

**Fourth Five-Year Review Report  
for  
Firestone Tire & Rubber Co. (Albany Plant)  
GAD990855074**

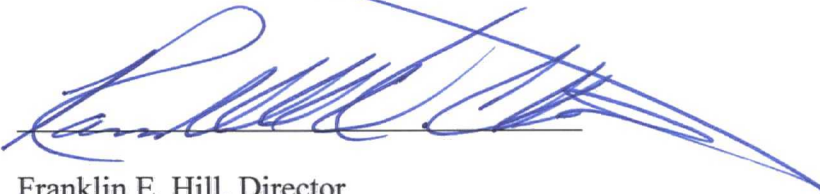
**Albany  
Dougherty County, Georgia**

September 2016

United States Environmental Protection Agency  
Region 4  
Atlanta, Georgia

Approved by:

Date:



9/26/16

*feh*  
Franklin E. Hill, Director  
Superfund Division



11050369

**Fourth Five-Year Review Report  
for  
Firestone Tire & Rubber Co. (Albany Plant)  
3300 Sylvester Highway  
Albany  
Dougherty County, Georgia**

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## List of Acronyms

AOC	Administrative Order on Consent
ARAR	Applicable or Relevant and Appropriate Requirement
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
COC	Contaminant of Concern
1,1-DCE	1,1-dichloroethylene
EPA	United States Environmental Protection Agency
ESD	Explanation of Significant Differences
FYR	Five-Year Review
GAEPD	Georgia Environmental Protection Division
IC	Institutional Control
MCL	Maximum Contaminant Level
µg/L	Micrograms per Liter
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NPL	National Priorities List
O&M	Operation and Maintenance
OU	Operable unit
PCBs	Polychlorinated biphenyls
POTW	Publicly-Owned Treatment Works
PRP	Potentially Responsible Party
RAO	Remedial Action Objective
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
RPM	Remedial Project Manager
TBC	To-Be-Considered
1,1,1-TCA	1,1,1-trichloroethane
TSCA	Toxic Substances Control Act

## **Executive Summary**

The 329-acre Firestone Tire & Rubber Co. (Albany Plant) site is located in Albany, Georgia. The facility was used for manufacturing pneumatic tires from 1968 to 1986. In 1985, Firestone Tire and Rubber Company (Firestone), as a part of facility closure, voluntarily studied the contamination of soil and groundwater resulting from a 6,000-gallon spill of an antioxidant that occurred in 1980, as well as from the burning of drums of liquid waste cement as a fire training exercise. The study identified the courtyard and the burn pit as two major areas of contamination. The Site was proposed for listing on the National Priorities List (NPL) in June 1988 and was finalized on the NPL in October 1989. The triggering action for this Five-Year Review (FYR) was the signing of the previous FYR report on December 21, 2005.

The remedial actions addressed by the 1993 Record of Decision (ROD) were selected to address the remaining contamination, which includes approximately 20 cubic yards of polychlorinated biphenyl (PCB)-contaminated soil and volatile organic compounds in shallow groundwater beneath the Site. The purpose of the selected remedy was to prevent current and future exposure to contamination by treating the soil and groundwater to reduce migration of contaminants.

The remedy is operating as designed. Soil remediation is complete. The EPA approved discontinuing the groundwater recovery system and implementing enhanced monitoring in November 2012. Ongoing monitoring will continue to assess contaminant trends following the 2012 system shutdown. Institutional controls are in place to prohibit use of groundwater at the Site. No changes in Applicable or Relevant and Appropriate Requirements (ARARs), toxicity values or exposure assumptions in the past five years affect the remedy.

The remedy currently protects human health and the environment because groundwater contamination is contained and there are no complete exposure pathways. However, in order for the remedy to be protective in the long term, sampling for 1,4-dioxane should be added to the groundwater sampling program.

## Five-Year Review Summary Form

SITE IDENTIFICATION		
<b>Site Name:</b> Firestone Tire & Rubber Co. (Albany Plant)		
<b>EPA ID:</b> GAD990855074		
<b>Region:</b> 4	<b>State:</b> GA	<b>City/County:</b> Dougherty
SITE STATUS		
<b>NPL Status:</b> Final		
<b>Multiple OUs?</b> No	<b>Has the site achieved construction completion?</b> Yes	
REVIEW STATUS		
<b>Lead agency:</b> EPA		
<b>Author name:</b> Charles King (EPA) and Ryan Burdge (Skeo)		
<b>Author affiliation:</b> EPA and Skeo		
<b>Review period:</b> July 1, 2015 - September 30, 2016		
<b>Date of site inspection:</b> March 2, 2016		
<b>Type of review:</b> Statutory		
<b>Review number:</b> 4		
<b>Triggering action date:</b> 4/21/2011		
<b>Due date (five years after triggering action date):</b> 4/21/2016		

**Five-Year Review Summary Form (continued)**

Issues/Recommendations	
<b>OU(s) without Issues/Recommendations Identified in the Five-Year Review:</b>	
None	

<b>Issues and Recommendations Identified in the Five-Year Review:</b>
---

<b>OU(s): Sitewide</b>	<b>Issue Category: Monitoring</b>			
	<b>Issue:</b> 1,4-Dioxane is not currently sampled.			
	<b>Recommendation:</b> Include 1,4-dioxane in the groundwater sampling program.			
<b>Affect Current Protectiveness</b>	<b>Affect Future Protectiveness</b>	<b>Implementing Party</b>	<b>Oversight Party</b>	<b>Milestone Date</b>
No	Yes	PRP	EPA	9/30/2017

Sitewide Protectiveness Statement	
<i>Protectiveness Determination:</i> Short-term Protective	
<i>Protectiveness Statement:</i> The remedy currently protects human health and the environment because groundwater contamination is contained and there are no complete exposure pathways. However, in order for the remedy to be protective in the long term, sampling for 1,4-dioxane should be added to the groundwater sampling program.	

Environmental Indicators	
<ul style="list-style-type: none"> <li>- Current human exposures at the Site are under control.</li> <li>- Contaminated groundwater migration is under control.</li> </ul>	

Are Necessary Institutional Controls in Place?	
<input checked="" type="checkbox"/> All <input type="checkbox"/> Some <input type="checkbox"/> None	

Has EPA Designated the Site as Sitewide Ready for Anticipated Use?	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Has the Site Been Put into Reuse?	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

**Fourth Five-Year Review Report  
for  
Firestone Tire & Rubber Co. (Albany Plant) Superfund Site**

**1.0 Introduction**

The purpose of a five-year review (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. FYR reports document FYR methods, findings and conclusions. In addition, FYR reports identify issues found during the review, if any, and document recommendations to address them.

The U.S. Environmental Protection Agency prepares FYRs pursuant to the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Section 121 and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). CERCLA Section 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 5 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.

The 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 action no less often than every five years after initiation of the selected remedial action.

Skeo, an EPA Region 4 contractor, conducted the FYR and prepared this report regarding the remedy implemented at the Firestone Tire & Rubber Co. (Albany Plant) Superfund site (the Site) in Albany, Dougherty County, Georgia. The EPA's contractor conducted this FYR from July 2015 to September 2016. The EPA is the lead agency for developing and implementing the remedy for the potentially responsible party (PRP)-financed cleanup at the Site. Georgia Environmental Protection Division (GAEPD), as the support agency representing the State of Georgia, has reviewed all supporting documentation and provided input to the EPA during the FYR process.

This is the fourth FYR for the Site. The triggering action for this statutory review is the previous FYR. The FYR is required because hazardous substances, pollutants or contaminants remain at the Site above levels that allow for unlimited use and unrestricted exposure. The Site consists of one operable unit (OU), which is addressed in this FYR.



## 2.0 Site Chronology

Table 1 lists the dates of important events for the Site.

