level is available online at:
http://www.epa.gov/region09/superfund/prg/pdf/composite_sl_table_bwrun_12SEP2008.pdf.
[2] Florida's SCTLs are available online at:
http://www.dep.state.fl.us/waste/quick_topics/rules/documents/62-777/TableIISoilCTLs4-17-05.pdf.

Table 6 Previous and Current ARARs for Soil COCs

Contaminants of Concern	ARAR as of 1986 ROD (mg/kg)	ARAR as of 1990 AROD (mg/kg)	ARAR as of 1997 AROD (mg/kg)	ARAR as of 2006 ROD (mg/kg)	ARAR as of 2008[a] (mg/kg)	ARAR changed since 1997 AROD?
Dioxin TEQ	NA	NA	0.001[b]	0.000030 on site	0.000030 on site	More stringent
				0.000007 off site	0.000007 off site	
Pentachlorophenol	10	25	2	2[c]	2	No

a) Based on Florida Administrative Code 62-780/1x10^{-6} Residential soil
b) Interim cleanup level established by EPA and FDEP.
c) 2006 ROD references OU1 performance standards set forth in 1997 AMD.

Ground Water ARARs

The 1997 AROD established cleanup goals for the two ground water COCs in OU1, pentachlorophenol and dioxin TEQ (Table 7). Cleanup goals for PCP were established based on site-specific calculations that are protective of ground water, which were the same as federal and state MCLs (40 CFR 141, FAC 62-550). Cleanup goals for dioxin TEQ were based on federal MCLs (40 CFR 141), and state MCLs (FAC 62-550), whichever was more stringent. This review found that the current federal MCL for dioxin TEQ (0.03 ppb) is more stringent than the 1997 interim cleanup level (1.0 ppb). The 1997 AROD noted the more stringent federal MCL for dioxin in drinking water but chose 1.0 ppb based on guidance concentrations for dioxin in ground water.

Table 7 Previous and Current ARARS for Ground Water COCs

Contaminants of Concern	ARAR as of 1986 ROD (mg/l)	ARAR as of 1997 AROD (mg/l)	Current MCL (mg/l)	ARAR as of 2008 (mg/l)	ARARs changed since 1997?
Dioxin TEQ	NA	0.000001	0.00000003[a]	0.000001[b]	No
Pentachlorophenol	0.001	0.001	0.001	0.001	No

a) Federal Drinking Water MCL.
b) Assuming no change in site-specific calculations.

6.4 Data Review

OU1

Soil

All contaminated soil that was excavated and treated was sampled between October 2001 and January 2004. No new data for the OU1 soil has been collected for the past five years because the sampling conducted during 2001 though 2004 confirmed that cleanup levels for PCP and dioxin were met.

Ground Water

The ground water data evaluations from 2005 through 2007, and the most recent ground water sampling data from 2008, were reviewed as part of this FYR review process. Because there were substantial changes to subsurface conditions as a result of the soil IRA, ground water monitoring data taken prior to the soil IRA in 2004 was not reviewed. Samples taken in May and June 2004 were reviewed. In February 2005, samples were collected and analyzed from six of the 13 monitoring wells constructed at the Site in May 2004.

Monitoring data from May and June 2004 showed that MW04-10 and PZ04-03 had detectable levels of PCP concentrations above the cleanup goal. Dioxin was only detected in MW04-12 at a level of 0.0011 µg/L. However, the detection was considered suspect because of the high turbidity of the ground water sample. The wells were re-sampled to validate the initial findings. The re-sampling results showed that PCP was the only contaminant detected in the wells. The monitoring data from early 2005 showed that only MW04-10 consistently had detectable concentrations of PCP. The highest concentration of PCP in MW04-10 was observed in February 2005 at a concentration of 5.5 µg/l. In 2007, monitoring data showed that PCP concentrations decreased to 2.5 µg/l in MW04-10. In February 2005, PCP was detected in PZ04-03 and MW04-11 with concentrations of 4.0 µg/l and 4.6 µg/l, respectively. While samples were taken in 2006, no PCP was detected in either well. During August 2007 sampling, the PCP concentration in both wells were observed to have decreased to concentrations of 1.1 µg/l in PZ04-03 and not detected in MW04-11. During December 2008 sampling, the PCP concentrations in MW04-10 and PZ04-03 were observed to have slightly increased to concentrations of 3.2 µg/l in MW04-10 and 4.2 µg/l in PZ04-03. PCP remains not detected in MW04-11. No wells showed dioxin TEQ concentrations above cleanup goals in ground water data evaluations and 2007 or 2008 ground water sampling data. Table 8 provides a summary of the PCP concentrations that have been observed from 2005 through 2008.

Table 8. 2005-2008 Ground Water PCP Concentrations Exceeding Cleanup Goals

Well	2004	2005	2006	2007	2008
MW04-10	6.6, J	5.5	3.0	2.5	3.2
PZ04-03	2.2, J	4.0	ND	1.1	4.2
MW04-11	ND	4.6	ND	ND	ND

All units in parts per billion (ppb)
Cleanup goal for PCP = 1 ppb
ND = Not detected
J = Estimated value

OU2

Soils contaminated with residual dioxin were excavated and disposed of on the former facility property or transported for incineration if in excess of 1.0 µg/kg.

