



LUCAS STAMPS  
PROJECT MANAGER

November 8, 2016

Ms. Shelly Lam  
On-Scene Coordinator  
U.S. Environmental Protection Agency Region 5  
2525 North Shadeland Ave  
Indianapolis, IN 46219

Subject: **Final Removal Report for the Hoosier Wood Preservers Site**  
**EPA Contract No. EP-S5-13-01**  
**Technical Direction Document No. S05-001-1510-018**  
**Document Tracking No. 1203**

Dear Ms. Lam:

Tetra Tech, Inc. (Tetra Tech) is submitting this Final Removal Report summarizing time-critical removal activities conducted at the Hoosier Wood Preservers site between November 9, 2015 and March 3, 2016. The final report addresses your comments on the draft report that was submitted on November 1, 2016.

If you have any questions regarding this report, please contact me at (317) 797-2420 and/or via e-mail at [lstamps@qepi.com](mailto:lstamps@qepi.com).

Respectfully,

A handwritten signature in black ink, appearing to read 'Lucas Stamps'.

Lucas Stamps  
Project Manager

**FINAL REMOVAL REPORT  
FOR THE  
HOOSIER WOOD PRESERVERS SITE  
3605 FARNSWORTH STREET,  
INDIANAPOLIS, MARION COUNTY, INDIANA**

**U.S. Environmental Protection Agency**  
Emergency Response Branch  
Region 5  
2525 North Shadeland Avenue  
Indianapolis, IN 46219

*Submitted by*

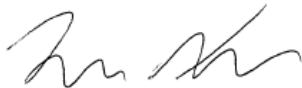
**Tetra Tech Inc.**  
1611 South Franklin Road  
Indianapolis, IN 46239

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November 8, 2016

Prepared by



Lucas Stamps  
Project Manager

Approved by



John Dirgo  
Environmental Scientist  
START QC Reviewer

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## **1.0 INTRODUCTION**

Under Superfund Technical Assessment and Response Team (START) contract No. EP-S5-13-01, Technical Direction Document (TDD) No. S05-0001-1510-018, the U.S. Environmental Protection Agency (EPA) tasked Tetra Tech, Inc. (Tetra Tech) to provide support during a time-critical removal action at the Hoosier Wood Preservers site located in Indianapolis, Marion County, Indiana.

As part of removal activities, Tetra Tech START drafted a site specific health and safety plan (HASP) dated November 5, 2015; an air monitoring plan (AMP) dated November 9, 2015; and a sampling and analysis plan (SAP) dated November 17, 2015. Tetra Tech START also performed air monitoring, documented site activities, collected soil and liquid samples, conducted oversight, and managed sampling and monitoring data.

The Removal Report is organized into the following sections:

- Introduction – Describes the objectives and scope of site assessment activities and describes the site and its history
- Removal Activities – Documents removal activities conducted by START, including the methods and results from sampling activities
- Removal Summary – Summarizes the time-critical removal action and documents the effectiveness of the activities completed

In addition, this removal report contains four appendices and one attachment. Appendix A provides figures for this report. Appendix B provides summary tables of analytical results. Appendix C provides a waste metrics table detailing the size of each waste stream and how it was disposed. Appendix D provides representative photographs of site conditions and removal activities conducted at the site. The laboratory analytical reports and data validation reports for samples collected during the removal action are provided as attachments to this report.

## **1.1 SITE LOCATION**

The Hoosier Wood Preservers site is located at 3605 South Farnsworth Street in Indianapolis, Marion County, Indiana (Appendix A, Figure 1). The geographic coordinates of the site are 39.72241° north latitude and -86.22123° west longitude. The site is located approximately 3.5 miles southwest of downtown Indianapolis. The surrounding area is primarily industrial, although commercial properties are located to the south. Residential properties are within 200 feet to the east and northeast. The site is bordered by Farnsworth Street to the north, Kentucky Avenue to the south, an industrial property to the



east, and railroad tracks to the west (Appendix A, Figures 1 and 2). No public water bodies are located within a 1-mile radius of the site.

## 1.2 SITE HISTORY

Hoosier Wood Preservers, Inc. operated the site located at 3605 South Farnsworth Street in Indianapolis, Indiana from 1969 to 2013. The company performed wood treatment by using pressure to inject preservative compounds into wood products. The preservative compounds recently used by the company included chromated copper arsenate (CCA) and borate. Historically, creosote and pentachlorophenol were also used at the site. After the wood products were treated, they were placed on a drip pad to cure.

Hoosier Wood Preservers, Inc. was dissolved in 2012, and vacated the site in 2013. A limited liability company, 2008 TLA, LLC, purchased the site in February 2010 and is the current owner of the site. The site is currently abandoned, although many of the structures are still present. The building containing the drip pad described above caught fire on May 25, 2015.

On May 26, 2015, the Indiana Department of Environmental Management (IDEM) filed a report with the National Response Center (NRC # 1117591), and requested assistance from EPA. IDEM requested that EPA assess environmental hazards and secure hazardous materials abandoned on site. Fire investigators noted drums and containers inside buildings at the site.

START and Emergency and Rapid Response Services (ERRS) contractors were mobilized to the site as part of an emergency response on May 26, 2015, and began work on May 27. Numerous tanks, totes, 55-gallon drums, 5-gallon containers, 1-gallon containers, compressed gas cylinders, and other containers were inventoried, over-packed, and secured in temporary storage boxes pending disposal. Tetra Tech START supported the emergency response action from May 26 to September 10, 2015.

During the emergency response, Tetra Tech START also conducted a site assessment to determine if the contamination at the site posed a substantial threat to public health or the welfare of the United States. As part of assessment activities, a geophysical survey was conducted in June 2015 and identified buried anomalies approximately 4 to 10 feet below ground surface (bgs) near the former treatment building. In June 2015, samples of soil, sediment, material on the ground surface, and charred wood and ash from the former Drip Pad Building were collected. Samples from eight locations were submitted for laboratory analysis for metals analysis based on X-ray fluorescence (XRF) screening results. A composite sample of particulate matter from the floor of the Wood Stacker Building was collected by the ERRS contractor for disposal purposes. The list below details the results of the samples that exceeded the EPA Removal Management Level (RML) for industrial soil at hazard quotient (HQ) 3 for Arsenic of 300 milligrams per

kilogram (mg/kg) or the Toxicity Characteristic Leaching Procedure (TCLP) regulatory level for arsenic of 5 milligrams per liter (mg/L).

- Sample HWP-SP01A was collected from material on the ground surface. In this sample, arsenic was detected at 272,000 mg/kg.
- Sample HWP-SP2 was collected from ash from the former Drip Pad Building. In this sample, arsenic was detected at 4,510 mg/kg.
- Sample HWP B-1 (0-2') was collected from surface soil from the area of the former Treatment Building. In this sample, arsenic was detected at 2,460 mg/kg.
- Sample HWP-Disposal-3 was collected during the emergency response from particulate matter on the floor of the Wood Stacker Building. The sample was extracted using the TCLP, and the arsenic concentration in the extract was 26.9 mg/L, classifying the material as a hazardous waste

Removal operations for impacted soil were conducted in areas that coincided with the RML exceedances listed above. Appendix A, Figure 3 depicts three locations that coincide with the four samples that exceeded the RML or TCLP regulatory level for arsenic. Note that Removal Area 1 corresponds with the former Wood Stacker Building, Removal Area 2 with the former Treatment Building, and Removal Area 3 with the former Drip Pad Building.

## **2.0 REMOVAL ACTION ACTIVITIES**

This section discusses removal actions conducted at the Hoosier Wood Preservers site from November 9, 2015 through March 3, 2016. Environmental Restoration, LLC (ER) served as the ERRS contractor and Tetra Tech served as the START contractor. Tetra Tech START conducted perimeter air monitoring during removal activities; collected investigative, disposal, and confirmation samples; maintained site and photo logs; and managed sample and monitoring data. ER served as the remedial contractor and performed the soil excavation, backfilling, and property landscape restoration. In addition, ER contracted waste shippers, disposal facilities, and a laboratory for analysis of site samples.

The EPA approved an Action Memorandum (Action Memo) for the site on August 8, 2015. The Action Memo requested a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) time-critical removal action at the site. The response actions described in the Action Memo directly addressed actual or potential releases of hazardous substances on site, which may pose and imminent and substantial endangerment to public health, or welfare, or the environment.

## 2.1 REMOVAL ACTION TIMELINE

The following timeline provides a brief overview of the activities Tetra Tech START and ERRS performed during the removal action. It is not a comprehensive list of site activities, but was included due to the long duration of the removal.

| Dates             | Removal Activities   |
|-------------------|--|
| 11/09/15-11/13/15 | START and ERRS mobilized to the site. Office trailers and heavy equipment arrived on site. ERRS secured and prepared the site by repairing holes in perimeter fence, spreading gravel around the entrance to the site, placing barrier fences around the exclusion zone, locking all perimeter gates, and hiring overnight security. ERRS scraped up and containerized the green substance with high concentrations of arsenic that was found on site. Soil was excavated near the drip pad and at soil boring location B1. START collected three soil samples and one concrete sample and submitted them for laboratory analysis. ERRS began clearing out debris in the stacker building and clearing charred material from the drip pad. START marked out geophysical anomalies on the ground, set up EPA's VIPER Survey Controller with two DataRAM 4 Particulate Monitors, and began air monitoring in accordance with the approved air monitoring plan. |
| 11/16/15-11/20/15 | ERRS completed removing debris from the stacker building and clearing charred material from the drip pad. Because the sample of drip pad concrete was contaminated, ERRS began breaking up the concrete for off-site disposal. ERRS shipped charred material from drip pad off-site for disposal and received pallets of EnviroBlend® HDX, a metal waste treatment chemical. START, ERRS, and the OSC dug test pits at the locations of six geophysical anomalies that were identified during a geophysical investigation. START collected samples from the test pits, including a liquid sample from a buried vault near the former treatment building, and conducted air monitoring for particulates.  |
| 11/23/15-12/4/15  | ERRS finished excavating soil and particulate matter from the former Wood Stacker building (Removal Area 1) and mixed the excavated soil with EnviroBlend® HDX to reduce the leachability of arsenic prior to disposal. START collected a confirmation sample from bottom of the excavation and collected a sample of soil to be used as backfill material to ensure it met state and  |

federal criteria. ERRS pumped 350 gallons of liquid out of the underground vault in Removal Area 2. ERRS also continued breaking up the concrete drip pad (Removal Area 3) and excavating soil from the former Treatment Building (Removal Area 2). START continued air monitoring for particulates, collected samples for disposal analysis, managed sample and monitoring data using Scribe, monitored carbon monoxide levels in the former Wood Stacker Building during excavation (using a MultiRAE Pro multi-threat monitor), and screened soil with an XRF analyzer.