**Table 1: Chronology of Site Events**

Event	Date
The EPA discovered initial problem or contamination	August 1, 1980
PRP voluntarily initiated a study of possible contamination in site soil, groundwater and surface water	September 29, 1985
GAEPD performed site inspection	September 30, 1986
The EPA proposed the Site for inclusion on the National Priorities List (NPL)	June 24, 1988
The EPA completed the NPL responsible party search	August 11, 1988
The EPA finalized the Site for inclusion on the NPL	October 4, 1989
The EPA and PRP entered into an Administrative Order on Consent	March 30, 1990
PRP completed remedial investigation/feasibility study (RI/FS) negotiations with the EPA	June 29, 1990
PRP initiated RI/FS	July 9, 1990
Cooper Tire and Rubber Co. purchased the Site	March 12, 1992
PRP completed RI/FS and the EPA signed the Record of Decision (ROD)	June 24, 1993
PRP initiated remedial design of soil cleanup	March 16, 1994
PRP completed remedial design of soil cleanup	July 24, 1994
PRP began initial remedial action (soil excavation and off-site disposal)	October 14, 1994
PRP completed initial remedial action (soil excavation and off-site disposal)	November 15, 1994
The EPA issued an Explanation of Significant Differences (ESD)	March 1996
The EPA approved remedial design for groundwater remediation and PRP issued remedial action plan	June 28, 1996
PRP completed remedial action (operation and maintenance; publicly-owned treatment works and pump-and-treat area) and the EPA issued preliminary close out report	September 28, 1998
The EPA signed the first FYR	September 29, 2000
The EPA signed the second FYR	December 21, 2005
PRP submitted the Proposal for Groundwater Recovery System Modification	January 2006
The EPA approved the groundwater recovery system modification	October 22, 2010
The EPA signed the third FYR	April 21, 2011
Groundwater treatment system shut down	November 2012

## 3.0 Background

### 3.1 Physical Characteristics

The 325-acre Site is located at 3300 Sylvester Highway in Albany, Dougherty County, Georgia approximately one mile east of the limits of the City of Albany (Figure 1). The Site consists of a former manufacturing building, several paved roads, a security check entrance and a parking lot. The building is surrounded by grass. Undeveloped forests and wetland cover the southern section of the Site (Figure 2). The Site is bordered to the east by a landfill and residential property; to the north by Sylvester Highway, commercial and residential properties; to the west by a church and a vacant property; and to the south by North Shaw Road and the Seaboard Coastline railroad tracks.

The main sources of contamination were the courtyard in the former manufacturing building and the burn pit area. The courtyard contained underground storage tanks, transformers containing polychlorinated biphenyls (PCBs) and four aboveground fuel oil storage tanks.

The Site is located in the Dougherty Plain district of the Coastal Plain physiographic province at an elevation range of 200 to 220 feet above mean sea level. The Dougherty Plain is characterized by flat to gently undulated topography. It contains sinkholes caused by material dissolution and collapse of the underlying limestone. Surface water flows north to south through two ditches located east and west of the Site. Stormwater on the northern section of the Site either drains to the groundwater or flows through the east and west ditches. Stormwater on the southern section flows to the wetland area.

The underlying hydrogeologic units consist of the Residuum, the Upper Ocala Limestone and the Lower Ocala Limestone, which are part of Coastal Plain sedimentary strata. The lithology of the Residuum hydrogeologic unit (the Residuum) is sandy clay and clayey sand. This unit gradates into the underlying Ocala Limestones. The Upper Ocala Limestone hydrogeologic unit (the Upper Ocala) is soft and weathered limestone. The Lower Ocala hydrogeologic unit (the Lower Ocala) is indurated limestone. These three hydrogeologic units are within the Upper Floridan Aquifer at the Site.

### **3.2 Land and Resource Use**

From 1968 to 1986, Firestone Tire and Rubber Company made tires in the on-site manufacturing building. Between 1986 and March 1992, the Site was inactive (except for cleanup activities) until Cooper Tire and Rubber Co. purchased the facility for use as a storage warehouse. The EPA is not aware of any plans to change the use of the Site.

The areas around the Site include commercial and residential areas to the north; commercial, agricultural and residential to the east; a large undeveloped area, commercial and residential areas to the west; and the U.S. Marine Corps Logistic Base (also a Superfund site) to the south. Currently, institutional controls restrict site groundwater use to purposes related to remediation of the Site. The Site is served by city water and sewer.

### **3.3 History of Contamination**

Firestone began constructing the former manufacturing building in 1967 and began operating the building in 1968. In 1980, a 6,000-gallon antioxidant (Santoflex 13) spill occurred, resulting in contamination of the burn pit area. Firestone pumped the spilled fluid into 65 partially-filled drums and stored them next to the pit. Firestone also stored drums containing waste rubber cement and Banbury Sludge at the burn pit. Manufacturing operations contaminated the former courtyard area, where materials were shipped, handled and temporarily stored.

In 1985, Firestone voluntarily initiated a study of possible contamination in soil, groundwater, and surface water as part of facility closure. This study identified the burn pit area and courtyard as major areas of contamination.

### **3.4 Initial Response**

As a result of studies performed by Firestone, GAEPD and the EPA, the EPA proposed the Site to the National Priorities List (NPL) in June 1988 and finalized its inclusion in October 1989. The EPA issued

a special notice letter to Firestone in March 1990, giving them an opportunity to conduct the remedial investigation/feasibility study (RI/FS) at the Site. The EPA and Firestone entered into an Administrative Order on Consent (AOC) on March 30, 1990, for Firestone to complete the RI/FS.

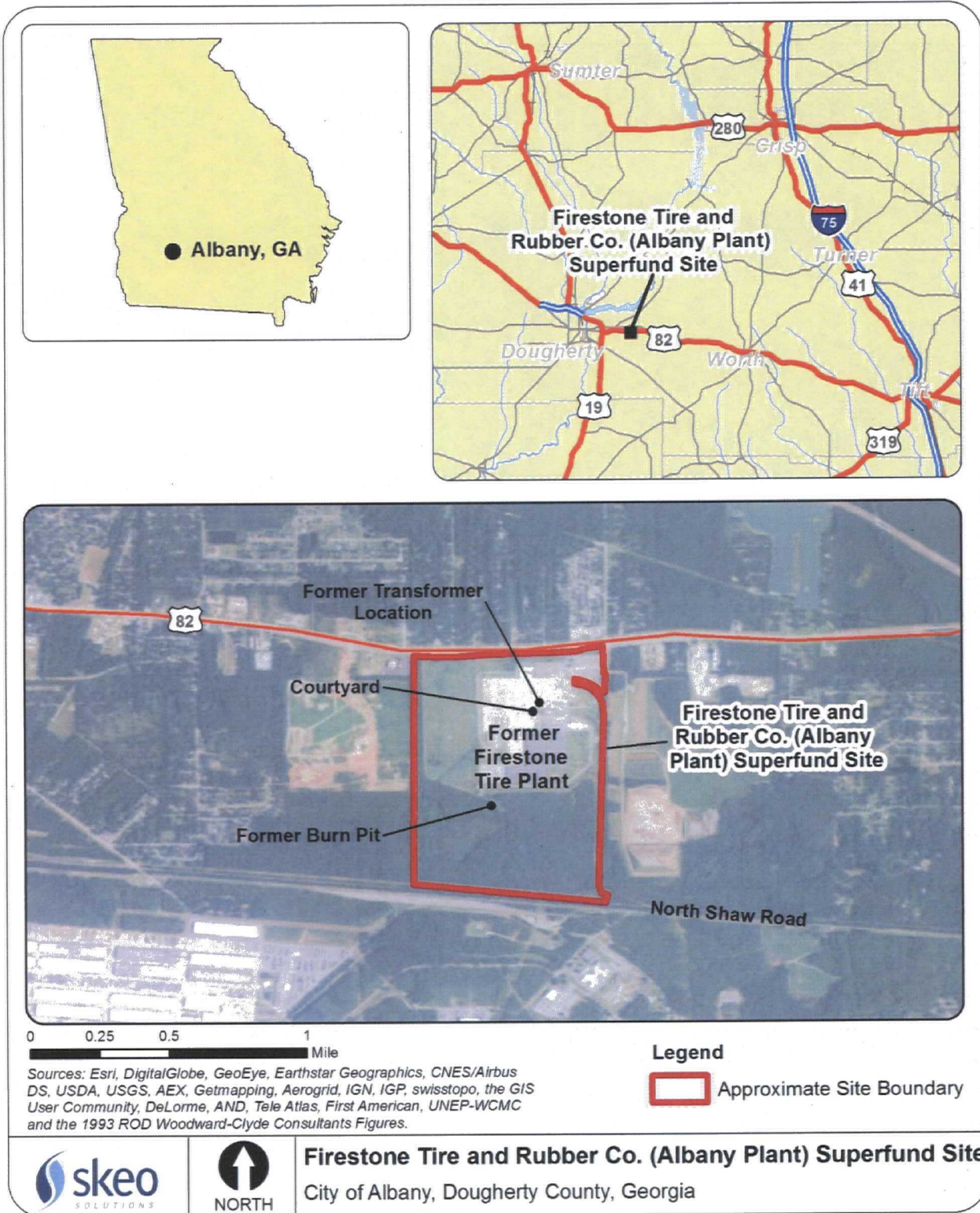
Firestone performed interim cleanup measures, including additional groundwater monitoring. These interim cleanup actions and studies included:

- Identifying and analyzing soil and debris piles; removing about 441 cubic yards of rubbish and debris and 105 cubic yards of soil and disposing of them at the Oxford Solid Waste Landfill in Albany; disposing of empty 5-gallon containers and 55-gallon drums at a regulated facility in Alabama.
- Studying PCB transformer leaks inside the building, on the building, and in the courtyard; removing transformers, roof materials, and concrete pads; disposing of the transformers in a permitted facility; and cleaning up areas around the former transformers.
- Installing monitoring wells in the Residuum and the Upper Ocala; collecting soil samples in the courtyard to determine if the source area would affect groundwater.
- Removing underground storage tanks.
- Studying the burn pit/buried drum area; excavating the burn pit; removing and disposing of about 160 drums, which contained material similar to waste rubber cement, Banbury Sludge (material used to make tires), and contaminated soil and water (all material passed landfill leaching simulation tests); and collecting samples to determine adequacy of the cleanup.
- Identifying areas of potential subsurface drum disposal, which were evaluated by a magnetic survey. No additional buried drums or waste material were identified.
- Sampling surface water and sediments in the stormwater retention pond and drainage ditches flowing into the pond. No contaminants were found in surface water or sediments at concentrations that exceed a Hazard Quotient of 1 or an upper bound cancer risk of  $1 \times 10^{-6}$ .

### **3.5 Basis for Taking Action**

The RI/FS identified contaminated soils and contaminants in groundwater, including: antimony, benzene, beryllium, carbon disulfide, chromium, 1,1-dichloroethylene (1,1-DCE), lead, PCBs and 1,1,1-trichloroethane (1,1,1-TCA). The EPA determined the PCB-contaminated soils posed a threat to human health and the environment from possible ingestion, inhalation or dermal contact. The contaminated groundwater posed a threat if it migrated off site or was used as a water source.

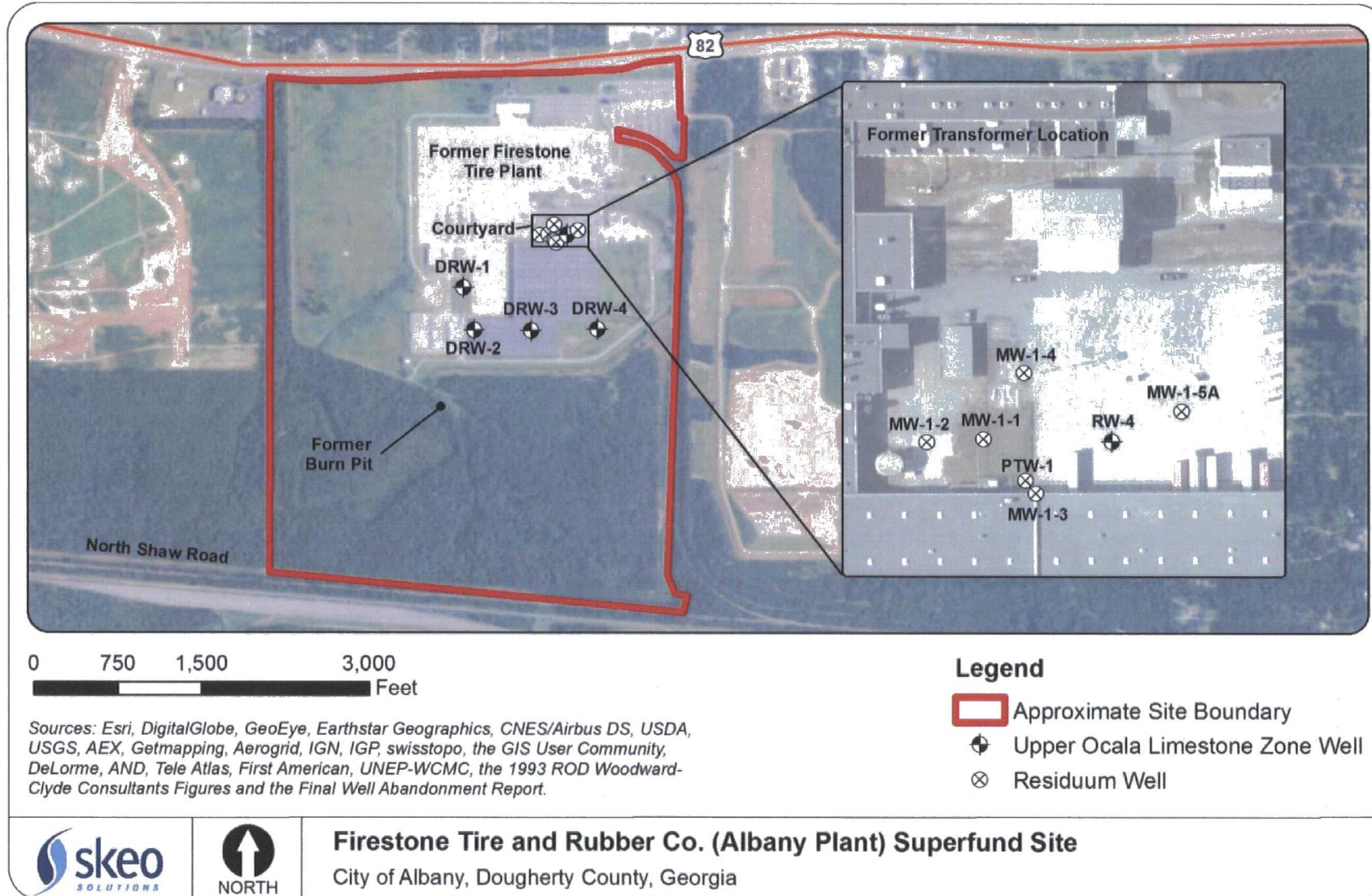
**Figure 1: Site Location Map**



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



**Figure 2: Detailed Site Map**



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

## 4.0 Remedial Actions

In accordance with CERCLA and the NCP, the overriding goals for any remedial action 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(e)(9)(iii) of the NCP. The nine criteria are:

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

### 4.1 Remedy Selection

The EPA signed the Record of Decision (ROD) for the Site on June 24, 1993. The EPA's objectives for the remedy were to prevent future human exposure to contaminants and prevent migration of contaminants. The selected remedial actions for the Site included:

- Excavating and disposing of about 20 cubic yards of PCB-contaminated soil with concentrations above the cleanup goal of 10 milligrams per kilogram at an off-site Toxic Substances Control Act (TSCA)-permitted landfill.
- Backfilling the excavated areas with clean material.
- Extracting contaminated groundwater and filtering out solids using existing wells and supplemental wells if necessary.
- Treating the extracted groundwater on site using air stripping.
- Off-site water discharge to a local publicly-owned treatment works (POTW).
- Periodic groundwater monitoring to assess the effectiveness of the remedy.
- Institutional controls to restrict well construction and water use on the Site.

The soil excavation goal for PCB contamination is 10 mg/kg and is based on the potential cancer risk range of  $1 \times 10^{-4}$  to  $1 \times 10^{-6}$  and the TSCA standards. Groundwater cleanup goals are in Table 2.

The 1996 Explanation of Significant Differences (ESD) modified the 1993 ROD by changing the remedy to:

- Omit treatment of recovered groundwater from the courtyard as long as contaminant levels in the groundwater effluent do not exceed permit discharge limits.
- Indicate that if the effluent ever exceeds the limits, the PRP would request that the EPA allow use of carbon filters instead of the air strippers required in the ROD.

**Table 2: Groundwater Contaminants of Concern (COCs)**

COC	1993 ROD Cleanup Goal (micrograms per liter [µg/L])
Antimony	6
Benzene	5
Beryllium	4
Carbon disulfide	56
Chromium	100
1,1-DCE	7
Lead	15
PCBs	0.5
1,1,1-TCA	200

#### **4.2 Remedy Implementation**

Firestone began remedial design for soils in March 1994 and completed it in April 1994. Firestone began PCB cleanup of soil in the courtyard area in October 1994 and completed it in November 1994. The cleanup included removal of about 23 cubic yards of PCB-contaminated soils, off-site disposal, verification sampling and site restoration. Firestone took the excavated soil to the Chemical Waste Management Facility, a TSCA-permitted facility in Emelle, Alabama. This facility is also permitted under Resource Conservation and Recovery Act Subtitle C.