6.5 Site Inspection

On February 13, 2009, the site inspection was performed by the following participants: Rusty Kestle, EPA RPM, L'Tonya Spencer, EPA Community Involvement Coordinator, Region 4; Daralene Pondo, Black & Veatch Project Manager; and Johnny Zimmerman-Ward and Christy Cunnington of E² Inc. The site inspection was performed as part of the FYR process.

During the site inspection, participants observed the work that has been completed in accordance with the RODs and subsequent ARODs and ESDs, including the remediation of soil and sediment contamination for OU1 and OU2; the former water treatment area; ground water monitoring wells; the soil and vegetative cover; and residences that were cleaned up as part of the soil remedies.

The Site was well maintained and vegetation has been established on the soil cover to ensure proper surface water drainage during rain events. Remaining monitoring wells on the former facility property were marked and secured. Settlement monuments used to monitor the soil cover for erosion control were identified and clearly marked throughout the Site. The fence surrounding the Site was in good condition, and signs were posted identifying the area as a Superfund site. There were no signs of trespassing on the Site.

The Site information repository was also visited as part of the FYR process. Relevant Site documents were available through 2006. EPA noted all relevant public documents should be contained at the repository, and all documents have been added to the repository.

E² Inc. staff conducted research at the Duval County Public Records Office and found deed information pertaining to the Site listed in Table 9.

Table 9: Deed Documents from Duval County Public Records Office

Date	Type of Document	Description	Book #	Page #
1988	Judgment	Federal lien securing the payment to the United States for all costs and damages covered by SARA for the cleanup of the Site.	6435	1584
1988	Judgment	Document stating that Coleman-Evans Wood Preserving Co. is responsible for cleaning up the Site.	6483	254

Tables 10 and 11 list the institutional controls (ICs) associated with areas of interest at the Site.

Table 10. Sitewide Area of Interest IC Summary Table

Area of Interest – Sitewide					
Contaminated Media	**ICs Needed**	**ICs Called for in the Decision Documents**	**Impacted Parcel(s)**	**IC Objective**	**Instrument in Place**
Ground water	No	No	None (when MNA remedy is completed)	Restrict installation of ground water wells	The Site lies within a Florida Delineated Zone which restricts well placement.[a]
Soil	Yes	Yes	006701 0000, 006699 0000	To prevent exposure pathways by limiting future land use to recreational and commercial purposes	None

a. Florida's ground water delineation information is available online at: http://www.dep.state.fl.us/water/groundwater/delineate.htm.

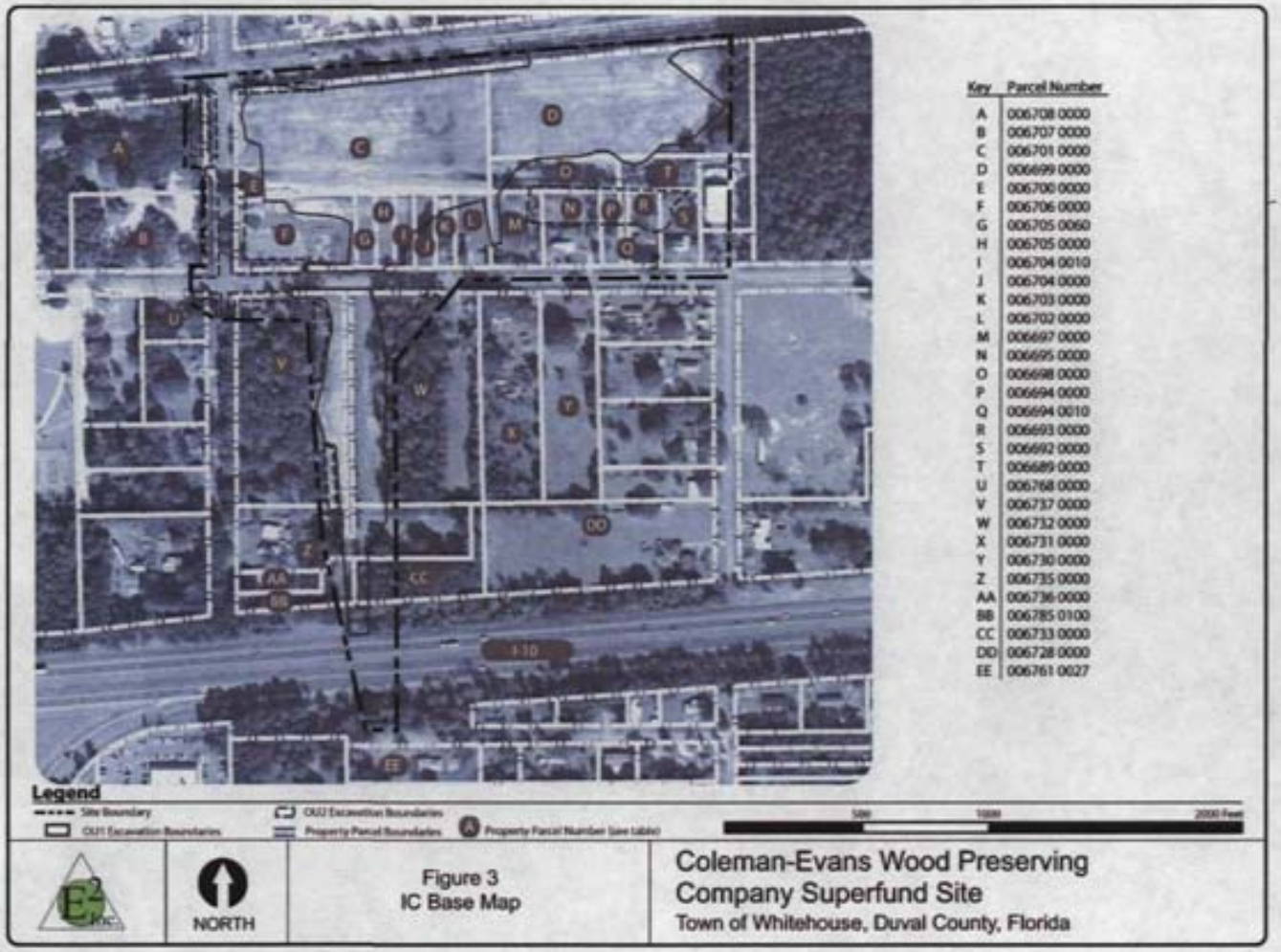
Table 11. Adjacent Properties Area of Interest IC Summary Table