- 12/07/15-12/11/15 ERRS completed excavating Removal Area 2 and mixed the excavated soil with the treatment chemical to reduce the leachability of metals. ERRS continued to break up the concrete drip pad (Removal Area 3), started shipping concrete from Removal Area 3 to Oregon, Ohio for encapsulation, and began backfilling Removal Areas 1 and 2. START collected a confirmation sample from Removal Area 2, collected samples for disposal analysis, and continued air monitoring for particulates.
- 12/14/15-12/18/15 ERRS continued shipping waste off-site (666 tons of concrete to Oregon, Ohio for encapsulation; 291 tons of non-hazardous treated soil to Danville, Indiana for land disposal, and 30 cubic yards of scrap metal for recycling in Indianapolis). ERRS also finished backfilling all three Removal Areas, covered and secured the two remaining piles of soil, and decontaminated equipment in preparation for a temporary demobilization. START continued air monitoring for particulates.
- 02/22/16-03/03/16 The OSC, ERRS, and START returned to the site to finish shipping waste off-site. ERRS shipped remaining waste off-site (523 tons of soil contaminated with dioxins and furans) to Kimball, Nebraska for incineration; 439 tons of non-hazardous soil to Danville, Indiana for land disposal; 350 gallons of arsenic-contaminated liquid from the underground vault to Detroit, Michigan; and 1,000 pounds of hazardous waste solids, including the green powder found on the ground surface, to Detroit, Michigan. START conducted air monitoring for particulates. ERRS and START decontaminated all equipment and demobilized from the site.

## **2.2 SAMPLING ACTIVITIES AND RESULTS**

Over the course of the removal action, Tetra Tech START submitted 16 samples for laboratory analysis. All sampling was completed in accordance with the approved Sampling and Analysis Plan (SAP). Soil samples were field screened with XRF prior to collection. Results were noted in the log book, and data files were stored in the site file.

### **2.2.1 Liquid Samples**

Two liquid samples, HWP-A2UST-151116 and HWP-FTBvault-151203, were collected from an underground storage vault that was uncovered during the excavation of Removal Area 2. Sample HWP-A2UST-151116 was collected on November 16, 2015 and analyzed for the eight Resource Conservation and Recovery Act (RCRA) metals, volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), and flashpoint. A second sample, HWP-FTBvault-151203, was collected on December 3, 2015 at the OSC's request and analyzed for polychlorinated biphenyls (PCBs). This second sample was collected immediately before ERRS pumped the liquid into storage totes. Both liquid samples were collected for waste profiling for disposal. Results are summarized in Appendix B, Table 1.

### **2.2.2 Concrete Samples**

Tetra Tech START collected 3 concrete samples for disposal during the removal action. Samples HWP-FTBCon-151201 and HWP-FTBCONC-151204 were both collected from Removal Area 2. HWP-FTBCon-151201 was collected on December 1, 2015 and analyzed for dioxins and furans and HWP-FTBCONC-151204 was collected on December 4, 2015 and analyzed for VOCs, SVOCs, TCLP metals, TCLP VOCs, and TCLP SVOCs. Results are summarized in Appendix B, Tables 2 and 3, respectively. There was a large amount of buried concrete at this location because it was the location of the former treatment building. The foundation slab and block walls were largely intact underground, along with a large amount of other broken concrete pieces.

Sample HWP-DPconcrete-151113 was collected on November 13, 2015 from the drip pad and analyzed for TCLP metals, VOCs, and SVOCs. The original work plan was to remove charred ash and debris from the drip pad, but due to pervasive green staining around the area, the OSC requested that START collect a powdered sample of the concrete. The TCLP extract from the powdered concrete was above the regulatory levels stated in Title 40 of the *Code of Federal Regulations* (CFR), Section 261.24 for arsenic and chromium. Results are summarized in Appendix B, Table 3.

### 2.2.3 Soil Samples

Tetra Tech START collected 11 soil samples over the course of the removal action. Of these samples, two were investigative samples collected to delineate the removal areas, two were confirmation samples that were collected at the bottom of excavation areas, six were disposal samples that were collected to profile waste and obtain disposal approvals, and one was a fill soil sample that was collected to verify that excavations were backfilled with clean soil.

The two investigative soil samples, HWP-Trench-151113 and HWP-B1Exc-151112, were both analyzed for RCRA metals. Sample HWP-Trench-151113 was collected on November 13, 2015 from a trench dug along the southeast edge of the concrete drip pad. This sample contained arsenic at a concentration of 610 mg/kg, which exceeds the EPA RML. Sample HWP-B1Exc-151112 was collected on November 12, 2015 during the excavation of the area around soil boring B1 from the site assessment, which is part of Removal Area 2. This sample did not exceed any state or federal remediation criteria. Results are summarized in Appendix B, Table 4.

The two confirmation samples, HWP-FTBbottom-151208 and HWP-SBsoil-151201, were both analyzed for RCRA metals. Sample HWP-FTBbottom-151208 was collected from the bottom of the excavation at Removal Area 2. The excavation went down to approximately 5 feet bgs to remove the contaminated concrete that made up the foundation of the former treatment building. This sample contained arsenic at a concentration of 2,670 mg/kg, which exceeds the EPA RML. The excavation was not advanced any deeper because contamination greater than 2 feet bgs does not pose a direct contact risk to the public. Sample HWP-SBsoil-151201 was collected from the bottom of the excavation at Removal Area 1. The excavated area consisted of the dirt floor of the former stacker building. The excavation went down to 2 feet bgs where possible, but much of the building had an asphalt pad covered by approximately 4 inches of dirt and dust. The sample did not exceed any state or federal remediation criteria, demonstrating a successful removal of the threat. Results are summarized in Appendix B, Table 4.

Four of the six disposal samples were analyzed for TCLP metals, VOCs, and SVOCs. Sample HWP-Exsoil-151113 was collected on November 13, 2015 from the pile of excavated soil from the trench along the drip pad and boring location B1. The sample did not exceed criteria for hazardous waste. Sample HWP-FTBsoil-151116 was collected during the excavation of test pits at locations where geophysical anomalies had been observed. It coincided with Removal Area 2, and consisted of soil excavated from the former treatment building foundation. Much of the area had concrete and demolition debris that was stained green. The sample exceeded the criterion for hazardous waste in 40 CFR 261.24 for arsenic. The

sample also contained pentachlorophenol at 107 mg/kg, which does not exceed the EPA RML, but can be an indicator that dioxins and furans are present. Sample HWP-SBtreated-151124 was collected on November 24, 2015 and consisted of soil from Removal Area 1 after it had been mixed with EnviroBlend® HDX to bind the metals and reduce their leachability for disposal. The sample did not exceed any criteria for hazardous waste, indicating that the treatment chemical had successfully reduced the leachability of metals present. Sample HWP-FTBtreated-151207 was collected on December 7, 2015 and consisted of treated soil from Removal Area 2. The sample was analyzed for TCLP VOCs and TCLP SVOCs in addition to the normal disposal parameters due to the presence of pentachlorophenol in an earlier sample. No metals were detected in the TCLP extract, indicating that the treatment chemical was successful. Pentachlorophenol was present in the sample, but not in the TCLP extract. These results confirmed that the only potential difficulty for disposal was the presence of dioxins and furans in the soil from Removal Area 2. Results are summarized in Appendix B, Table 3.

The other two disposal samples were analyzed for dioxins and furans. Sample HWP-FTBsoil-151201 was collected on December 1, 2015 and consisted of soil from Removal Area 2 that had been used to fill in the foundation of the former treatment building. The sample contained numerous chlorinated dibenzo-p-dioxins (CDDs) and chlorinated dibenzofurans (CDFs) at levels more than 10 times the universal treatment standards (UTS) in 40 CFR 268.48, which is the benchmark for land disposal. Incineration was deemed necessary for soil containing CDDs and CDFs at levels greater than ten times the UTS to comply with land disposal restrictions. Sample HWP-FTBsoilE-151210 was collected on December 10, 2015 from the eastern soil pile at Removal Area 2. A second sample was collected for this pile because it was excavated from an area away from the former treatment building. The sample had lower levels of CDDs and CDFs than the other sample from the area, and was eligible for land disposal. Results are summarized in Appendix B, Table 2.

The last soil sample collected, HWP-FillSoil-151202, was collected on December 12, 2015 and consisted of fill soil from a local facility. The sample was analyzed for RCRA metals, VOCs, and SVOCs. All parameters came back below state and federal screening levels, so the soil was approved to be used as backfill for all removal areas. Results are summarized in Appendix B, Table 4.

## **2.3 AIR MONITORING ACTIVITIES**

START conducted perimeter air monitoring for particulates at all times when site work was occurring, weather permitting. Particulate monitoring was completed using two Thermo DataRAM 4 particulate monitors. One monitor was always placed near the office trailers, at the edge of the exclusion zone. The second monitor's location was chosen by considering where site work was occurring and the forecasted

wind direction for the day; it was placed downwind of planned site work near the perimeter of the exclusion zone. GPS coordinates for each monitor were recorded each day. Data from the monitors was recorded using VIPER software from EPA's Environmental Response Team (ERT). An alarm was triggered if particulate concentrations exceeded the action level of 150 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ). The daily monitoring data logs were collected in a Scribe database. Alarms were triggered on numerous occasions throughout the removal action. All alarms were short-lived and the OSC was immediately notified. Causes of alarms recorded in the logbook include mixing EnviroBlend<sup>®</sup> HDX with soil, wind kicking up dust on dry days, and vehicles running very close to a particulate monitor. When appropriate, the ERRS contractor adjusted their activities or performed dust suppression to reduce the concentration of particulates.

START also conducted interior air monitoring for carbon monoxide (CO) while ERRS crews were using an excavator and skid steer inside the former Wood Stacker Building. A MultiRAE Pro was placed inside the building in a location where the work crew could see or hear an alarm if CO levels exceeded the action level of 200 ppm. No alarms were triggered due to adequate ventilation in the former Wood Stacker Building. This monitoring data was not included in the Scribe database.