The EPA required Firestone to collect samples to ensure that the remaining soil had PCB levels below 10 parts per million. Firestone backfilled the excavated area with clean soil from an off-site borrow pit. The backfilled material was analyzed to ensure it did not have PCBs above the standard. Firestone seeded and covered the area with straw as an erosion control measure.

The EPA conducted pre-final inspections in October 1994 and final inspections in November 1994. Analytical results indicated the objectives and requirements of the soil remediation work plan were satisfied. No further soil cleanup or operation and maintenance (O&M) were required for this phase of the cleanup.

Firestone constructed the groundwater recovery system in 1997 in accordance with the EPA-approved remedial design documents. The final construction report was issued in January 1998. One year of quarterly monitoring was initiated in September 1999.

Due to low detections of only one COC above the cleanup goal (1,1-DCE) in two of the 10 wells sampled, a system modification study was performed in 2010 and 2011 to evaluate whether pumping from the groundwater recovery system could be discontinued and to evaluate passive diffusion bag sampling. Recommendations in the System Modification Study Report, dated August 1, 2012, included cessation of pumping from the groundwater recovery system, enhanced groundwater monitoring, and use of passive diffusion bag samplers. The system was shut down in November 2012. Under the current plan, if COCs are detected at increasing concentrations for two consecutive quarterly monitoring events, then the groundwater recovery system will be reactivated, the monthly system inspection will be reinstated, future management of the system will be reevaluated, and a second confirmation sample may be analyzed prior to reactivating the system.

### 4.3 Operation and Maintenance

Groundwater sampling is performed semi-annually in accordance with the system modification plan. Before shut down, the groundwater remediation system was inspected monthly.

The 1996 ESD estimated the cost of groundwater remediation using carbon filters at \$753,000 (or \$25,100 per year, assuming 30 years; the timeframe was not included in the 1996 ESD) and \$671,000 (or \$22,400 per year) in case of direct discharge to the POTW. Actual O&M costs from the past five years are in Table 3. No sampling was performed in 2013, while awaiting approval for the System Modification Study Report.

**Table 3: Annual O&M Costs**

Date Range	Total Cost
2011	\$42,000
2012	\$31,000
2013	\$7,000
2014	\$21,000
2015	\$13,000

### 5.0 Progress Since the Last Five-Year Review

The protectiveness statement from the 2011 FYR for the Site stated the following:

*The remedy at the Site is protective of human health and the environment. Contaminated soils have been excavated and properly disposed of and no contaminants remain in this medium. Routine monitoring and O&M activities continue to ensure the effectiveness of the active groundwater remedy. Institutional controls for groundwater are in place through restrictions on groundwater use and well installation as established by an amendment to a lease agreement. Exposure pathways that could result in unacceptable risks are being controlled.*

The 2011 FYR included one issue and recommendation. This report summarizes the recommendation and its current status below.

**Table 4: Progress on Recommendation from the 2011 FYR**

Section	Recommendations	Party Responsible	Milestone Date	Action Taken and Outcome	Date of Action
5.1	Improve O&M by adopting measures to protect and maintain active groundwater wells to ensure appropriate performance of the groundwater remedial system.	PRP	01/1/2012	Complete. A well survey was conducted and unnecessary wells were abandoned. After assessment of the groundwater data, the EPA approved shutting down the treatment system.	8/01/2012



## **6.0 Five-Year Review Process**

### **6.1 Administrative Components**

EPA Region 4 initiated the FYR in July 2015 and scheduled its completion for September 2016. The EPA remedial project manager Charles King led the EPA site review team, which also included the EPA site attorney Caroline Philson, the EPA community involvement coordinator Kyle Bryant and contractor support provided to the EPA by Skeo. In February 2016, the 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. The review schedule established consisted of the following activities:

- Community notification.
- Document review.
- Data collection and review.
- Site inspection.
- Local interviews.
- FYR Report development and review.

### **6.2 Community Involvement**

In September 2016, the EPA published a public notice in the *Albany Herald* newspaper announcing the completion of the FYR process for the Site, providing contact information for Charles King, RPM and Kyle Bryant, CIC and inviting community participation. No one contacted the EPA as a result of the advertisement.

The EPA will make the final FYR Report available to the public. Upon completion of the FYR, the EPA will place copies of the document in the designated site repository, Dougherty County Library.

### **6.3 Document Review**

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

#### ARARs Review

CERCLA Section 121(d)(1) requires that Superfund remedial actions attain “a degree of cleanup of hazardous substance, pollutants, and contaminants released into the environment and of control of further release at a minimum which assures protection of human health and the environment.” The remedial action must achieve a level of cleanup that at least attains those requirements that are legally applicable or relevant and appropriate. Applicable requirements are those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under federal environmental or state environmental or facility siting laws that specifically address a hazardous substance, remedial action, location, or other circumstance found at a CERCLA site. Relevant and appropriate requirements are those standards that, while not “applicable,” address problems or situations sufficiently similar to those encountered at the CERCLA site that their use is well-suited to the particular site. Only those state standards that are more stringent than federal requirements may be applicable or relevant and appropriate. To-Be-Considered (TBC) criteria are non-promulgated advisories and

guidance that are not legally binding, but should be considered in determining the necessary remedial action. For example, TBCs may be particularly useful in determining health-based levels where no ARARs exist or in developing the appropriate method for conducting a remedial action.

Chemical-specific ARARs are health- or risk-based numerical values or methodologies which, when applied to site-specific conditions, result in the establishment of numeric values. These values establish an acceptable amount or concentration of a chemical that may remain in, or be discharged to, the ambient environment. Examples of chemical-specific ARARs include MCLs under the Federal Safe Drinking Water Act and ambient water quality criteria enumerated under the Federal Clean Water Act.

Action-specific ARARs are technology- or activity-based requirements or limits on actions taken with respect to a particular hazardous substance. These requirements are triggered by a particular remedial activity, such as discharge of contaminated groundwater or in-situ remediation.

Location-specific ARARs are restrictions on hazardous substances or the conduct of the response activities solely based on their location in a special geographic area. Examples include restrictions on activities in wetlands, sensitive habitats and historic places.

Remedial actions are required to comply with the chemical-specific ARARs identified in the ROD. In performing the FYR for compliance with ARARs, only those ARARs that address the protectiveness of the remedy are reviewed.

#### *Soil ARARs*

The Site's ROD identified the 10 mg/kg TSCA action level for PCBs as an appropriate cleanup level for site soils. Soils contaminated above this level were excavated and disposed of off site. The TSCA action level for PCBs remains 10 mg/kg.

#### *Groundwater ARARs*

The Site's ROD established cleanup levels for nine groundwater COCs: antimony, benzene, beryllium, carbon disulfide, chromium, 1,1-DCE, lead, PCBs and 1,1,1-TCA. The cleanup level for carbon disulfide is based on an acceptable risk-based standard. Cleanup levels for seven COCs are based on federal Safe Drinking Water Act (40 CFR 141-143) maximum contaminant levels (MCLs). The cleanup level for lead is based on the federal action level in 56 FR - Maximum Contaminant Level Goals and National Primary Drinking Water Regulations for lead and copper. As part of this FYR, ARARs from the ROD were compared to current ARARs (Table 5). Chemical-specific ARARs for the Site remain unchanged.

**Table 5. Groundwater ARARs Review**

COC	1993 ROD Cleanup Goals (µg/L)	2016 Standards <sup>a</sup>	ARAR Change
Antimony	6	6	None
Benzene	5	5	None
Beryllium	4	4	None
Carbon disulfide	56	--	None
Chromium	100	100	None
1,1-DCE	7	7	None
Lead	15	15	None
PCBs	0.5	0.5	None

COC	1993 ROD Cleanup Goals (µg/L)	2016 Standards <sup>a</sup>	ARAR Change
1,1,1-TCA	200	200	None
a. Values listed are federal MCLs. (current values accessed 04/07/2016 at <a href="http://www.epa.gov/your-drinking-water/table-regulated-drinking-water-contaminants">http://www.epa.gov/your-drinking-water/table-regulated-drinking-water-contaminants</a> ).			

### Institutional Control Review

EPA contractor staff conducted research at the Dougherty County Tax Assessors Office and found the deed information pertaining to the Site listed in Table 6. Table 7 and Figure 3 indicate the institutional controls associated with areas of interest at the Site.