Area of Interest – Adjacent Properties					
Contaminated Media	**ICs Needed**	**ICs Called for in the Decision Documents**	**Impacted Parcel(s)**	**IC Objective**	**Instrument in Place**
Ground water	No	No	None (when MNA remedy is completed)	Restrict installation of ground water wells	The Site lies within a Florida Delineated Zone which restricts well placement.[a]

a. Florida's ground water delineation information is available online at: http://www.dep.state.fl.us/water/groundwater/delineate.htm.

Figure 3 shows property boundaries at the Site and Figure 4 shows the Florida Delineated Ground Water Zone. The Florida Delineated Ground Water Zone restricts well installations.

Figure 3: IC Base Map

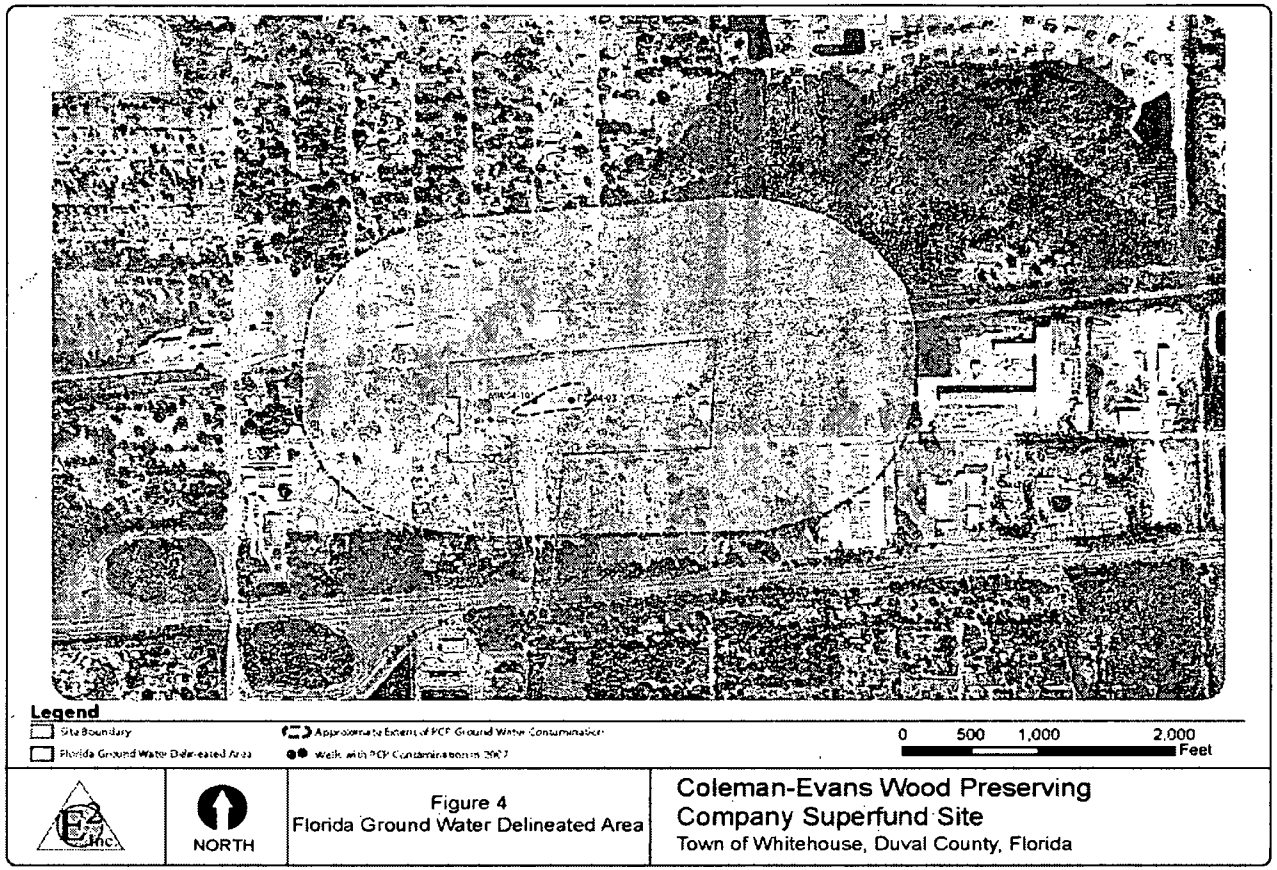


This map was created from using maps from the IRA Report from Black & Veatch Special Projects Corporation.

Disclaimer: This map and any boundary lines within the map are approximate and subject to change. The map does not purport to be a survey. The map is for informational purposes only regarding EPA's response actions at the site, and is not intended for any other purpose.

Figure 4: Florida Ground Water Delineated Area Map

Disclaimer: This map and any boundary lines within the map are approximate and subject to change. The map does not purport to be a survey. The map is for informational purposes only regarding EPA's response actions at the site, and is not intended for any other purpose.



6.6 Interviews

During the FYR process, interviews were conducted with parties impacted by the Site, including the current landowners, and regulatory agencies involved in Site activities or aware of the Site. The purpose of the interviews was to document the perceived status of the Site and any perceived problems or successes with the phases of the remedy that have been implemented to date. On August 5, 2008, L'Tonya Spencer of EPA conducted interviews with residents living near the Site. While residents showed some initial concern about the Site being reused in the future, they were overall satisfied with the cleanup at the Site. Ms. Cunnington of E^2 Inc. interviewed Daralene Pondo of Black & Veatch during the site inspection on February 13, 2009. Following the site inspection, Ms. Cunnington interviewed John Sykes of FDEP by phone. Interviews are summarized below, and complete interviews are included in Appendix C.

Resident 1: Resident 1 knew of the Site, but thought the area had been condemned. Resident 1 showed concern about the Site being reused in the future until EPA assured them institutional controls would be implemented at the Site. Resident 1 was not aware of any trespassing at the Site. Overall, Resident 1 was satisfied with the Site cleanup, and suggested that ground water monitoring reports should be provided to the community during each sampling period.