### **3.0 REMOVAL SUMMARY**

The following is a summary of the removal activities completed from November 9, 2015 to March 3, 2016:

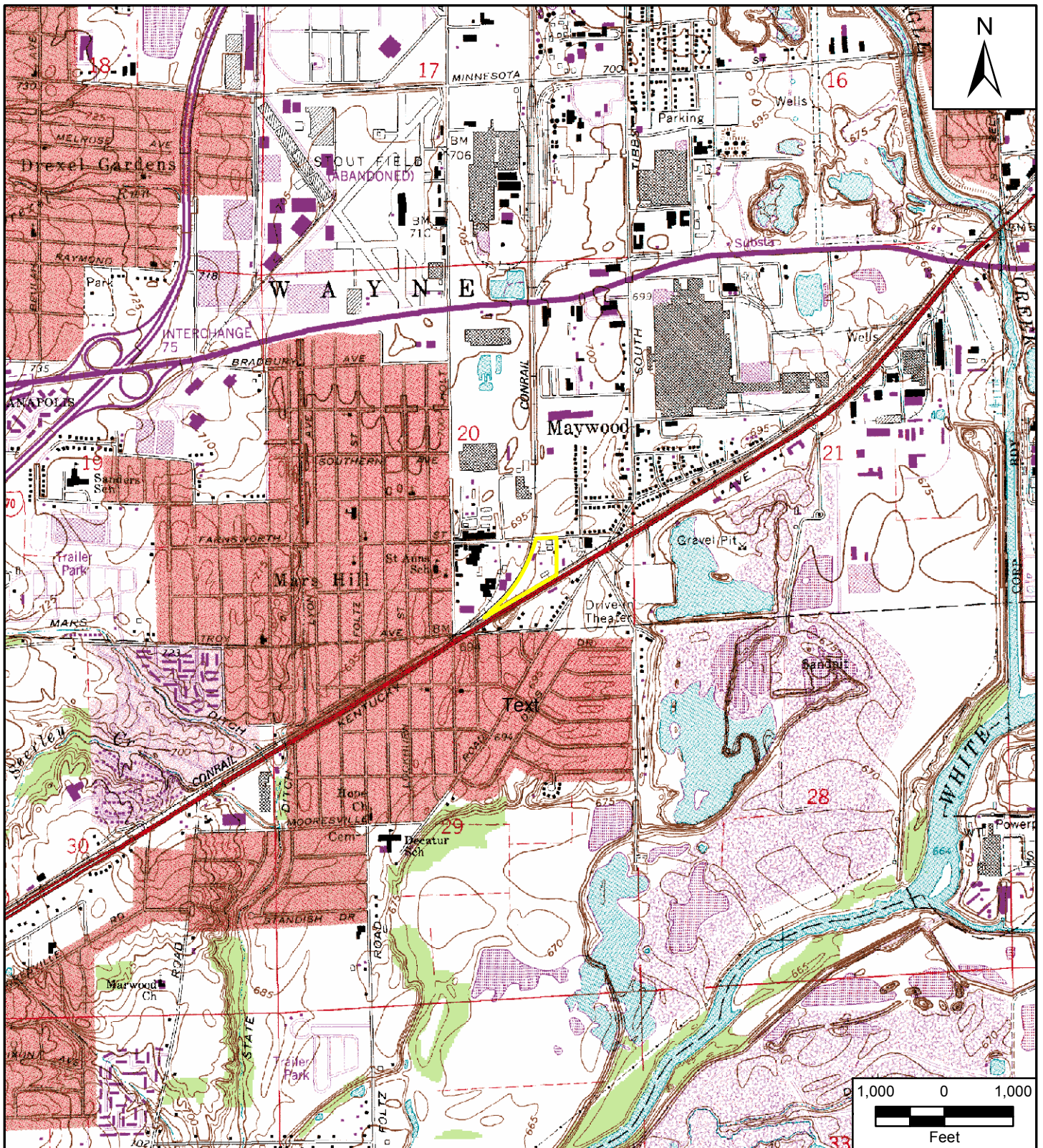
- 1,000 pounds of hazardous waste solids, including the green powder that was observed on the ground, were removed and sent to an approved disposal facility.
- Charred material and debris were removed the drip pad and the treatment building where the fire occurred.
- Soil from Removal Area 1 was excavated, treated with EnviroBlend<sup>®</sup> HDX, and disposed of at an approved facility as non-hazardous waste (Appendix C).
- Soil and concrete from Removal Area 2 was excavated. Soil was treated with EnviroBlend<sup>®</sup> HDX, and disposed of at an approved facility. Approximately half of the soil was disposed of as non-hazardous waste, and the other half was incinerated as a hazardous substance, soil with dioxins and furans. The concrete was encapsulated at an approved facility (Appendix C).
- Concrete from Removal Area 3 was broken into pieces and encapsulated at an approved facility. Rebar was removed and recycled at a local facility (Appendix C).
- Confirmation samples were collected from the bottoms of the excavations at Removal Areas 1 and 2.



- Arsenic-contaminated liquid from an underground vault discovered at Removal Area 2 was pumped out and disposed of at an approved facility (Appendix C).
- All Removal Areas were backfilled with soil that was sampled to confirm it passed state and federal criteria.
- Air monitoring indicated no sustained air quality concentrations above action levels during the removal action.

**APPENDIX A**  
**FIGURES**

- 1 – SITE LOCATION MAP
- 2 – SITE MAP
- 3 – LOCATION OF REMOVAL AREAS



Maywood Quadrangle  
Section 20, Township 15N, Range 3E

Legend

 Site Boundary

Hoosier Wood Preservers  
Indianapolis, Indiana

**Figure 1**  
**Site Location Map**

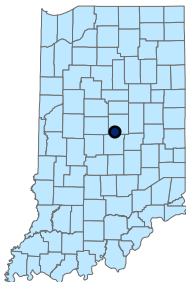


Source: USGS 7.5 Minute DRG Quadrangle

Prepared For: EPA

Prepared By: Tetra Tech, Inc.

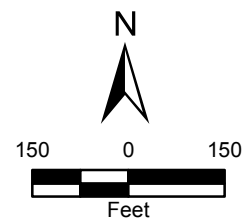




#### Legend

Approximate Site Boundary

Source: 2011-2013 Indiana Orthophotography



Hoosier Wood Preservers  
Indianapolis, Indiana

### Figure 2 Site Map



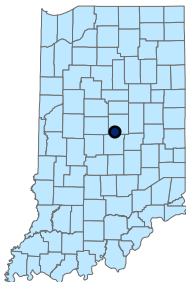
**TETRA TECH**

Prepared For: EPA



Prepared By: Tetra Tech, Inc.

Coordinate System:

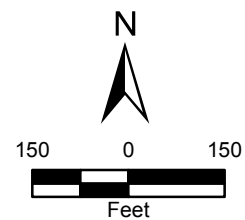




#### Legend

-  Removal Area
-  Approximate Site Boundary

Source: 2011-2013 Indiana Orthophotography



Hoosier Wood Preservers  
Indianapolis, Indiana

### Figure 3 Location of Removal Areas



Prepared For: EPA

Prepared By: Tetra Tech, Inc.

Coordinate System:

**APPENDIX B**  
**ANALYTICAL RESULTS TABLES**

- 1 – LIQUID SAMPLE ANALYTICAL RESULTS
- 2 – DIOXIN AND FURAN SAMPLE ANALYTICAL RESULTS
- 3 – DISPOSAL SAMPLE ANALYTICAL RESULTS
- 4 – SOIL SAMPLE ANALYTICAL RESULTS

Table 1  
Liquid Sample Analytical Results  
Hoosier Wood Preservers Removal  
Indianapolis, Marion County, Indiana  
11/16/2015 - 12/3/2015

| Compound <sup>1</sup> | EPA RML<br>(HQ = 3) for<br>Residential<br>Tapwater | Sample<br>ID | HWP-A2UST-<br>151116 | HWP-FTBvault-<br>151203 <sup>2</sup> |
|-----------------------|--|--------------|----------------------|--------------------------------------|
|                       |  | Units        | Results              |                                      |
| Arsenic               | 5.2  | µg/L         | 50,200               | NA                                   |
| Barium                | 11,000   | µg/L         | 83.4                 | NA                                   |
| Cadmium               | 28   | µg/L         | 153                  | NA                                   |
| Chromium              | NL   | µg/L         | 2,480                | NA                                   |
| Lead                  | 15   | µg/L         | 47.5                 | NA                                   |
| Methylene Chloride    | 320  | µg/L         | 293 <sup>J-</sup>    | NA                                   |

Notes:

<sup>1</sup> = Only positively detected chemicals are listed

<sup>2</sup> = Sample was analyzed for polychlorinated biphenyls, but none were detected

µg/L = micrograms per liter

EPA = Environmental Protection Agency

HQ = Hazard Quotient

ID = Identification

<sup>J-</sup> = Value is approximate, may be biased low

NA = Not Analyzed

NL = Not Listed

RML = Removal Management Level

Table 2  
Dioxin and Furan Sample Analytical Results  
Hoosier Wood Preservers Removal  
Indianapolis, Marion County, Indiana  
12/1/2015 - 12/10/2015

| Compound                                   | 40 CFR 268.48<br>Nonwastewater<br>UTS | Sample ID | HWP-FTBCon-<br>151201 | HWP-FTBSoil-<br>151201 | HWP-FTBsoilE-<br>151210 |
|--|---------------------------------------|-----------|-----------------------|------------------------|-------------------------|
|  |                                       | Date      | 12/1/2015             | 12/1/2015              | 12/10/2015              |
|  |                                       | Units     | Result                |                        |                         |
| 1,2,3,4,6,7,8,9-Octachlorodibenzofuran     | 5,000                                 | ng/kg     | 5,100                 | 45,800                 | 18,000                  |
| 1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin | 5,000                                 | ng/kg     | 81,200                | 491,000                | 200,000 <sup>J</sup>    |
| 1,2,3,4,6,7,8-Heptachlorodibenzofuran      | 2,500                                 | ng/kg     | 1,200                 | 16,500                 | 4,200                   |
| 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin  | 2,500                                 | ng/kg     | 8,840                 | 101,000                | 23,000                  |
| 1,2,3,4,7,8,9-Heptachlorodibenzofuran      | 2,500                                 | ng/kg     | 44.4                  | 673                    | 230                     |
| 1,2,3,4,7,8-Hexachlorodibenzofuran         | 1,000                                 | ng/kg     | 39.3                  | 404                    | 79                      |
| 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin     | 1,000                                 | ng/kg     | 18.9                  | 238                    | ND                      |
| 1,2,3,6,7,8-Hexachlorodibenzofuran         | 1,000                                 | ng/kg     | 17.1                  | 324                    | 60                      |
| 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin     | 1,000                                 | ng/kg     | 325                   | 5,370                  | 1,000                   |
| 1,2,3,7,8,9-Hexachlorodibenzofuran         | 1,000                                 | ng/kg     | 15.9                  | 348                    | ND                      |
| 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin     | 1,000                                 | ng/kg     | 34.6                  | 398                    | 120                     |
| 1,2,3,7,8-Pentachlorodibenzofuran          | 1,000                                 | ng/kg     | 5.85                  | 69.5                   | ND                      |
| 1,2,3,7,8-Pentachlorodibenzo-p-dioxin      | 1,000                                 | ng/kg     | 8.35                  | 84.1                   | ND                      |
| 2,3,4,6,7,8-Hexachlorodibenzofuran         | 1,000                                 | ng/kg     | 47.1                  | 862                    | 150                     |
| 2,3,4,7,8-Pentachlorodibenzofuran          | 1,000                                 | ng/kg     | 14.6                  | 236                    | ND                      |
| 2,3,7,8-Tetrachlorodibenzofuran            | 1,000                                 | ng/kg     | 6.35                  | 76.2                   | ND                      |
| 2,3,7,8-Tetrachlorodibenzo-p-dioxin        | 1,000                                 | ng/kg     | 3.24                  | 44.8                   | ND                      |
| Total Heptachlorodibenzofuran              | 2,500                                 | ng/kg     | 5,600                 | 75,500                 | 19,000                  |
| Total Heptachlorodibenzo-p-dioxin          | 2,500                                 | ng/kg     | 14,600                | 165,000                | 35,000                  |
| Total Hexachlorodibenzofuran               | 1,000                                 | ng/kg     | 2,290                 | 37,500                 | 5,500                   |
| Total Hexachlorodibenzo-p-dioxin           | 1,000                                 | ng/kg     | 859                   | 11,800                 | 2,400                   |
| Total Pentachlorodibenzofuran              | 1,000                                 | ng/kg     | 246                   | 4,480                  | 570                     |
| Total Pentachlorodibenzo-p-dioxin          | 1,000                                 | ng/kg     | 30.9                  | 84.1                   | ND                      |