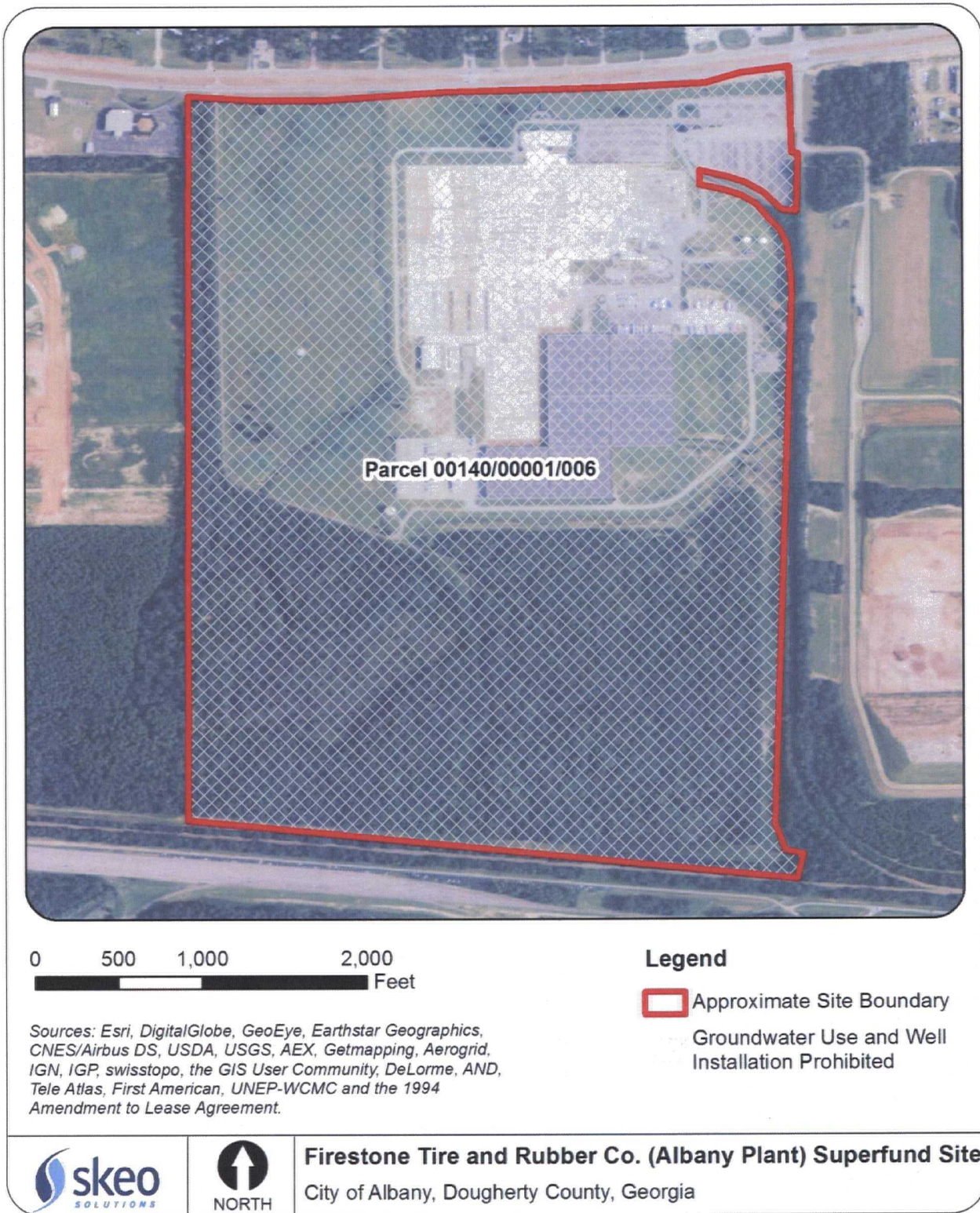
**Table 6: Deed Documents from Dougherty County Public Records Office**

Date	Type of Document	Description	Book #	Page #
09/13/1994	Amendment to Lease Agreement	Includes restrictions on use of groundwater for human consumption and installation of groundwater wells	1421	255
07/31/2009	Quit Claim Deed	Acquisition of property from Cooper Tire and Rubber Co. by Albany Dougherty Payroll Development Authority	3627	72

**Table 7: Institutional Control (IC) Summary Table**

Media	ICs Needed	ICs Called for in the Decision Documents	Impacted Parcel(s)	IC Objective	Instrument in Place	Notes
Groundwater	Yes	Yes	00140/00001/006	Restrict installation of groundwater wells	Restricts installation of groundwater wells and extraction of water from the Residuum and Upper Ocala hydrogeological units for human consumption or dermal contact	Amendment to Lease Agreement

**Figure 3: Institutional Control Base Map**



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

## 6.4 Data Review

Due to low detections of only one COC above the cleanup goal (1,1-DCE in two of the 10 wells sampled), a system modification study was performed in 2010 and 2011 to evaluate whether pumping from the groundwater recovery system could be discontinued and to evaluate passive diffusion bag sampling. The system was shut down in November 2012.

Since the system was shut down, 1,1-DCE remains the only COC detected above cleanup levels. Concentrations of 1,1,1-TCA, 1,1-DCE, and benzene in MW-1-4, MW-1-5A, DRW-2, DRW-3, DRW-4 and RW-4 are not detected or are below cleanup levels. COCs were not detected in MW-1-1 and MW-1-2, located in the courtyard area.

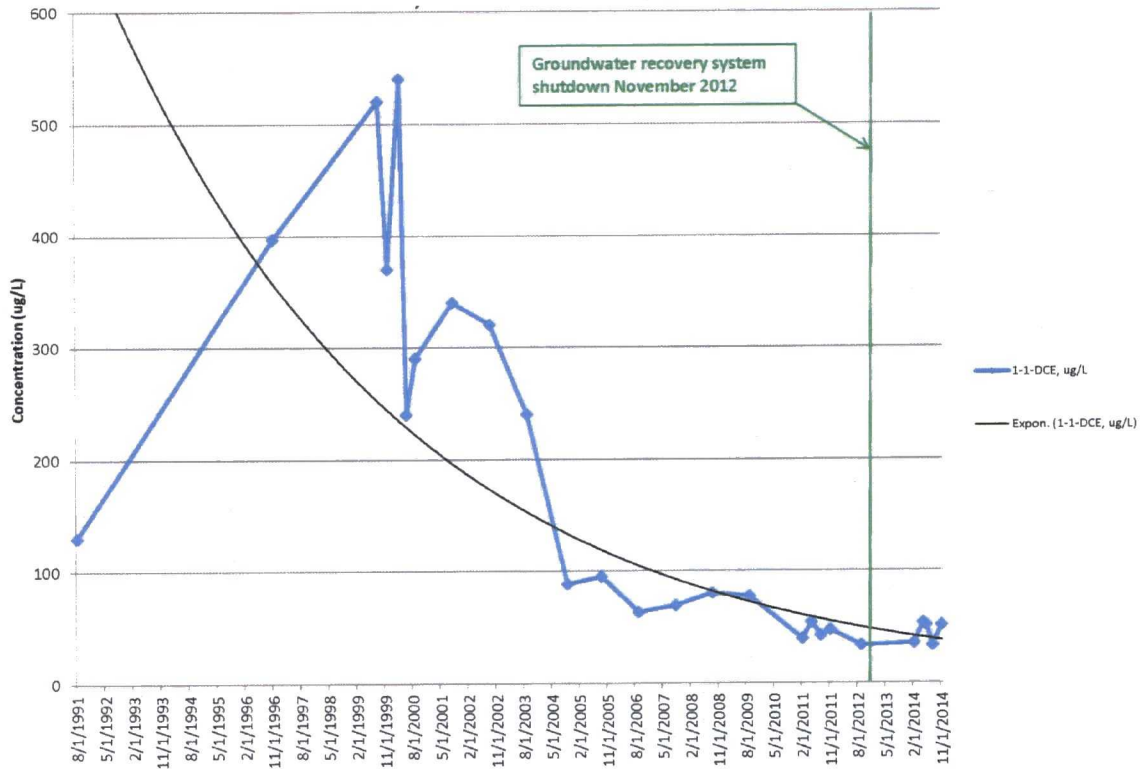
1,1-DCE concentrations in PTW-1 and MW-1-3 have decreased overall since 1991, as shown on the time trend plots (Figures 4 and 5). Ongoing monitoring will continue to assess contaminant trends following the 2012 system shutdown and will determine if the contingency remedy is needed.