Resident 2: Resident 2 was aware of the Site, but not of the soil cleanup progress. Resident 2 was interested in knowing if the Site was going to be reused. No trespassing has been observed by Resident 2. Resident 2 mentioned that there is a water well on Celery Drive that is periodically sampled and treated by a private contractor, and that the results are reported to the City and State. Resident 2 had no other information or concerns about the Site.

Daralene Pondo: Ms. Pondo is the project manager for the Site contractor, Black & Veatch. Ms. Pondo has found working at the Site to be interesting and educational. She has learned that working with the State and EPA to develop cleanup goals can take a substantial amount of time. She is not aware of any problems or difficulties implementing the remedy at the Site, and feels well informed about Site activities. Site activities have met all the requirements of the OU2 ROD, ESDs, the State, and EPA. Ms. Pondo also stated that great efforts have also been made to satisfy residents living near the Site.

John Sykes: Mr. Sykes is the project manager at the Site for FDEP. Mr. Sykes finds the selected remedy to be functioning adequately and that the project has overall been successful, but there is currently no Restrictive Covenant in place for the Site. FDEP has been assisting the City of Jacksonville with implementing the Restrictive Covenant. Mr. Sykes has also been involved with completing the operation and functional determination for the Site and will eventually be involved with developing an O&M plan that will be transferred to the City of Jacksonville.

7.0 Technical Assessment

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

The review of documents, ARARs, risk assumptions, and the site inspection indicate that the selected remedies are functioning as intended by the RODs and subsequent ARODs and ESDs for OU1 and OU2. Contaminated soil has been excavated and treated, and treated soil is contained on the former facility property under a vegetative cover. The remaining PCP contamination in ground water is being addressed by MNA. The most recent sampling event from 2008 shows that ground water contamination is localized to three monitoring wells in close proximity to each other on the former facility property and contaminant concentrations overall have been decreasing. The ROD, ARODs and ESDs for OU1 did not require institutional controls for groundwater. However, the majority of the Site is located within a Florida Delineated Area, which restricts potable well placement. A restrictive covenant still needs to be implemented to limit future land use. An O&M plan also needs to be developed to ensure that the vegetative cover over the treated soil is properly maintained.

7.2 Question B: Are the exposure assumptions, Toxicity Data, Cleanup Levels, and Remedial Action Objectives (RAOs) Used at the Time of Remedy Selection Still Valid?