Table 2  
Dioxin and Furan Sample Analytical Results  
Hoosier Wood Preservers Removal  
Indianapolis, Marion County, Indiana  
12/1/2015 - 12/10/2015

| Compound                          | 40 CFR 268.48<br>Nonwastewater<br>UTS | Sample ID | HWP-FTBCon-<br>151201 | HWP-FTBSoil-<br>151201 | HWP-FTBsoilE-<br>151210 |
|-----------------------------------|---------------------------------------|-----------|-----------------------|------------------------|-------------------------|
|                                   |                                       | Date      | 12/1/2015             | 12/1/2015              | 12/10/2015              |
|                                   |                                       | Units     | Result                |                        |                         |
| Total Tetrachlorodibenzofuran     | 1,000                                 | ng/kg     | 6.35                  | 76.2                   | 11                      |
| Total Tetrachlorodibenzo-p-dioxin | 1,000                                 | ng/kg     | 3.24                  | 44.8                   | ND                      |

Notes:

CFR = *Code of Federal Regulations*

ID = Identification

<sup>J</sup> = Analyte positively identified; the value is approximate

ND = Not Detected

ng/kg = nanogram per kilogram

NL = None Listed

UTS = Universal Treatment Standard

Table 3  
Disposal Sample Analytical Results  
Hoosier Wood Preservers Removal  
Indianapolis, Marion County, Indiana  
11/13/2015 - 12/7/2015

| Compound <sup>1</sup> | 40 CFR<br>261.24<br>Toxicity<br>Characteristic | EPA RML<br>(HQ = 3) for<br>Industrial<br>Soil | Sample<br>ID | HWP-<br>DPconcrete-<br>151113 | HWP-<br>Exsoil-<br>151113 | HWP-<br>FTBCONC-<br>151204 | HWP-<br>FTBsoil-<br>151116 | HWP-<br>FTBTreated-<br>151207 | HWP-<br>SBTreated-<br>151124 |
|-----------------------|--|---|--------------|-------------------------------|---------------------------|----------------------------|----------------------------|-------------------------------|------------------------------|
|                       |  |   | Units        | Results                       |                           |                            |                            |                               |                              |
| 2-Butanone (MEK)      | NL   | 580,000                                       | mg/kg        | ND <sup>UJ</sup>              | ND                        | ND                         | ND                         | 0.0563                        | ND                           |
| Acetone               | NL   | 2,000,000                                     | mg/kg        | ND <sup>UJ</sup>              | ND                        | ND                         | ND                         | 0.364                         | 0.202                        |
| Naphthalene           | NL   | 1,700   | mg/kg        | ND <sup>UJ</sup>              | ND                        | ND                         | ND                         | 0.0056                        | ND                           |
| Pentachlorophenol     | NL   | 400   | mg/kg        | ND <sup>UJ</sup>              | ND                        | ND                         | 107                        | 43.8                          | ND                           |
| TCLP Arsenic          | 5  | NL  | mg/L         | 6.3                           | 0.46                      | 0.27                       | 16.2                       | ND                            | ND                           |
| TCLP Cadmium          | 1  | NL  | mg/L         | ND                            | ND                        | ND                         | 0.0548                     | ND                            | ND                           |
| TCLP Chromium         | 5  | NL  | mg/L         | 23.8                          | ND                        | 30.8                       | 0.131                      | ND                            | ND                           |

Notes:

<sup>1</sup> = Only positively detected chemicals are listed

CFR = *Code of Federal Regulations*

EPA = Environmental Protection Agency

HQ = Hazard Quotient

ID = Identification

MEK = Methyl Ethyl Ketone

mg/kg = milligrams per kilogram

mg/L = milligrams per liter

ND = Not Detected

NL = Not Listed

RML = Removal Management Level

TCLP = Toxicity Characteristic Leaching Procedure

<sup>UJ</sup> = Considered approximate due to deficiencies in quality control criteria

Table 4  
Soil Sample Analytical Results  
Hoosier Wood Preservers Removal  
Indianapolis, Marion County, Indiana  
11/12/2015 - 12/8/2015

| Compound <sup>1</sup> | EPA RML<br>(HQ = 3)<br>for<br>Industrial<br>Soil | Sample<br>ID | HWP-B1Exc-<br>151112 | HWP-FTBbottom-<br>151208 | HWP-SBsoil-<br>151201 | HWP-Trench-<br>151113 | HWP-FillSoil-<br>151202 |
|-----------------------|--|--------------|----------------------|--------------------------|-----------------------|-----------------------|-------------------------|
|                       |  | Units        | Results              |                          |                       |                       |                         |
| Arsenic               | 300  | mg/kg        | 8.6                  | 2,670                    | 15.7                  | 610                   | 8.1                     |
| Barium                | 650,000  | mg/kg        | 68.4                 | 27.4                     | 118                   | 44.2                  | 12.2                    |
| Cadmium               | 2,900  | mg/kg        | ND                   | ND                       | 0.91                  | 4.1                   | ND                      |
| Chromium              | NL   | mg/kg        | 31                   | 706                      | 64.1                  | 307                   | 6.1                     |
| Lead                  | 800  | mg/kg        | 21.8                 | 13                       | 50.3                  | 35.4                  | 3.2                     |
| Mercury               | 120  | mg/kg        | ND                   | 0.28                     | 14.4                  | ND                    | ND                      |
| Ethylbenzene          | 2,500  | mg/kg        | NA                   | NA                       | NA                    | NA                    | 0.0125                  |
| Xylene                | 7,500  | mg/kg        | NA                   | NA                       | NA                    | NA                    | 0.0781                  |

Notes:

<sup>1</sup> = Only positively detected chemicals are listed

EPA = Environmental Protection Agency

HQ = Hazard Quotient

ID = Identification

mg/kg = milligrams per kilogram

NA = Not Analyzed

ND = Not Detected

NL = Not Listed

RML = Removal Management Level

**APPENDIX C**  
**WASTE METRICS**

Table 1  
Waste Metrics  
Hoosier Wood Preservers Removal  
Indianapolis, Marion County, Indiana  
11/9/2015 - 3/3/2016

| Waste Stream   | Medium | Quantity     | Manifest #   | Treatment     | Disposal Facility                                 |
|--|--------|--------------|--------------|---------------|---|
| Non-hazardous charred wood and debris                        | Solid  | 82.54 tons   | NA           | NA            | Southside Landfill, Indianapolis, IN              |
| Scrap metal  | Solid  | 10.65 tons   | NA           | NA            | Recycled at Omni Source, Indianapolis, IN         |
| Hazardous Waste Solid, Concrete (chromium, arsenic)          | Solid  | 245.51 tons  | Various      | Encapsulation | Envirosafe, Oregon, OH                            |
| Hazardous Waste Solid, Concrete (chromium)                   | Solid  | 219.76 tons  | Various      | Encapsulation | Envirosafe, Oregon, OH                            |
| Environmentally Hazardous Substances, Soil (Dioxins, Furans) | Solid  | 523.17 tons  | Various      | Incinerations | Clean Harbors Environmental Services, Kimball, NE |
| Non-hazardous soil   | Solid  | 730.23 tons  | NA           | NA            | Twin Bridges Landfill, Danville, IN               |
| Hazardous Waste Solid (Arsenic, Chromium)                    | Solid  | 1,000 pounds | 014137901JJK | NA            | Petrochem Processing, Detroit, MI                 |
| Hazardous Waste Liquid (Arsenic)                             | Liquid | 350 gallons  | 014137901JJK | NA            | Petrochem Processing, Detroit, MI                 |

**APPENDIX D**  
**PHOTO DOCUMENTATION LOG**



## Photographic Documentation Log

**Client:** U.S. Environmental Protection Agency Region 5

**Site Name:** Hoosier Wood Preservers Time Critical Removal

**Location:** Indianapolis, IN

**Prepared By:** Tetra Tech, Inc.

**TDD:** S05-0001-1510-018

**Photograph: 1**

**Direction:** Northwest

**Date:** 11/10/2015

**Photographer:**

Lucas Stamps

**Description:**

Exclusion was fenced off. Gravel was placed at entrance to site. Wind sock was on site.



**Photograph: 2**

**Direction:** Northwest

**Date:** 11/11/2015

**Photographer:**

Lucas Stamps

**Description:**

Green substance found on ground surface at site. Tested very high (272,000 mg/kg) for arsenic during site assessment.







## Photographic Documentation Log

**Client:** U.S. Environmental Protection Agency Region 5

**Site Name:** Hoosier Wood Preservers Time Critical Removal

**Location:** Indianapolis, IN

**Prepared By:** Tetra Tech, Inc.

**TDD:** S05-0001-1510-018

**Photograph: 3**

**Direction:** Southwest

**Date:** 11/12/2015

**Photographer:**

Keith Hughes

**Description:**

DataRAM 4 placed at the perimeter of the exclusion zone near the office trailers.



**Photograph: 4**

**Direction:** Northeast

**Date:** 11/13/2015

**Photographer:**

Shelly Lam

**Description:**

START screening concrete drip pad at Removal Area 3 using XRF







## Photographic Documentation Log

**Client:** U.S. Environmental Protection Agency Region 5

**Site Name:** Hoosier Wood Preservers Time Critical Removal

**Location:** Indianapolis, IN

**Prepared By:** Tetra Tech, Inc.

**TDD:** S05-0001-1510-018

**Photograph: 5**

**Direction:** North

**Date:** 11/16/2015

**Photographer:**

Lucas Stamps

**Description:**

ERRS excavating the foundation of the former treatment building. Green staining was present all over the excavation.



**Photograph: 6**

**Direction:** Southwest

**Date:** 11/16/2015

**Photographer:**

Lucas Stamps

**Description:**

Excavated former treatment building. Bright green staining and debris was present throughout excavation area.