1,1-DCE in PTW-1 was 33 µg/L in September 2012, prior to system shutdown, and 35 µg/L in February 2014. The 1,1-DCE result for May 2014 was 53 µg/L, slightly higher than September 2012 and February 2014. In November 2014, 1,1-DCE was 51 µg/L in PTW-1.

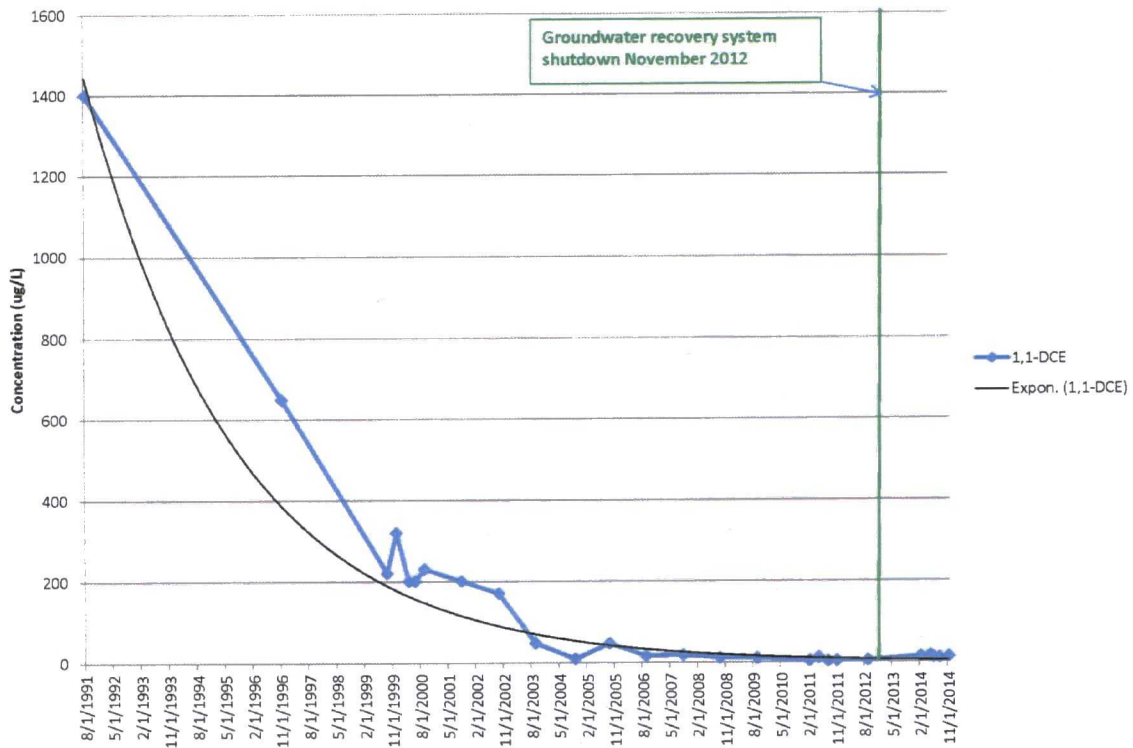
1,1-DCE concentrations in MW-1-3 increased from 4.7 µg/L in September 2012, prior to system shutdown, to 16 µg/L in May 2014. The well was resampled on June 19, 2014, to verify the May 2014 result. The verification sample concentration was 11 µg/L. The most recent 1,1-DCE result from November 2014 is 13 µg/L.



**Figure 4: 1,1-DCE in Well PTW-1**



**Figure 5: 1,1-DCE in Well MW-1-3**



## **6.5 Site Inspection**

The FYR site inspection was held on March 2, 2016. In attendance were: Charles King, the EPA Remedial Project Manager (RPM); Mary Ann Brookshire of Earthcon; and Treat Suomi of Skeo. Site participants met at the Site to discuss the current site conditions. Selected site photographs are included in Appendix E.

The Site includes a former tire factory currently used as a warehouse for tires. There was no evidence of trespassing and the Site was completely fenced at the time of the inspection to prevent trespassing. All active groundwater wells were identified and found to be locked, secured and labeled. The site inspection participants also visited the compression room, where the inactive groundwater recovery system is located.

On March 2, 2016, Skeo staff visited the designated site repository, Dougherty County Library, as part of the site inspection. No documents related to this site were found; administrative staff indicated they are able to house information on this site.

## **6.6 Interviews**

The FYR process included interviews with parties affected by the Site, including the current landowners and regulatory agencies involved in site activities or aware of the Site. The purpose was to document the perceived status of the Site and any perceived problems or successes with the phases of the remedy implemented to date. All of the interviews took place during the site inspection on March 2, 2016. The Cooper Tire plant operations manager and plant shift supervisor indicated they are aware of the cleanup activities and are not aware of any issues at the Site. Appendix C provides the complete interviews.

## **7.0 Technical Assessment**

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

The remedy is operating as designed. Soil remediation is complete. Based on significantly decreased and stabilized COC concentrations in groundwater, the EPA approved discontinuing the groundwater recovery system and implementing enhanced monitoring in November 2012. Since then, monitoring indicates slight increases of 1,1-DCE in wells where 1,1-DCE has been consistently detected. Ongoing monitoring will continue to assess contaminant trends following the 2012 system shutdown. Data do not suggest migration of COCs from the Residuum to the Upper Ocala, which indicates that remaining groundwater contamination is contained effectively. An Amendment to a Lease Agreement restricts groundwater use and consumption, as well as groundwater well installation at the Site.

### **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 exposure assumptions, toxicity data, cleanup levels and RAOs used at the time of remedy selection are still valid. No standards identified in the 1993 ROD or 1996 ESD have changed or call into question the protectiveness of the remedy. Although current concentrations of 1,1-DCE exceed the MCL, vapor intrusion is not currently a concern as concentrations are below the vapor intrusion screening level (VISL) of 200 µg/L.

The Site's ROD identified the 10 mg/kg TSCA action level for PCBs as an appropriate cleanup level for site soils and stated residential use of the property was unlikely. The PCB cleanup level exceeds the EPA default screening level for residential use of 0.24 mg/kg for a target risk of  $1 \times 10^{-6}$ , but is within the EPA's acceptable risk range. The land use at the Site has not changed. Current land use near the Site does not differ significantly from land use described in pre-cleanup documents.

1,4-Dioxane was widely used as a stabilizing agent in chlorinated solvents, most commonly 1,1,1-TCA, which was found at the Site. Because 1,1,1-TCA was used in metal cleaning and degreasing at several on-site locations, 1,4-dioxane may be present in site groundwater. 1,4-Dioxane is a probable human carcinogen and highly mobile in groundwater. The presence or absence of 1,4-dioxane should be evaluated at the Site to ensure protectiveness of the groundwater remedy.

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

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

**7.4 Technical Assessment Summary**

The remedy is operating as designed. Soil remediation is complete. The EPA approved discontinuing the groundwater recovery system and implementing enhanced monitoring in November 2012. Ongoing monitoring will continue to assess contaminant trends following the 2012 system shutdown. Institutional controls are in place to prohibit use of groundwater at the Site. No changes in ARARs, toxicity values or exposure assumptions in the past five years affect the remedy.

**8.0 Issues, Recommendations and Follow-up Actions**

**Table 8: Issues and Recommendations Identified in the Five-Year Review**

<b>OU(s): Sitewide</b>	<b>Issue Category: Monitoring</b>			
	<b>Issue:</b> 1,4-Dioxane is not currently sampled.			
	<b>Recommendation:</b> Include 1,4-dioxane in the groundwater sampling program.			
<b>Affect Current Protectiveness</b>	<b>Affect Future Protectiveness</b>	<b>Implementing Party</b>	<b>Oversight Party</b>	<b>Milestone Date</b>
No	Yes	PRP	EPA	9/30/2017

Issues not affecting protectiveness:

- The site repository is not up to date. EPA will provide relevant site documents to the site repository.



## 9.0 Protectiveness Statements

**Table 9: Protectiveness Statements**

Sitewide Protectiveness Statement
<i>Protectiveness Determination:</i> Short-term Protective
<i>Protectiveness Statement:</i> The remedy currently protects human health and the environment because groundwater contamination is contained and there are no complete exposure pathways. However, in order for the remedy to be protective in the long term, sampling for 1,4-dioxane should be added to the groundwater sampling program.

## 10.0 Next Review

The next FYR will be due within five years of the signature/approval date of this FYR.