The site-specific soil cleanup goal for PCP of 2.0 mg/kg in the OU1 1997 AROD and the interim cleanup goal for dioxin of 1.0 µg/kg have not changed. The OU2 2006 ROD changed the dioxin cleanup goal to the FDEP SCTLs for residential and commercial land use for the areas addressed as part of the OU2 RA. The OU1 interim cleanup goal for dioxin in soil does not call the effectiveness of the OU1 selected remedy into question because residual site-attributable soil contamination has been cleaned up to the goals set in the OU2 2006 ROD. There have been no other changes in cleanup goals, exposure assumptions, toxicity data, or RAOs.

7.3 Question C: Has Any Other Information Come to Light That Could Call Into Question the Protectiveness of the Remedy?

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

7.4 Technical Assessment Summary

The assessment of the Site for this FYR, based on the review of documents, ARARs, risk assumptions, and the site inspection, indicate that the selected remedy is functioning as intended by all RODs, ARODs and subsequent ESDs. The OU1 selected remedy is protective of human health and the environment in the interim because exposure pathways that could result in unacceptable risks are being controlled. The excavation and treatment of contaminated soil at the former facility property has eliminated the potential for exposure to contaminated soil and has also removed any source material that may have

been contributing to ground water contamination. The surficial aquifer is not used by local residents as a potable source of water, and the intermediate aquifer used for residential drinking water wells has not been impacted with contaminant levels above MCLs. Ground water treatment was not required because MNA is removing the remaining low level contaminants from the ground water. ICs still need to be implemented through a restrictive covenant to ensure future land uses do not compromise the integrity of the remedy. The OU2 selected remedy is protective of human health and the environment because the excavation and disposal of soil contaminated with residual site-attributable dioxin TEQ concentrations above cleanup levels has eliminated the potential for exposure to contaminated soil and has eliminated any source material that may have been contributing to ground water contamination.

For the OU1 selected remedy to be protective in the long-term, contaminant concentrations in ground water need to continue to decrease, the restrictive covenant (which limits future land use on the former facility property to commercial and recreational use and limits disturbance of the soil cap) needs to be finalized to prevent the creation of exposure pathways at the site, and an O&M plan needs to be developed to ensure the vegetative cover over the treated soil on the former facility property is maintained. The OU2 selected remedy is protective in both the short-term and long-term since the residential areas were cleaned up to the 7 ppt Florida RBCA residential soil dioxin standard and the other areas within OU2 were cleaned up to the 30 ppt Florida RBCA industrial/commercial soil dioxin standard.

8.0 Issues

During the course of the FYR document and data review, site inspection, and interviews, issues were identified potentially relating to remedy effectiveness. These issues and their impact on remedy protectiveness are summarized in Table 12.

Table 12: Current Issues for the Coleman-Evans Wood Preserving Company Superfund Site

Issue	Affects Current Protectiveness (Yes or No)	Affects Future Protectiveness (Yes or No)
Implement institutional controls on property use for the former facility property as required by the selected remedy.	No	Yes
The ground water phase of the RA, MNA, should be completed.	No	Yes
No O&M plan has been developed for the Site.	No	Yes

Appendix A: List of Documents Reviewed

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Information System (CERCLIS) Site Information accessed from Web site http://cfpub.epa.gov/supercpad/cursites/csitinfo.cfm?id=0401202 December 2008-June 2009.

EPA Record of Decision: Coleman-Evans Wood Preserving Company. EPA ID: FLD991279894. OU 01 Whitehouse, FL. September 25, 1986.

EPA Record of Decision Amendment: Coleman-Evans Wood Preserving Company. EPA ID: FLD991279894. OU 01 Whitehouse, FL. September 26, 1990.

EPA Record of Decision Amendment: Coleman-Evans Wood Preserving Company. EPA ID: FLD991279894. OU 01 Whitehouse, FL. September 25, 1997.

EPA Explanation of Significant Differences: Coleman-Evans Wood Preserving Company. OU 01. Whitehouse, FL. June 1, 2001.

EPA Explanation of Significant Differences: Coleman-Evans Wood Preserving Company. OU 01. Whitehouse, FL. August 14, 2003.

EPA Explanation of Significant Differences: Coleman-Evans Wood Preserving Company. OU 01 Whitehouse, FL. February 26, 2004.

EPA Explanation of Significant Differences: Coleman-Evans Wood Preserving Company. OU 01. Whitehouse, FL. June 1, 2001.

First Five-Year Review Report for Coleman-Evans Wood Preserving Company Superfund Site. Whitehouse, FL. May 2004.

EPA Explanation of Significant Differences: Coleman-Evans Wood Preserving Company. OU 01 Whitehouse, FL. September 20, 2005.

EPA Record of Decision: Coleman-Evans Wood Preserving Company. EPA ID: FLD991279894. OU 02 Whitehouse, FL. September 28, 2006.

Unilateral Administrative Order: Coleman-Evans Wood Preserving Company. Docket No. 85-01-C. October 15, 1984.

Final Feasibility Study Report: Coleman-Evans Wood Preserving Site. Whitehouse, FL. October 3, 1986

Remedial Investigation Draft Report: Coleman-Evans Wood Preserving Site. Whitehouse, FL. February 27, 1986.

Treatability Study Final Report for Coleman-Evans Wood Preserving Company Site. Volume 1. April 1990.