## Photographic Documentation Log

**Client:** U.S. Environmental Protection Agency Region 5

**Site Name:** Hoosier Wood Preservers Time Critical Removal

**Location:** Indianapolis, IN

**Prepared By:** Tetra Tech, Inc.

**TDD:** S05-0001-1510-018

**Photograph:** 7

**Direction:** South

**Date:** 11/17/2015

**Photographer:**

Lucas Stamps

**Description:**

Photo of a sump found at the southeast side of the drip pad.



**Photograph:** 8

**Direction:** South

**Date:** 11/18/2015

**Photographer:**

Shelly Lam

**Description:**

START sampling an underground storage vault onsite using a disposable plastic bailer.







## Photographic Documentation Log

**Client:** U.S. Environmental Protection Agency Region 5

**Site Name:** Hoosier Wood Preservers Time Critical Removal

**Location:** Indianapolis, IN

**Prepared By:** Tetra Tech, Inc.

**TDD:** S05-0001-1510-018

**Photograph:** 9

**Direction:** North

**Date:** 11/19/2015

**Photographer:**

Lucas Stamps

**Description:**

ERRS breaking up the reinforced drip pad concrete.



**Photograph:** 10

**Direction:** Southwest

**Date:** 11/20/2015

**Photographer:**

Lucas Stamps

**Description:**

Pallets of metal treatment chemical (EnviroBlend<sup>®</sup> HDX) staged on site.







## Photographic Documentation Log

**Client:** U.S. Environmental Protection Agency Region 5

**Site Name:** Hoosier Wood Preservers Time Critical Removal

**Location:** Indianapolis, IN

**Prepared By:** Tetra Tech, Inc.

**TDD:** S05-0001-1510-018

**Photograph:** 11

**Direction:** North

**Date:** 11/24/2015

**Photographer:**

Lucas Stamps

**Description:**

Pile of excavated soil in the former Wood Stacker Building mixed with the treatment chemical shown in Photograph 10.



**Photograph:** 12

**Direction:** South

**Date:** 12/2/2015

**Photographer:**

Lucas Stamps

**Description:**

Photo of the uncovered underground storage vault found near the former Treatment Building.





## Photographic Documentation Log

**Client:** U.S. Environmental Protection Agency Region 5

**Site Name:** Hoosier Wood Preservers Time Critical Removal

**Location:** Indianapolis, IN

**Prepared By:** Tetra Tech, Inc.

**TDD:** S05-0001-1510-018

**Photograph:** 13

**Direction:** Northeast

**Date:** 12/11/2015

**Photographer:**

Lucas Stamps

**Description:**

Photo of the former Wood Stacker Building after being excavated and backfilled with clean fill sand.



**Photograph:** 14

**Direction:** Southwest

**Date:** 12/16/2015

**Photographer:**

Lucas Stamps

**Description:**

Photo of the former Drip Pad after all concrete and contaminated soil was removed and back filled with clean fill sand.







## Photographic Documentation Log

**Client:** U.S. Environmental Protection Agency Region 5

**Site Name:** Hoosier Wood Preservers Time Critical Removal

**Location:** Indianapolis, IN

**Prepared By:** Tetra Tech, Inc.

**TDD:** S05-0001-1510-018

**Photograph:** 15

**Direction:** South

**Date:** 12/16/2015

**Photographer:**

Lucas Stamps

**Description:**

Photo of a truck being loaded with concrete from the former Treatment Building for shipment and disposal offsite.



**Photograph:** 16

**Direction:** West

**Date:** 12/16/2015

**Photographer:**

Lucas Stamps

**Description:**

Photo of Removal Area 2. The area around the former Treatment Building was excavated and backfilled with clean fill sand.





## Photographic Documentation Log

**Client:** U.S. Environmental Protection Agency Region 5

**Site Name:** Hoosier Wood Preservers Time Critical Removal

**Location:** Indianapolis, IN

**Prepared By:** Tetra Tech, Inc.

**TDD:** S05-0001-1510-018

**Photograph:** 17

**Direction:** West

**Date:** 12/18/2015

**Photographer:**

Lucas Stamps

**Description:**

Photo of the pile of dioxin-contaminated soil left on site during hiatus between 12/18/2015 and 3/3/2016.



**Photograph:** 18

**Direction:** Southwest

**Date:** 2/25/2016

**Photographer:**

Lucas Stamps

**Description:**

ERRS loading truck with dioxin contaminated soil for incineration off site.







## Photographic Documentation Log

**Client:** U.S. Environmental Protection Agency Region 5

**Site Name:** Hoosier Wood Preservers Time Critical Removal

**Location:** Indianapolis, IN

**Prepared By:** Tetra Tech, Inc.

**TDD:** S05-0001-1510-018

**Photograph:** 19

**Direction:** South

**Date:** 3/3/2016

**Photographer:**

Lucas Stamps

**Description:**

Soil piles removed from site, and the former treatment building area backfilled with fill sand.



**Photograph:** 20

**Direction:** South

**Date:** 3/3/2016

**Photographer:**

Lucas Stamps

**Description:**

ERRS decontaminating equipment after all contaminated soil was removed from the site.





**ATTACHMENTS**  
**LABORATORY ANALYTICAL REPORTS AND DATA VALIDATION REPORTS**

**Report Prepared for:**

John Behrens  
Environmental Restoration, LLC  
1666 Fabick Drive  
Fenton MO 63026

**REPORT OF  
LABORATORY  
ANALYSIS FOR  
PCDD/PCDF**

**Report Prepared Date:**

December 17, 2015

**Report Information:**

**Pace Project #: 10333114**  
**Sample Receipt Date: 12/11/2015**  
**Client Project #: Hoosier Wood Preservers**  
**Client Sub PO #: N/A**  
**State Cert #: C-MN-01**

**Invoicing & Reporting Options:**

The report provided has been invoiced as a Level 2 PCDD/PCDF Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Carolynne Trout, your Pace Project Manager.

**This report has been reviewed by:**



December 17, 2015

Carolynne Trout, Project Manager  
(612) 607-6351  
(612) 607-6444 (fax)  
Carolynne.Trout@pacelabs.com



**Report of Laboratory Analysis**

This report should not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc.

The results relate only to the samples included in this report.

## **DISCUSSION**

This report presents the results from the analysis performed on one sample submitted by a representative of Environmental Restoration. The sample was analyzed for the presence or absence of polychlorodibenzo-p-dioxins (PCDDs) and polychlorodibenzofurans (PCDFs) using a modified version of USEPA Method 8290. The reporting limits were set to correspond to the lowest calibration points and were adjusted for sample amount.

The recoveries of the isotopically-labeled PCDD/PCDF internal standards in the sample extract ranged from 47-81%. Except for one low value, which was flagged "R" on the results table, the labeled standard recoveries obtained for this project were within the 40-135% target range specified in Method 8290. Also, since the quantification of the native 2,3,7,8-substituted congeners was based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained. One reported concentration was above the calibration range, flagged "E", and should be regarded as an estimate.

A laboratory method blank was prepared and analyzed with the sample batch as part of our routine quality control procedures. The results show the blank to be free of PCDDs and PCDFs at the reporting limits. These results indicate that the sample processing steps did not significantly impact the results reported for the field sample.

A laboratory spike sample was also prepared with the sample batch using clean sand that had been fortified with native standard materials. The results show that the spiked native compounds were recovered at 89-118%. These results were within the target range for the method. Matrix spikes were prepared with the sample batch using sample material from a separate project; results from these analyses will be provided upon request.

## **REPORT OF LABORATORY ANALYSIS**

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, Inc.

## Minnesota Laboratory Certifications

| Authority      | Certificate # | Authority      | Certificate # |
|----------------|---------------|----------------|---------------|
| A2LA           | 2926.01       | Mississippi    | MN00064       |
| Alabama        | 40770         | Montana        | 92            |
| Alaska         | MN00064       | Nebraska       |               |
| Arizona        | AZ0014        | Nevada         | MN_00064_200  |
| Arkansas       | 88-0680       | New Jersey (NE | MN002         |
| California     | 01155CA       | New York (NEL  | 11647         |
| Colorado       | MN00064       | North Carolina | 27700         |
| Connecticut    | PH-0256       | North Dakota   | R-036         |
| EPA Region 8   | 8TMS-Q        | Ohio           | 4150          |
| Florida (NELAP | E87605        | Oklahoma       | D9922         |
| Georgia (DNR)  | 959           | Oregon (ELAP)  | MN200001-005  |
| Guam           | 959           | Oregon (OREL   | MN300001-001  |
| Hawaii         | SLD           | Pennsylvania   | 68-00563      |
| Idaho          | MN00064       | Puerto Rico    | MN00064       |
| Illinois       | 200012        | Saipan         | MP0003        |
| Indiana        | C-MN-01       | South Carolina | 74003001      |
| Indiana        | C-MN-01       | Tennessee      | TN02818       |
| Iowa           | 368           | Texas          | T104704192-08 |
| Kansas         | E-10167       | Utah (NELAP)   | MN00064       |
| Kentucky       | 90062         | Virginia       | 00251         |
| Louisiana      | 03086         | Washington     | C755          |
| Maine          | 2007029       | West Virginia  | 9952C         |
| Maryland       | 322           | Wisconsin      | 999407970     |
| Michigan       | 9909          | Wyoming        | 8TMS-Q        |
| Minnesota      | 027-053-137   |                |               |

## REPORT OF LABORATORY ANALYSIS


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## **Appendix A**

### Sample Management





|  |                                    |  |
|--|------------------------------------|--|
|  | Document Name:                     | Document Revised: 23Feb2015                      |
|  | Sample Condition Upon Receipt Form | Page 1 of 1                                      |
|  | Document No.: F-MN-L-213-rev.13    | Issuing Authority: Pace Minnesota Quality Office |

|  |  |
|--|--|
| <b>Sample Condition Upon Receipt</b><br>Courier: <input type="checkbox"/> Fed Ex <input type="checkbox"/> UPS <input type="checkbox"/> USPS <input type="checkbox"/> Client<br><input type="checkbox"/> Commercial <input type="checkbox"/> Pace <input type="checkbox"/> SpeedDee <input type="checkbox"/> Other: _____<br>Tracking Number: <u>6748 3361 6882</u> | Client Name: _____<br>Project #: <b>WO# : 10333114</b><br><br>10333114 |
|--|--|

|  |   |
|--|---|
| Custody Seal on Cooler/Box Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No<br>Packing Material: <input checked="" type="checkbox"/> Bubble Wrap <input checked="" type="checkbox"/> Bubble Bags <input type="checkbox"/> None <input type="checkbox"/> Other: _____<br>Thermometer Used: <input type="checkbox"/> B88A9130516413 <input checked="" type="checkbox"/> B88A912167504 <input type="checkbox"/> B88A0143310098<br>Cooler Temp Read (°C): <u>3.6</u> Cooler Temp Corrected (°C): <u>3.9</u><br>Temp should be above freezing to 6°C Correction Factor: <u>+0.3</u><br>USDA Regulated Soil ( <input type="checkbox"/> N/A, water sample)<br>Did samples originate in a quarantine zone within the United States: AL, AR, AZ, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or WA (check maps)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br>Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Optional: Proj. Due Date: _____ Proj. Name: _____<br>Seals Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No<br>Temp Blank? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No<br>Type of Ice: <input checked="" type="checkbox"/> Wet <input type="checkbox"/> Blue <input type="checkbox"/> None <input type="checkbox"/> Samples on ice, cooling process has begun<br>Biological Tissue Frozen? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A<br>Date and Initials of Person Examining Contents: <u>(2-11-15) AA</u> |
|--|---|