## **Appendix A: List of Documents Reviewed**

EPA Superfund Record of Decision: Firestone Tire & Rubber Co. (Albany Plant). U.S. Environmental Protection Agency. June 24, 1993.

Firestone Tire & Rubber Co. Superfund Site. Explanation of Significant Difference Fact Sheet. U.S. Environmental Protection Agency. March 1996.

Five-Year Review Report. Firestone Tire & Rubber Site Co. U.S. Environmental Protection Agency. September 28, 2000.

Five-Year Review Report, Second Five-Year Review Report for Firestone Tire & Rubber Co. (Albany Plant). U.S. Environmental Protection Agency. December 21, 2005.

Five-Year Review Report, Third Five-Year Review Report for Firestone Tire & Rubber Co. (Albany Plant). U.S. Environmental Protection Agency. April 21, 2011.

Well Abandonment Report for Firestone Tire & Rubber Co. (Albany Plant). Premier Environmental Services, Inc. January 22, 2009.

System Final Modification Study for Firestone Tire & Rubber Co. (Albany Plant). Earthcon Consultants. August 1, 2012.

Annual Ground Water Sampling Results for September 2012. Earthcon Consultants. April 26, 2013.

Quarterly Groundwater Sampling Results for Firestone Tire & Rubber Co. (Albany Plant). February 2014. Earthcon Consultants. May 9, 2014.

## Appendix B: Press Notice



**The U.S. Environmental Protection Agency, Region 4  
Announces the Fourth Five-Year Review for  
The Firestone Tire & Rubber Co. (Albany Plant) Superfund Site,  
Albany, Dougherty County, Georgia**

**Purpose/Objective:** The EPA is conducting the fourth Five-Year Review of the remedy for the Firestone Tire & Rubber Co. (Albany Plant) Superfund site (the Site) in Albany, Georgia. The purpose of the Five-Year Review is to make sure the selected cleanup actions effectively protect human health and the environment.

**Site Background:** The 329-acre area is located at 3300 Sylvester Road in Albany in Dougherty County, Georgia. It consists of a 1.84-million-square-foot facility and forested wetlands. A highway and residential and commercial areas surround the Site. From 1968 to 1986, the Firestone Tire and Rubber Company (Firestone) made tires on site. In 1986, Firestone ceased operations. Cooper Tire later purchased the property and began to make and store tires on site. These operations continue today. A site assessment in 1985 found soil and groundwater contaminated from a 6,000-gallon antioxidant spill and burned drums of liquid waste. Primary contaminants of concern affecting soil and groundwater are volatile organic compounds, other organics, including polychlorinated biphenyls (PCBs), and metals, including chromium and lead. The EPA added the Site to the Superfund program's National Priorities List (NPL) in October 1989.

**Cleanup Actions:** Following the 1985 study, Firestone did some interim cleanup activities, removing debris, waste drums, transformers and underground storage tanks, and installing monitoring wells. The EPA selected the long-term remedy for soil and groundwater contamination in the Site's 1993 Record of Decision (ROD). It included excavation and off-site disposal of contaminated soils; replacement of excavated soils with clean fill; extraction and treatment of contaminated groundwater by air stripping; discharge of treated groundwater to a local water treatment plant; groundwater monitoring; and institutional controls to restrict well construction and water use on site. The EPA updated the remedy in 1996, allowing active groundwater treatment to end as long as groundwater contaminant levels do not exceed the local water treatment plant's permit discharge limits. Construction of the remedy finished in 1998.

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

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

Charles King, EPA Remedial Project Manager  
Coordinator  
Phone: (404) 562-8931  
(toll-free)  
Email: [king.charlesl@epa.gov](mailto:king.charlesl@epa.gov)

Kyle Bryant, EPA Community Involvement  
Phone: (404) 562-9073 | (877) 718-3752  
Email: [bryant.kyle@epa.gov](mailto:bryant.kyle@epa.gov)

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

Additional information is available at the Site's local document repository, located at Dougherty County Library, 300 Pine Avenue, Albany, GA 31701, and online at: <http://www.epa.gov/region4/superfund/sites/npl/georgia/firetiga.html>.

## Appendix C: Interview Forms

### Firestone Tire & Rubber Co. (Albany Plant) Superfund Site Five-Year Review Interview Form

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Site Name: Firestone Tire & Rubber Co. EPA ID No.: GAD990855074  
(Albany Plant)

Interviewer Name: Treat Suomi Affiliation: Skeo  
Subject Name: Danny Balkom Affiliation: Plant Shift Supervisor  
Subject Contact Information: 229-272-9560  
Time: 11:00 a.m. Date: 03/02/2016  
Interview Location: Cooper Tires Warehouse (at Site)

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

---

Interview Category: Residents/Local Business

1. Are you aware of the former environmental issues at the Site and the cleanup activities that have taken place to date?  
Yes. I am aware that they come and sample the wells.
2. What is your overall impression of the project, including cleanup, maintenance and reuse activities (as appropriate)?  
My impression is that everything is fine.
3. What have been the effects of this Site on the surrounding community, if any?  
None, assuming as everything is clean, I assume things are better.
4. Have there been any problems with unusual or unexpected activities at the Site, such as emergency response, vandalism or trespassing?  
No.
5. Has EPA kept involved parties and surrounding neighbors informed of activities at the Site? How can EPA best provide site-related information in the future?  
Through Earthcon, but I don't think any information is really needed.
6. Do you own a private well in addition to or instead of accessing city/municipal water supplies? If so, for what purpose(s) is your private well used?  
I live seven miles away from here, so it isn't really applicable to the site. The only water here at the plant, comes from the city.
7. As a Shift Supervisor, when new employees are hired, is anyone worried about this being a Superfund Site?  
No, I have never heard anything negative.
8. Do you have any comments, suggestions or recommendations regarding any aspects of the project?  
I think they check things out here thoroughly.

**Firestone Tire & Rubber Co. (Albany Plant) Superfund Site  
Five-Year Review Interview Form**

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**Site Name:** Firestone Tire & Rubber Co.      **EPA ID No.:** GAD990855074  
(Albany Plant)

**Interviewer Name:** Treat Suomi      **Affiliation:** Skeo  
**Subject Name:** Mark Holland      **Affiliation:** Plant Operations Manager  
**Subject Contact Information:** 229-395-1115  
**Time:** 11:15 a.m.      **Date:** 03/02/2016  
**Interview Location:** Cooper Tires Warehouse (at Site)

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

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**Interview Category:**    Current Property Owner or Business Operator

1. Are you aware of the former environmental issues at the Site and the cleanup activities that have taken place to date?  
Yes. I have been here 22 years and knew something was wrong, but I didn't know what.
2. What is your overall impression of the project, including cleanup, maintenance and reuse activities (as appropriate)?  
It's been coming to completion and things look good.
3. What have been the effects of this Site on the surrounding community, if any?  
Nothing that I know of.
4. Have there been any problems with unusual or unexpected activities at the Site, such as emergency response, vandalism or trespassing?  
No.
5. Has EPA kept involved parties and surrounding neighbors informed of activities at the Site? How can EPA best provide site-related information in the future?  
Things are fine as far as information goes. The phone is the best way to reach me.
6. Do you own a private well in addition to or instead of accessing city/municipal water supplies? If so, For what purpose(s) is your private well used?  
There is no well here, it is all municipal water.
7. As the Operations Manager at the plant, when new employees are hired, is anyone worried about this being a Superfund Site?  
No one has ever asked anything about the Site.
8. Do you have any comments, suggestions or recommendations regarding any aspects of the project?  
No.