Treatability Study Final Report for Coleman-Evans Wood Preserving Company Site. Volume 2. April 1990.

Focused Feasibility Study: Coleman-Evans Wood Preserving Site. Whitehouse, FL. April 1995.

EPA Region 4 Sites in Reuse Fact Sheet: Coleman-Evans Wood Preserving Site. October 2004.

Preliminary Close Out Report: Coleman-Evans Wood Preserving Superfund Site. Whitehouse, FL. September 2007.

Site-wide Interim Remedial Action Report: Coleman-Evans Wood Preserving Company Superfund Site. Whitehouse, FL. Black & Veatch Special Projects Corp. July 2008.

Appendix B: Press Notices

U. S. Environmental Protection Agency, Region 4
Announces a Five-Year Review
for the Coleman-Evans Wood Preserving Co. Superfund Site,
Whitehouse, Duval County, FL

Purpose/Objective: The U.S. Environmental Protection Agency (EPA) is conducting a Five-Year Review of the remedy for the Coleman-Evans Wood Preserving Co. site (Site) in Whitehouse, Florida. The purpose of the Five-Year Review is to ensure that the selected cleanup actions effectively protect human health and the environment.

Site Background: The Coleman-Evans Wood Preserving Co. site occupies approximately 11 acres in Whitehouse, Florida. From the 1954 until the mid-1980s, Coleman-Evans operated as a wood treating facility. Although wood treating operations ceased in the late 1980s, sawing and kiln drying of untreated lumber continued at the Site until mid-1994. Waste water from the treatment process was typically discharged into a drainage ditch and the remaining sludge was then deposited into two unlined pits onsite. The wood treating process left behind pentachlorophenol (PCP) and dioxin in the soil and sediment, and ground water was found to be contaminated with PCP.

Cleanup Actions: In 1986, the Record of Decision (ROD) was signed for operable unit one (OU1) and selected a remedy to clean up contaminants at the Site by excavating and incinerating PCP contaminated soil, and treating contaminated ground water with an onsite granular activated carbon adsorption unit. Soil treatment was completed in 2004 and the remaining ground water contamination is being treated with monitored natural attenuation. In 2006, a ROD for OU2 was signed selecting a remedy to excavate and treat soil that was contaminated with residual dioxin and backfill affected areas with clean soil, and implement institutional controls to limit future land use to compatible recreational and commercial purposes.

Five-Year Review Schedule: The National Contingency Plan requires that 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 be reviewed every five years to ensure protection of human health and the environment. The second of these Five-Year Reviews for this Site will be completed in June 2009.

EPA invites community participation in the Five-Year Review process.

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

Rusty Kestle
Phone: 404-562-8939
kestle.rusty@epa.gov

L'Tonya Spencer, Community Involvement Coordinator
404-562-8463 / 1-800-435-9234 (Toll Free)
spencer.latonya@epa.gov

U.S. EPA, Region 4 – Mailing Address
61 Forsyth St. S.W.
Atlanta, GA 30303-8960

Local Document Repository
West Regional Jacksonville Public Library
1425 Chaffee Rd S.
Jacksonville, FL 32221

Online: http://cfpub.epa.gov/supercpad/cursites/csitinfo.cfm?id=0401202

Appendix C: Interview Forms

Interview Form for Coleman-Evans Wood Treating Co. Five-Year Review

Site Name: Coleman-Evans Wood Treating Co. **EPA ID No.: FLD991279894**
Interviewer Name: _L'Tonya Spencer_____ **Affiliation: ___EPA_____**
Subject's Name: Resident 1 **Affiliation: _____**
Subject's Contact Information: _____
Time: _12pm_ Date: 8/5/2008
Type of Interview (Circle one): In Person Phone Mail Other_____
Location of Interview: _____

Residents

1. **What is your view of the Site?**

   Assumed the Site was condemned and concerned about its future reuse

2. **Have there been any problems with unusual or unexpected activity at the site, such as emergency response, vandalism, or trespassing?**

   No, have only seen people taking care of Site maintenance

3. **Do you have any comments, suggestions, or recommendations regarding the Site's management or operations?**

   Should provide ground water reports every sampling period. Overall pleased with cleanup.

Interview Form for Coleman-Evans Wood Treating Co. Five-Year Review

Site Name: Coleman-Evans Wood Treating Co. **EPA ID No.: FLD991279894**
Interviewer Name: L'Tonya Spencer **Affiliation: EPA**
Subject's Name: Resident 2 **Affiliation:** _____
Subject's Contact Information: _____
Time: 12:30 pm Date: 8/5/2008
Type of Interview (Circle one): In Person Phone Mail Other_____
Location of Interview: _____

Residents

1. **Are you aware of the environmental issues at the Coleman-Evans Superfund Site and what cleanup activities have occurred?**

   Yes, concerned with the soil cleanup and progress.

2. **Have there been any problems with unusual or unexpected activity at the site, such as emergency response, vandalism, or trespassing?**

   No.

3. **Should EPA do more to keep involved parties and surrounding neighbors informed of activities at the Site? What methods would you recommend?**

   Resident requested the location of current public documents.