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

|   | COMMENTS:  |
|---|--|
| Chain of Custody Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A  | 1.   |
| Chain of Custody Filled Out? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A   | 2.   |
| Chain of Custody Relinquished? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A   | 3.   |
| Sampler Name and/or Signature on COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A  | 4.   |
| Samples Arrived within Hold Time? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A  | 5.   |
| Short Hold Time Analysis (<72 hr)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A   | 6.   |
| Rush Turn Around Time Requested? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A   | 7.   |
| Sufficient Volume? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A   | 8.   |
| Correct Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A   | 9.   |
| -Pace Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A   |  |
| Containers Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A   | 10.  |
| Filtered Volume Received for Dissolved Tests? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A  | 11. Note if sediment is visible in the dissolved container   |
| Sample Labels Match COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A   | 12. <u>Start time labeled on container</u>   |
| -Includes Date/Time/ID/Analysis Matrix: <u>SL</u>   |  |
| All containers needing acid/base preservation have been checked? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A   | 13. <input type="checkbox"/> HNO <sub>3</sub> <input type="checkbox"/> H <sub>2</sub> SO <sub>4</sub> <input type="checkbox"/> NaOH <input type="checkbox"/> HCl |
| All containers needing preservation are found to be in compliance with EPA recommendation? (HNO <sub>3</sub> , H <sub>2</sub> SO <sub>4</sub> , HCl<2; NaOH >9 Sulfide, NaOH>12 Cyanide) <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | Sample #   |
| Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A   | Initial when completed: _____ Lot # of added preservative: _____   |
| Headspace in VOA Vials (>6mm)? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A   | 14.  |
| Trip Blank Present? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A  | 15.  |
| Trip Blank Custody Seals Present? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A  |  |
| Pace Trip Blank Lot # (if purchased): _____   |  |

|   |   |
|---|---|
| <b>CLIENT NOTIFICATION/RESOLUTION</b><br>Person Contacted: _____ Date/Time: _____<br>Comments/Resolution: _____ | Field Data Required? <input type="checkbox"/> Yes <input type="checkbox"/> No |
|---|---|

Project Manager Review: [Signature] Date: 12/14/15  
 Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers).

## Reporting Flags

- A = Reporting Limit based on signal to noise
- B = Less than 10x higher than method blank level
- C = Result obtained from confirmation analysis
- D = Result obtained from analysis of diluted sample
- E = Exceeds calibration range
- I = Interference present
- J = Estimated value
- Nn = Value obtained from additional analysis
- P = PCDE Interference
- R = Recovery outside target range
- S = Peak saturated
- U = Analyte not detected
- V = Result verified by confirmation analysis
- X = %D Exceeds limits
- Y = Calculated using average of daily RFs
- \* = See Discussion

## REPORT OF LABORATORY ANALYSIS

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## **Appendix B**

### Sample Analysis Summary



## Method 8290 Sample Analysis Results

Client - Environmental Restoration, LLC

|                        |                           |           |                  |
|------------------------|---------------------------|-----------|------------------|
| Client's Sample ID     | HWP-FTBsoilE-151210       |           |                  |
| Lab Sample ID          | 10333114001               |           |                  |
| Filename               | F151217A_05               |           |                  |
| Injected By            | SMT                       |           |                  |
| Total Amount Extracted | 1.10 g                    | Matrix    | Solid            |
| % Moisture             | 12.4                      | Dilution  | NA               |
| Dry Weight Extracted   | 0.964 g                   | Collected | 12/10/2015 10:00 |
| ICAL ID                | F151120                   | Received  | 12/11/2015 09:50 |
| CCal Filename(s)       | F151217A_01 & F151217A_06 | Extracted | 12/15/2015 17:50 |
| Method Blank ID        | BLANK-48164               | Analyzed  | 12/17/2015 14:53 |

| Native Isomers      | Conc ng/Kg | EMPC ng/Kg | RL ng/Kg | Internal Standards      | ng's Added | Percent Recovery |
|---------------------|------------|------------|----------|-------------------------|------------|------------------|
| 2,3,7,8-TCDF        | ND         | ----       | 10       | 2,3,7,8-TCDF-13C        | 2.00       | 58               |
| Total TCDF          | 11         | ----       | 10       | 2,3,7,8-TCDD-13C        | 2.00       | 81               |
|                     |            |            |          | 1,2,3,7,8-PeCDF-13C     | 2.00       | 54               |
| 2,3,7,8-TCDD        | ND         | ----       | 10       | 2,3,4,7,8-PeCDF-13C     | 2.00       | 53               |
| Total TCDD          | ND         | ----       | 10       | 1,2,3,7,8-PeCDD-13C     | 2.00       | 71               |
|                     |            |            |          | 1,2,3,4,7,8-HxCDF-13C   | 2.00       | 56               |
| 1,2,3,7,8-PeCDF     | ND         | ----       | 52       | 1,2,3,6,7,8-HxCDF-13C   | 2.00       | 62               |
| 2,3,4,7,8-PeCDF     | ND         | ----       | 52       | 2,3,4,6,7,8-HxCDF-13C   | 2.00       | 61               |
| Total PeCDF         | 570        | ----       | 52       | 1,2,3,7,8,9-HxCDF-13C   | 2.00       | 55               |
|                     |            |            |          | 1,2,3,4,7,8-HxCDD-13C   | 2.00       | 66               |
| 1,2,3,7,8-PeCDD     | ND         | ----       | 52       | 1,2,3,6,7,8-HxCDD-13C   | 2.00       | 63               |
| Total PeCDD         | ND         | ----       | 52       | 1,2,3,4,6,7,8-HpCDF-13C | 2.00       | 52               |
|                     |            |            |          | 1,2,3,4,7,8,9-HpCDF-13C | 2.00       | 48               |
| 1,2,3,4,7,8-HxCDF   | 79         | ----       | 52       | 1,2,3,4,6,7,8-HpCDD-13C | 2.00       | 63               |
| 1,2,3,6,7,8-HxCDF   | 60         | ----       | 52       | OCDD-13C                | 4.00       | 47               |
| 2,3,4,6,7,8-HxCDF   | 150        | ----       | 52       |                         |            |                  |
| 1,2,3,7,8,9-HxCDF   | ND         | ----       | 52       | 1,2,3,4-TCDD-13C        | 2.00       | NA               |
| Total HxCDF         | 5500       | ----       | 52       | 1,2,3,7,8,9-HxCDD-13C   | 2.00       | NA               |
|                     |            |            |          |                         |            |                  |
| 1,2,3,4,7,8-HxCDD   | ND         | ----       | 52       | 2,3,7,8-TCDD-37Cl4      | 0.20       | 77               |
| 1,2,3,6,7,8-HxCDD   | 1000       | ----       | 52       |                         |            |                  |
| 1,2,3,7,8,9-HxCDD   | 120        | ----       | 52       |                         |            |                  |
| Total HxCDD         | 2400       | ----       | 52       |                         |            |                  |
|                     |            |            |          |                         |            |                  |
| 1,2,3,4,6,7,8-HpCDF | 4200       | ----       | 52       | Total 2,3,7,8-TCDD      |            |                  |
| 1,2,3,4,7,8,9-HpCDF | 230        | ----       | 52       | Equivalence: 630 ng/Kg  |            |                  |
| Total HpCDF         | 19000      | ----       | 52       | (Using ITE Factors)     |            |                  |
|                     |            |            |          |                         |            |                  |
| 1,2,3,4,6,7,8-HpCDD | 23000      | ----       | 52       |                         |            |                  |
| Total HpCDD         | 35000      | ----       | 52       |                         |            |                  |
|                     |            |            |          |                         |            |                  |
| OCDF                | 18000      | ----       | 100      |                         |            |                  |
| OCDD                | 200000     | ----       | 100 E    |                         |            |                  |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).

EMPC = Estimated Maximum Possible Concentration

RL = Reporting Limit.

ND = Not Detected

NA = Not Applicable

NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.

E = Exceeds calibration range

## REPORT OF LABORATORY ANALYSIS

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## Method 8290 Blank Analysis Results

|                        |                           |             |                  |
|------------------------|---------------------------|-------------|------------------|
| Lab Sample ID          | BLANK-48164               | Matrix      | Solid            |
| Filename               | F151217A_04               | Dilution    | NA               |
| Total Amount Extracted | 20.2 g                    | Extracted   | 12/15/2015 17:50 |
| ICAL ID                | F151120                   | Analyzed    | 12/17/2015 14:09 |
| CCal Filename(s)       | F151217A_01 & F151217A_06 | Injected By | SMT              |