## Appendix D: Site Inspection Checklist

<b>FIVE-YEAR REVIEW SITE INSPECTION CHECKLIST</b>	
<b>I. SITE INFORMATION</b>	
Site name: Firestone Tire & Rubber Co. (Albany Plant)	Date of inspection: March 2, 2016
Location and Region: Albany, GA; Region 4	EPA ID: GAD990855074
Agency, office, or company leading the Five-Year Review: EPA Region 4	Weather/temperature: Clear skies, sunny, 55°F
<b>Remedy Includes: (Check all that apply)</b> <input type="checkbox"/> Landfill cover/containment <input checked="" type="checkbox"/> Monitored natural attenuation <input type="checkbox"/> Access controls <input type="checkbox"/> Groundwater containment <input checked="" type="checkbox"/> Institutional controls <input type="checkbox"/> Vertical barrier walls <input checked="" type="checkbox"/> Groundwater pump and treatment <input type="checkbox"/> Surface water collection and treatment <input type="checkbox"/> Other _____	
<b>Attachments:</b> <input checked="" type="checkbox"/> Inspection team roster attached <input type="checkbox"/> Site map attached	
<b>II. INTERVIEWS (Check all that apply)</b>	
<b>1. O&amp;M site manager</b>	
Name	Title
Interviewed <input type="checkbox"/> at site <input type="checkbox"/> at office <input type="checkbox"/> by phone	Phone no. _____
Problems, suggestions; <input type="checkbox"/> Report attached _____	
<b>2. O&amp;M staff</b>	
Name	Title
Interviewed <input type="checkbox"/> at site <input type="checkbox"/> at office <input type="checkbox"/> by phone	Phone no. _____
Problems, suggestions; <input type="checkbox"/> Report attached _____	
<b>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.</b>	
Agency Contact	
Name	Title
Date	Phone No.
Problems; suggestions; <input type="checkbox"/> Report attached _____	
<b>4. Other interviews (optional) <input checked="" type="checkbox"/> Report attached</b>	
EPA Region 4: RPM Charles King, 404-562-8931	
Cooper Tire facility staff	
<b>III. ON-SITE DOCUMENTS &amp; RECORDS VERIFIED (Check all that apply)</b>	

<b>1. O&amp;M Documents</b>				
<input type="checkbox"/> O&M manual	<input checked="" type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input type="checkbox"/> N/A	
<input type="checkbox"/> As-built drawings	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A	
<input type="checkbox"/> Maintenance logs	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A	
Remarks: _____				
<b>2. Site-Specific Health and Safety Plan</b>				
	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A	
<input type="checkbox"/> Contingency plan/emergency response plan	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A	
Remarks: _____				
<b>3. O&amp;M and OSHA Training Records</b>				
	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	<input type="checkbox"/> N/A	
Remarks: _____				
<b>4. Permits and Service Agreements</b>				
<input type="checkbox"/> Air discharge permit	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A	
<input type="checkbox"/> Effluent discharge	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A	
<input type="checkbox"/> Waste disposal, POTW	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A	
<input type="checkbox"/> Other permits _____	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A	
Remarks: _____				
<b>5. Gas Generation Records</b>				
	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A	
Remarks: _____				
<b>6. Settlement Monument Records</b>				
	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A	
Remarks: _____				
<b>7. Groundwater Monitoring Records</b>				
	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	<input type="checkbox"/> N/A	
Remarks: _____				
<b>8. Leachate Extraction Records</b>				
	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A	
Remarks: _____				
<b>9. Discharge Compliance Records</b>				
<input type="checkbox"/> Air	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A	
<input type="checkbox"/> Water (effluent)	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A	
Remarks: _____				
<b>10. Daily Access/Security Logs</b>				
	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A	
Remarks: _____				
<b>IV. O&amp;M COSTS</b>				



<b>1. O&amp;M Organization</b>			
<input type="checkbox"/> State in-house	<input type="checkbox"/> Contractor for State		
<input type="checkbox"/> PRP in-house	<input checked="" type="checkbox"/> Contractor for PRP		
<input type="checkbox"/> Federal Facility in-house	<input type="checkbox"/> Contractor for Federal Facility		
<b>2. O&amp;M Cost Records</b>			
<input checked="" type="checkbox"/> Readily available	<input type="checkbox"/> Up to date		
<input type="checkbox"/> Funding mechanism/agreement in place	<input type="checkbox"/> Unavailable		
Original O&M cost estimate <u>\$66,000/year for 30 years</u> <input type="checkbox"/> Breakdown attached			
Total annual cost by year for review period if available			
From <u>Jan/01/2011</u>	To <u>Dec/31/2011</u>	<u>\$42,000</u>	<input type="checkbox"/> Breakdown attached
Date	Date	Total cost	
From <u>Jan/01/2012</u>	To <u>Dec/31/2012</u>	<u>\$31,000</u>	<input type="checkbox"/> Breakdown attached
Date	Date	Total cost	
From <u>Jan/01/2013</u>	To <u>Dec/31/2013</u>	<u>\$7,000</u>	<input type="checkbox"/> Breakdown attached
Date	Date	Total cost	
From <u>Jan/01/2014</u>	To <u>Dec/31/2014</u>	<u>\$21,000</u>	<input type="checkbox"/> Breakdown attached
Date	Date	Total cost	
From <u>Jan/01/2015</u>	To <u>Aug/31/2015</u>	<u>\$16,000</u>	<input type="checkbox"/> Breakdown attached
Date	Date	Total cost	
<b>3. Unanticipated or Unusually High O&amp;M Costs During Review Period</b>			
Describe costs and reasons: _____			
<b>V. ACCESS AND INSTITUTIONAL CONTROLS</b> <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A			
<b>A. Fencing</b>			
1. <b>Fencing damaged</b>	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Gates secured	<input checked="" type="checkbox"/> N/A
Remarks: Site is fenced			
<b>B. Other Access Restrictions</b>			
1. <b>Signs and other security measures</b>	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> N/A	
Remarks: On site security guards			
<b>C. Institutional Controls (ICs)</b>			

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	<u>Mary Ann Brookshire</u>	O&M Contractor	<u>03/02/2016</u>	<u>770-973-2100 ext 2880</u>
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

Improve care of monitoring wells since they are exposed to damage by operations at Site.

---

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

Remarks: \_\_\_\_\_

---

**D. General**

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

2. **Land use changes on site**  N/A

Remarks: Previous landowner sold the property but it is still leased to Cooper Tires and operated as a warehouse for tires.

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

Remarks: \_\_\_\_\_

---

**VI. GENERAL SITE CONDITIONS**

**A. Roads**  Applicable  N/A

1. **Roads damaged**  Location shown on site map  Roads adequate  N/A

Remarks: \_\_\_\_\_

**B. Other Site Conditions**

Remarks: \_\_\_\_\_

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**VII. LANDFILL COVERS**  Applicable  N/A

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**VIII. VERTICAL BARRIER WALLS**  Applicable  N/A

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

Area extent \_\_\_\_\_ Depth \_\_\_\_\_

Remarks: \_\_\_\_\_

2. <b>Performance Monitoring</b>	Type of monitoring _____
<input type="checkbox"/> Performance not monitored	
Frequency _____	<input type="checkbox"/> Evidence of breaching
Head differential _____	
Remarks: _____	
<b>IX. GROUNDWATER/SURFACE WATER REMEDIES</b> <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A	
<b>A. Groundwater Extraction Wells, Pumps, and Pipelines</b>	<input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A
<b>B. Surface Water Collection Structures, Pumps, and Pipelines</b>	<input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A
<b>C. Treatment System</b>	<input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A
<b>D. Monitoring Data</b>	<input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A
1. <b>Monitoring Data</b>	
<input checked="" type="checkbox"/> Is routinely submitted on time	<input checked="" type="checkbox"/> Is of acceptable quality
2. <b>Monitoring data suggest:</b>	
<input type="checkbox"/> Groundwater plume is effectively contained	<input checked="" type="checkbox"/> Contaminant concentrations are declining
<b>E. Monitored Natural Attenuation</b> <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A	
1. <b>Monitoring Wells (natural attenuation remedy)</b>	
<input checked="" type="checkbox"/> Properly secured/locked	<input checked="" type="checkbox"/> Functioning <input checked="" type="checkbox"/> Routinely sampled <input checked="" type="checkbox"/> Good condition
<input checked="" type="checkbox"/> All required wells located	<input type="checkbox"/> Needs Maintenance <input type="checkbox"/> N/A
Remarks: _____	
<b>X. OTHER REMEDIES</b>	
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.	
<b>XI. OVERALL OBSERVATIONS</b>	
<b>A. Implementation of the Remedy</b>	
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.). <u>The remedy is operating as designed. Soil remediation is complete. The EPA approved discontinuing the groundwater recovery system and implementing enhanced monitoring in November 2012.</u>	
<b>B. Adequacy of O&amp;M</b>	
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. <u>Ongoing monitoring will continue to assess contaminant trends following the 2012 system shutdown.</u>	
<b>C. Early Indicators of Potential Remedy Problems</b>	
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. <u>None noted.</u>	
<b>D. Opportunities for Optimization</b>	
Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy. <u>None noted.</u>	

Site visit attendees  
Charles King, EPA  
Mary Ann Brookshire, Earthcon

**Appendix E: Photographs from Site Inspection Visit**



Cooper Tires sign at entrance to the Site



Site extraction well



MW 1-4



DRW-1





View of warehouse from road