4. **Do you have any comments, suggestions, or recommendations regarding the Site's management or operations?**

   Celery Drive has a water well that is sampled periodically by personal contractors – gets water treated once a month and the results go to the city and state. No problems have been reported.

Interview Form for Coleman-Evans Wood Treating Co. Five-Year Review

Site Name: Coleman-Evans Wood Treating Co. **EPA ID No.: FLD991279894**
Interviewer Name: Christy Cunnington **Affiliation: E^2 Inc.**
Subject's Name: Daralene Pondo **Affiliation: Project Manager, Black & Veatch**
Subject's Contact Information: _____
Time: 11 am **Date: 2/13/2009**
Type of Interview (Circle one): In Person **Phone** **Mail** **Other**_____
Location of Interview: Coleman-Evans Superfund Site

O&M Contractor

1. **What is your overall impression of the project?**

   Interesting, educational, learned about community relations. A lot of compromise was required between EPA and FDEP to finalize a cleanup objective. Multiple lines of evidence were provided, including statistical analyses and congener profiling analyses.

2. **Have any problems been encountered which required, or will require, changes to this remedial design or this ROD?**

   No.

3. **Have any problems or difficulties been encountered which have impacted construction progress or implementability?**

   No.

4. **Do you feel well informed about the site's activities and progress?**

   Yes.

5. **Do you have any comments, suggestions, or recommendations regarding the site's management or operation?**

   No. All requirements in the RODs and subsequent documents and discussions have been met. Efforts were also made to go above and beyond to satisfy residents.

Interview Form for Coleman-Evans Wood Treating Co. Five-Year Review

Site Name: Coleman-Evans Wood Treating Co. **EPA ID No.: FLD991279894**
Interviewer Name: Christy Cunnington **Affiliation: E² Inc.**
Subject's Name: John Sykes Affiliation: Florida Department of Environmental Protection
Subject's Contact Information: _____
Time: 11am Date: 3/17/2009
Type of Interview (Circle one): In Person Phone Mail Other / _____
Location of Interview: _____

Florida Department of Environmental Protection

1. **What is your overall impression of the project?**

   Generally successful.

2. **How well do you believe the remedy currently in place is performing?**

   Appears adequate.

3. **Are you comfortable with the institutional controls required for the Site and their current status of implementation?**

   No. No institutional controls are in place at the moment. FDEP is currently working with the City of Jacksonville to implement the institutional controls.

4. **Are you aware of any complaints or inquiries regarding environmental issues or the remedial action from residents in the last five years?**

   No.

5. **Has your office conducted any site-related activities or communications in the last five years? If so, please give purpose and results of these activities.**

   Yes, I'm the project manager at the Site for FDEP, and we have been involved in the operational and functional determination at the Site. We will eventually be involved with developing the operations and maintenance plan that will be transferred to the City of Jacksonville. We are also involved in the development of institutional controls at the Site.

6. **Are you aware of any changes to state laws that might affect the protectiveness of the remedy? Are you aware of any changes in projected land use at the Site?**

   No.

7. **Do you have any comments, suggestions, or recommendations regarding the site's management or operation?**

Yes. Institutional controls need to be completed along with a memorandum of understanding for the operations and maintenance plan for the City of Jacksonville.

Appendix D: Site Inspection Checklist

FIVE-YEAR REVIEW SITE INSPECTION CHECKLIST	
I. SITE INFORMATION	
Site name: Coleman-Evans Wood Preserving Co.	**Date of inspection: 2/13/2009**
Location and Region: Whitehouse, FL/Region 4	**EPA ID: FLD991279894**
Agency, office, or company leading the five-year review: EPA, Region 4	**Weather/temperature: Sunny/70°**
Remedy Includes: (Check all that apply) ☐ Landfill cover/containment ☒ Access controls ☒ institutional controls ☐ Groundwater pump and treatment ☐ Surface water collection and treatment ☐ Other _____	☒ Monitored natural attenuation ☐ Groundwater containment ☐ Vertical barrier walls
Attachments: ☐ Inspection team roster attached ☐ Site map attached	
II. INTERVIEWS (Check all that apply)	
1. **O&M site manager** Daralene Pondo (Name) / Environmental manager (Title) / 02/13/2009 (Date) Interviewed ☒ at site ☐ at office ☐ by phone Phone no. _____ Problems, suggestions; ☐ Report attached _____	
2. **O&M staff** _____ (Name) / _____ (Title) / mm/dd/yyyy (Date) Interviewed ☐ at site ☐ at office ☐ by phone Phone no. _____ 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, etc.) Fill in all that apply.