| Native Isomers      | Conc<br>ng/Kg | EMPC<br>ng/Kg | RL<br>ng/Kg | Internal Standards      | ng's<br>Added | Percent<br>Recovery |
|---------------------|---------------|---------------|-------------|-------------------------|---------------|---------------------|
| 2,3,7,8-TCDF        | ND            | ----          | 0.50        | 2,3,7,8-TCDF-13C        | 2.00          | 67                  |
| Total TCDF          | ND            | ----          | 0.50        | 2,3,7,8-TCDD-13C        | 2.00          | 94                  |
|                     |               |               |             | 1,2,3,7,8-PeCDF-13C     | 2.00          | 64                  |
| 2,3,7,8-TCDD        | ND            | ----          | 0.50        | 2,3,4,7,8-PeCDF-13C     | 2.00          | 64                  |
| Total TCDD          | ND            | ----          | 0.50        | 1,2,3,7,8-PeCDD-13C     | 2.00          | 84                  |
|                     |               |               |             | 1,2,3,4,7,8-HxCDF-13C   | 2.00          | 63                  |
| 1,2,3,7,8-PeCDF     | ND            | ----          | 2.50        | 1,2,3,6,7,8-HxCDF-13C   | 2.00          | 70                  |
| 2,3,4,7,8-PeCDF     | ND            | ----          | 2.50        | 2,3,4,6,7,8-HxCDF-13C   | 2.00          | 69                  |
| Total PeCDF         | ND            | ----          | 2.50        | 1,2,3,7,8,9-HxCDF-13C   | 2.00          | 61                  |
|                     |               |               |             | 1,2,3,4,7,8-HxCDD-13C   | 2.00          | 81                  |
| 1,2,3,7,8-PeCDD     | ND            | ----          | 2.50        | 1,2,3,6,7,8-HxCDD-13C   | 2.00          | 69                  |
| Total PeCDD         | ND            | ----          | 2.50        | 1,2,3,4,6,7,8-HpCDF-13C | 2.00          | 59                  |
|                     |               |               |             | 1,2,3,4,7,8,9-HpCDF-13C | 2.00          | 55                  |
| 1,2,3,4,7,8-HxCDF   | ND            | ----          | 2.50        | 1,2,3,4,6,7,8-HpCDD-13C | 2.00          | 68                  |
| 1,2,3,6,7,8-HxCDF   | ND            | ----          | 2.50        | OCDD-13C                | 4.00          | 48                  |
| 2,3,4,6,7,8-HxCDF   | ND            | ----          | 2.50        |                         |               |                     |
| 1,2,3,7,8,9-HxCDF   | ND            | ----          | 2.50        | 1,2,3,4-TCDD-13C        | 2.00          | NA                  |
| Total HxCDF         | ND            | ----          | 2.50        | 1,2,3,7,8,9-HxCDD-13C   | 2.00          | NA                  |
|                     |               |               |             |                         |               |                     |
| 1,2,3,4,7,8-HxCDD   | ND            | ----          | 2.50        | 2,3,7,8-TCDD-37Cl4      | 0.20          | 86                  |
| 1,2,3,6,7,8-HxCDD   | ND            | ----          | 2.50        |                         |               |                     |
| 1,2,3,7,8,9-HxCDD   | ND            | ----          | 2.50        |                         |               |                     |
| Total HxCDD         | ND            | ----          | 2.50        |                         |               |                     |
|                     |               |               |             |                         |               |                     |
| 1,2,3,4,6,7,8-HpCDF | ND            | ----          | 2.50        | Total 2,3,7,8-TCDD      |               |                     |
| 1,2,3,4,7,8,9-HpCDF | ND            | ----          | 2.50        | Equivalence: 0.00 ng/Kg |               |                     |
| Total HpCDF         | ND            | ----          | 2.50        | (Using ITE Factors)     |               |                     |
|                     |               |               |             |                         |               |                     |
| 1,2,3,4,6,7,8-HpCDD | ND            | ----          | 2.50        |                         |               |                     |
| Total HpCDD         | ND            | ----          | 2.50        |                         |               |                     |
|                     |               |               |             |                         |               |                     |
| OCDF                | ND            | ----          | 5.00        |                         |               |                     |
| OCDD                | ND            | ----          | 5.00        |                         |               |                     |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).

EMPC = Estimated Maximum Possible Concentration

RL = Reporting Limit

Results reported on a total weight basis and are valid to no more than 2 significant figures.

## REPORT OF LABORATORY ANALYSIS

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## Method 8290 Laboratory Control Spike Results

|                        |                           |             |                  |
|------------------------|---------------------------|-------------|------------------|
| Lab Sample ID          | LCS-48165                 | Matrix      | Solid            |
| Filename               | F151217A_02               | Dilution    | NA               |
| Total Amount Extracted | 20.5 g                    | Extracted   | 12/15/2015 17:50 |
| ICAL ID                | F151120                   | Analyzed    | 12/17/2015 12:44 |
| CCal Filename(s)       | F151217A_01 & F151217A_06 | Injected By | SMT              |
| Method Blank ID        | BLANK-48164               |             |                  |

| Native Isomers      | Qs (ng) | Qm (ng) | % Rec. | Internal Standards      | ng's Added | Percent Recovery |
|---------------------|---------|---------|--------|-------------------------|------------|------------------|
| 2,3,7,8-TCDF        | 0.20    | 0.23    | 117    | 2,3,7,8-TCDF-13C        | 2.0        | 63               |
| Total TCDF          |         |         |        | 2,3,7,8-TCDD-13C        | 2.0        | 90               |
|                     |         |         |        | 1,2,3,7,8-PeCDF-13C     | 2.0        | 59               |
| 2,3,7,8-TCDD        | 0.20    | 0.18    | 89     | 2,3,4,7,8-PeCDF-13C     | 2.0        | 55               |
| Total TCDD          |         |         |        | 1,2,3,7,8-PeCDD-13C     | 2.0        | 76               |
|                     |         |         |        | 1,2,3,4,7,8-HxCDF-13C   | 2.0        | 65               |
| 1,2,3,7,8-PeCDF     | 1.0     | 1.2     | 118    | 1,2,3,6,7,8-HxCDF-13C   | 2.0        | 70               |
| 2,3,4,7,8-PeCDF     | 1.0     | 1.1     | 113    | 2,3,4,6,7,8-HxCDF-13C   | 2.0        | 63               |
| Total PeCDF         |         |         |        | 1,2,3,7,8,9-HxCDF-13C   | 2.0        | 56               |
|                     |         |         |        | 1,2,3,4,7,8-HxCDD-13C   | 2.0        | 75               |
| 1,2,3,7,8-PeCDD     | 1.0     | 1.00    | 100    | 1,2,3,6,7,8-HxCDD-13C   | 2.0        | 71               |
| Total PeCDD         |         |         |        | 1,2,3,4,6,7,8-HpCDF-13C | 2.0        | 58               |
|                     |         |         |        | 1,2,3,4,7,8,9-HpCDF-13C | 2.0        | 47               |
| 1,2,3,4,7,8-HxCDF   | 1.0     | 1.2     | 118    | 1,2,3,4,6,7,8-HpCDD-13C | 2.0        | 58               |
| 1,2,3,6,7,8-HxCDF   | 1.0     | 1.1     | 112    | OCDD-13C                | 4.0        | 34 R             |
| 2,3,4,6,7,8-HxCDF   | 1.0     | 1.1     | 109    |                         |            |                  |
| 1,2,3,7,8,9-HxCDF   | 1.0     | 1.1     | 106    | 1,2,3,4-TCDD-13C        | 2.0        | NA               |
| Total HxCDF         |         |         |        | 1,2,3,7,8,9-HxCDD-13C   | 2.0        | NA               |
|                     |         |         |        |                         |            |                  |
| 1,2,3,4,7,8-HxCDD   | 1.0     | 1.1     | 114    | 2,3,7,8-TCDD-37Cl4      | 0.20       | 83               |
| 1,2,3,6,7,8-HxCDD   | 1.0     | 1.2     | 118    |                         |            |                  |
| 1,2,3,7,8,9-HxCDD   | 1.0     | 1.1     | 110    |                         |            |                  |
| Total HxCDD         |         |         |        |                         |            |                  |
|                     |         |         |        |                         |            |                  |
| 1,2,3,4,6,7,8-HpCDF | 1.0     | 1.1     | 111    |                         |            |                  |
| 1,2,3,4,7,8,9-HpCDF | 1.0     | 1.1     | 109    |                         |            |                  |
| Total HpCDF         |         |         |        |                         |            |                  |
|                     |         |         |        |                         |            |                  |
| 1,2,3,4,6,7,8-HpCDD | 1.0     | 1.0     | 104    |                         |            |                  |
| Total HpCDD         |         |         |        |                         |            |                  |
|                     |         |         |        |                         |            |                  |
| OCDF                | 2.0     | 2.1     | 105    |                         |            |                  |
| OCDD                | 2.0     | 2.3     | 115    |                         |            |                  |

Qs = Quantity Spiked  
Qm = Quantity Measured  
Rec. = Recovery (Expressed as Percent)  
R = Recovery outside of target range

Y = RF averaging used in calculations  
Nn = Value obtained from additional analysis  
NA = Not Applicable  
\* = See Discussion

## REPORT OF LABORATORY ANALYSIS

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December 09, 2015

Mr. Kevin Falvey  
Microbac Laboratory, Incorporated  
250 West 84th Drive  
Merrillville, Indiana 46410

Re: Dioxin Subcontract, IL  
Work Order: 8569  
SDG: 15L0077

Dear Mr. Falvey:

Cape Fear Analytical LLC (CFA) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on December 02, 2015. This original data report has been prepared and reviewed in accordance with CFA's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at 910-795-0421.

Sincerely,



Cynde Larkins  
Project Manager

Enclosures



# SAMPLE RECEIPT CHECKLIST

Cape Fear Analytical

|                                  |  |
|----------------------------------|--|
| Client: <u>Quality Env / Pac</u> | Work Order: <u>8569</u>                      |
| Shipping Company: <u>Fed Ex</u>  | Date/Time Received: <u>02 Dec 2015 11:00</u> |

| Suspected Hazard Information        | Yes | NA | No                                  |
|-------------------------------------|-----|----|-------------------------------------|
| Shipped as DOT Hazardous?           |     |    | <input checked="" type="checkbox"/> |
| Samples identified as Foreign Soil? |     |    | <input checked="" type="checkbox"/> |

| DOE Site Sample Packages | Yes | NA                                  | No* |
|--------------------------|-----|-------------------------------------|-----|
| Screened <0.5 mR/hr?     |     | <input checked="" type="checkbox"/> |     |
| Samples < 2x background? |     | <input checked="" type="checkbox"/> |     |

\* Notify RSO of any responses in this column immediately.

| Air Sample Receipt Specifics | Yes | NA | No                                  |
|------------------------------|-----|----|-------------------------------------|
| Air sample in shipment?      |     |    | <input checked="" type="checkbox"/> |

Air Witness: \_\_\_\_\_

| Sample Receipt Criteria   | Yes                                 | NA                                  | No                                  | Comments/Qualifiers (required for Non-Conforming Items)  |
|---|-------------------------------------|-------------------------------------|-------------------------------------|--|
| 1 Shipping containers received intact and sealed?                 | <input checked="" type="checkbox"/> |                                     |                                     | Circle Applicable:<br>seals broken damaged container leaking container other (describe)  |
| 2 Chain of Custody documents included with shipment?              | <input checked="" type="checkbox"/> |                                     |                                     |  |
| 3 Samples requiring cold preservation within 0-6°C?               | <input checked="" type="checkbox"/> |                                     |                                     | Preservation Method:<br><u>ice bags</u> <input checked="" type="checkbox"/> blue ice <input type="checkbox"/> dry ice <input type="checkbox"/> none other (describe)<br><u>3.1°C</u> |
| 4 Aqueous samples found to have visible solids?                   |                                     | <input checked="" type="checkbox"/> |                                     | Sample IDs, containers affected:   |
| 5 Samples requiring chemical preservation at proper pH?           |                                     | <input checked="" type="checkbox"/> |                                     | Sample IDs, containers affected and pH observed:<br>If preservative added, Lot#:   |
| 6 Samples requiring preservation have no residual chlorine?       |                                     | <input checked="" type="checkbox"/> |                                     | Sample IDs, containers affected:<br>If preservative added, Lot#:   |
| 7 Samples received within holding time?                           | <input checked="" type="checkbox"/> |                                     |                                     | Sample IDs, tests affected:  |
| 8 Sample IDs on COC match IDs on containers?                      | <input checked="" type="checkbox"/> |                                     |                                     | Sample IDs, containers affected:   |
| 9 Date & time of COC match date & time on containers?             |                                     |                                     | <input checked="" type="checkbox"/> | Sample IDs, containers affected:<br><u>COC lists date collected as 12-01-15, sample container labels show 12/11/2015</u>   |
| 10 Number of containers received match number indicated on COC?   | <input checked="" type="checkbox"/> |                                     |                                     | List type and number of containers / Sample IDs, containers affected:<br><u>2-4oz clear soil jars</u>  |
| 11 COC form is properly signed in relinquished/received sections? | <input checked="" type="checkbox"/> |                                     |                                     |  |

Comments:

→ received on 02 Dec 2015, jar lid label says -15/201 for both samples  
no time recorded on sample container label

# 5 day turn requested

Checklist performed by: Initials: MJO Date: 02 Dec 2015

**Subject:** FW: Incoming 8290 Sample from Microbac Client  
**From:** Kevin Falvey <kevin.falvey@microbac.com>  
**Date:** 12/2/2015 1:37 PM  
**To:** 'John Behrens' <j.behrens@erllc.com>  
**CC:** "'cynde.larkins@cfanalytical.com'" <cynde.larkins@cfanalytical.com>

Please state that the samples were collected on 12/1/15.