Agency _____
Contact _____ (Name) _____ (Title) mm/dd/yyyy (Date) _____ (Phone No.)
Problems; suggestions; ☐ Report attached _____

Agency _____
Contact _____ (Name) _____ (Title) mm/dd/yyyy (Date) _____ (Phone No.)
Problems; suggestions; ☐ Report attached _____

Agency _____
Contact _____ (Name) _____ (Title) mm/dd/yyyy (Date) _____ (Phone No.)
Problems; suggestions; ☐ Report attached _____

Agency _____
Contact _____ (Name) _____ (Title) mm/dd/yyyy (Date) _____ (Phone No.)
Problems; suggestions; ☐ Report attached _____

Agency _____
Contact _____ (Name) _____ (Title) mm/dd/yyyy (Date) _____ (Phone No.)
Problems; suggestions; ☐ Report attached _____

4. **Other interviews** (optional) ☐ Report attached

III. ON-SITE DOCUMENTS & 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 _____			
	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.	**Groundwater 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
	☐ Other _____	

2. **O&M Cost Records**

☐ Readily available ☐ Up to date

☐ Funding mechanism/agreement in place

Original O&M cost estimate _____ ☐ Breakdown attached

Total annual cost by year for review period if available

From mm/dd/yyyy	To mm/dd/yyyy	_____	☐ Breakdown attached
Date	Date	Total cost	
From mm/dd/yyyy	To mm/dd/yyyy	_____	☐ Breakdown attached
Date	Date	Total cost	
From mm/dd/yyyy	To mm/dd/yyyy	_____	☐ Breakdown attached
Date	Date	Total cost	
From mm/dd/yyyy	To mm/dd/yyyy	_____	☐ Breakdown attached
Date	Date	Total cost	
From mm/dd/yyyy	To mm/dd/yyyy	_____	☐ Breakdown attached
Date	Date	Total cost	

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: There are several signs posted on the fence surrounding the site that identify the area as the Coleman-Evans Superfund site.

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 _____ _____ mm/dd/yyyy _____

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: Restrictive covenants were being reviewed by FDEP during this FYR process, and the City of Jacksonville will put them in place to act as an IC for the Site. The City of Jacksonville will begin conducting Site inspections after the O&M plan is approved.

D. General

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

Remarks: A small amount of litter was found on the edge of the Site inside the fence. There was no indication that anyone had been onsite.

2. **Land use changes on site** ☐ N/A

Remarks: The City of Jacksonville would like to put the Site into reuse as a community park once all cleanup goals have been met and funding is available.

3. **Land use changes off site** ☐ N/A

Remarks: There are no plans to change the current off site land use.

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) Arial extent _____ Remarks: _____	☐ Location shown on site map	☐ Settlement not evident Depth _____
2.	**Cracks** Lengths _____ Remarks: _____	☐ Location shown on site map Widths _____	☐ Cracking not evident Depths _____
3.	**Erosion** Arial extent _____ Remarks: _____	☐ Location shown on site map	☐ Erosion not evident Depth _____
4.	**Holes** Arial extent _____ Remarks: _____	☐ Location shown on site map	☐ Holes not evident Depth _____
5.	**Vegetative Cover** ☐ No signs of stress Remarks: _____	☐ Grass ☐ Trees/Shrubs (indicate size and locations on a diagram)	☐ Cover properly established
6.	**Alternative Cover** (armored rock, concrete, etc.) Remarks: _____		☐ N/A
7.	**Bulges** Arial extent _____ Remarks: _____	☐ Location shown on site map	☐ Bulges not evident Height _____
8.	**Wet Areas/Water Damage** ☐ Wet areas ☐ Ponding ☐ Seeps ☐ Soft subgrade Remarks: _____	☐ Wet areas/water damage not evident ☐ Location shown on site map ☐ Location shown on site map ☐ Location shown on site map ☐ Location shown on site map	 Arial extent _____ Arial extent _____ Arial extent _____ Arial extent _____
9.	**Slope Instability** ☐ No evidence of slope instability Arial extent _____ Remarks: _____	☐ Slides	☐ Location shown on site map
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** Remarks: _____	☐ Location shown on site map	☐ N/A or okay
2.	**Bench Breached** Remarks: _____	☐ Location shown on site map	☐ N/A or okay
3.	**Bench Overtopped** Remarks: _____	☐ Location shown on site map	☐ N/A or okay

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. GROUNDWATER/SURFACE WATER REMEDIES ☒ Applicable ☐ N/A

A. Groundwater 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 groundwater 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:**

☒ Groundwater 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 to accomplish (i.e., to contain contaminant plume, minimize infiltration and gas emission, etc.).

The remedy is covering contaminated soil with a nominal two foot of clean vegetated soil on the Site, and ground water contamination is being treated by MNA.

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 Site is currently operational and functional, but an O&M plan needs to be developed by the City of Jacksonville to ensure erosion does not occur in the covered area.

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.

There is no indication that the remedy is not functioning as intended. Vegetation has been established on the Site to prevent erosion, and ground water MNA is occurring at the Site.

D. Opportunities for Optimization

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

_____

Appendix E: Photographs from Site Inspection Visit

Sign identifying the Coleman-Evans Site at the Site entrance.

View of the vegetative cover on the Site.

View of MW04-10 at the Site.

Matted sod used to establish the vegetative cover at the Site.

Culvert used to drain water from the nearby railroad under the Site.

Marked settlement monument used to monitor the soil cover.

Drainage ditch at the eastern edge of the Site.

The creek located south of the Site where water from the Site drains.

Excavated area located south of the Coleman-Evans property.

Locked entrance gate to the Coleman-Evans Site.