Reply all

Thank you,

---

**From:** Cynde Larkins [mailto:cynde.larkins@cfanalytical.com]  
**Sent:** Wednesday, December 02, 2015 10:26 AM  
**To:** Kevin Falvey  
**Subject:** Re: Incoming 8290 Sample from Microbac Client

Kevin - I just saw the subject line for 8290! Sorry!

On 12/2/2015 11:24 AM, Cynde Larkins wrote:

Kevin,

These samples arrived today. The collection date for both samples is 12/11/15. Will you please verify the correct collection date? Also, the COC has "Dioxin/Furans" as the analysis. Will you please let me know if these need to be analyzed by method 1613 or 8290, full list or TCDD? And are they DoD?

Thank you,  
Cynde

On 12/1/2015 7:37 PM, Kevin Falvey wrote:

Please use Microbac Work Order Number **15L 0077** for the 2 samples sent by Environmental Restoration/USEPA Indianapolis project for Dioxin Furan analysis – 5 Day TAT.

Call my cell phone # 219.746.5618 if there are questions.

Thank you,

**Kevin G. Falvey, CHMM**  
[kevin.falvey@microbac.com](mailto:kevin.falvey@microbac.com)  
219.746.5618 c  
219.769.8378 p  
219.769.1664 f



Microbac Laboratories, Inc.  
250 West 84<sup>th</sup> Drive  
Merrillville, IN 46410

--

Cynde Larkins  
Project Manager  
Cape Fear Analytical  
3306 Kitty Hawk Road  
Suite 120  
Wilmington, NC 28405  
(910) 795-0421

--

Cynde Larkins  
Project Manager  
Cape Fear Analytical  
3306 Kitty Hawk Road  
Suite 120  
Wilmington, NC 28405  
(910) 795-0421

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# **High Resolution Dioxins and Furans Analysis**

# Case Narrative



**HDOX Case Narrative**  
**Microbac Laboratory, Inc. Indiana (MICR)**  
**SDG 15L0077**  
**Work Order 8569**

**Method/Analysis Information**

**Product:** Dioxins/Furans by SW846 Method 8290A in Solids  
**Analytical Method:** SW846 8290A  
**Extraction Method:** SW846 3540C  
**Analytical Batch Number:** 30675  
**Clean Up Batch Number:** 30674  
**Extraction Batch Number:** 30673

**Sample Analysis**

The following samples were analyzed using the analytical protocol as established in Method 8290A:

| <b>Sample ID</b> | <b>Client ID</b>                           |
|------------------|--|
| 8569001          | HWP-FTBSoil-151201                         |
| 8569002          | HWP-FTBCon-151201                          |
| 12014925         | Method Blank (MB)                          |
| 12014926         | Laboratory Control Sample (LCS)            |
| 12014927         | Laboratory Control Sample Duplicate (LCSD) |

The samples in this SDG were analyzed on a "dry weight" basis.

**SOP Reference**

Procedure for preparation, analysis and reporting of analytical data are controlled by Cape Fear Analytical LLC (CFA) as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with CF-OA-E-002 REV# 14.

Raw data reports are processed and reviewed by the analyst using the TargetLynx software package.

**Calibration Information**

**Initial Calibration**

All initial calibration requirements have been met for this sample delivery group (SDG).

**Continuing Calibration Verification (CCV) Requirements**

All associated calibration verification standard(s) (CCV) met the acceptance criteria.

## **Quality Control (QC) Information**

### **Certification Statement**

The test results presented in this document are certified to meet all requirements of the 2009 TNI Standard.

### **Method Blank (MB) Statement**

The MB(s) analyzed with this SDG met the acceptance criteria.

### **Surrogate Recoveries**

All surrogate recoveries were within the established acceptance criteria for this SDG.

### **Laboratory Control Sample (LCS) Recovery**

The LCS spike recoveries met the acceptance limits.

### **Laboratory Control Sample Duplicate (LCSD) Recovery**

The LCSD spike recoveries met the acceptance limits.

### **LCS/LCSD Relative Percent Difference (RPD) Statement**

The RPD(s) between the LCS and LCSD met the acceptance limits.

### **QC Sample Designation**

A matrix spike and matrix spike duplicate analysis was not required for this SDG.

## **Technical Information**

### **Holding Time Specifications**

CFA assigns holding times based on the associated methodology, which assigns the date and time from sample collection. Those holding times expressed in hours are calculated in the AlphaLIMS system. Those holding times expressed as days expire at midnight on the day of expiration. All samples in this SDG met the specified holding time.

### **Preparation/Analytical Method Verification**

All procedures were performed as stated in the SOP.

### **Sample Dilutions**

Samples 8569001 (HWP-FTBSoil-151201) and 8569002 (HWP-FTBCon-151201)- Batch 30675 were diluted due to the presence of over-range target analytes.

Additional extraction standards were added to the sample due to the level of dilution required. Surrogate recoveries are reported from the undiluted run, and all native analyte concentrations are reported from the diluted run. Analyte concentrations are not recovery corrected. 8569001 (HWP-FTBSoil-151201)- Batch 30675.

### **Sample Re-extraction/Re-analysis**

Re-extractions or re-analyses were not required in this SDG.

## **Miscellaneous Information**

### **Nonconformance (NCR) Documentation**

A NCR was not required for this SDG.

### **Manual Integrations**

Certain standards and QC samples required manual integrations to correctly position the baseline as set in the calibration standard injections. Where manual integrations were performed, copies of all manual integration peak profiles are included in the raw data section of this fraction. Manual integrations were required for data files in this SDG.

### **Sample preparation**

No difficulties were encountered during sample preparation.

## **Electronic Packaging Comment**

This data package was generated using an electronic data processing program referred to as virtual packaging. In an effort to increase quality and efficiency, the laboratory has developed systems to generate all data packages electronically. The following change from traditional packages should be noted: Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. An electronic signature page inserted after the case narrative will include the data validator's signature and title. The signature page also includes the data qualifiers used in the fractional package. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

# **Sample Data Summary**

## Cape Fear Analytical, LLC

3306 Kitty Hawk Road Suite 120, Wilmington, NC 28405 - (910) 795-0421 - www.capefearanalytical.com

### Qualifier Definition Report for

MICI001 Microbac Laboratory, Inc. Indiana  
Client SDG: 15L0077 CFA Work Order: 8569

#### The Qualifiers in this report are defined as follows:

- \* A quality control analyte recovery is outside of specified acceptance criteria
- \*\* Analyte is a surrogate compound
- J Value is estimated
- K Estimated Maximum Possible Concentration
- U Analyte was analyzed for, but not detected above the specified detection limit.
- DL Indicates that sample is diluted.
- RA Indicates that sample is re-analyzed without re-extraction.
- RE Indicates that sample is re-extracted.

#### Review/Validation

Cape Fear Analytical requires all analytical data to be verified by a qualified data reviewer.

The following data validator verified the information presented in this case narrative:

Signature: 

Name: Heather Patterson

Date: 09 DEC 2015

Title: Group Leader

**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

Page 1 of 1

**SDG Number:** 15L0077  
**Lab Sample ID:** 8569001  
**Client Sample:** 8290 Solid  
**Client ID:** HWP-FTBSoil-151201  
**Batch ID:** 30675  
**Run Date:** 12/08/2015 11:32  
**Data File:** A08DEC15A-5  
**Prep Batch:** 30673  
**Prep Date:** 03-DEC-15

**Client:** MICI001  
**Date Collected:** 12/01/2015 14:20  
**Date Received:** 12/02/2015 11:00  
  
**Method:** SW846 8290A  
**Analyst:** JTF  
  
**Prep Method:** SW846 3540C  
**Prep Aliquot:** 12.16 g

**Project:** MICI00115  
**Matrix:** SOLID  
**%Moisture:** 12.2  
**Prep Basis:** Dry Weight  
  
**Instrument:** HRP750  
**Dilution:** 100

| CAS No.    | Parmname                          | Qual | Result | EMPC | Units | EDL  | PQL  |
|------------|-----------------------------------|------|--------|------|-------|------|------|
| 1746-01-6  | 2,3,7,8-TCDD                      | U    | 44.8   |      | pg/g  | 44.8 | 93.7 |
| 40321-76-4 | 1,2,3,7,8-PeCDD                   | J    | 84.1   |      | pg/g  | 57.5 | 468  |
| 39227-28-6 | 1,2,3,4,7,8-HxCDD                 | U    | 238    |      | pg/g  | 238  | 468  |
| 57653-85-7 | 1,2,3,6,7,8-HxCDD                 |      | 5370   |      | pg/g  | 215  | 468  |
| 19408-74-3 | 1,2,3,7,8,9-HxCDD                 | J    | 398    |      | pg/g  | 232  | 468  |
| 35822-46-9 | 1,2,3,4,6,7,8-HpCDD               |      | 101000 |      | pg/g  | 856  | 468  |
| 3268-87-9  | 1,2,3,4,6,7,8,9-OCDD              |      | 491000 |      | pg/g  | 2270 | 937  |
| 51207-31-9 | 2,3,7,8-TCDF                      | U    | 76.2   |      | pg/g  | 76.2 | 93.7 |
| 57117-41-6 | 1,2,3,7,8-PeCDF                   | U    | 69.5   |      | pg/g  | 69.5 | 468  |
| 57117-31-4 | 2,3,4,7,8-PeCDF                   | J    | 236    |      | pg/g  | 69.5 | 468  |
| 70648-26-9 | 1,2,3,4,7,8-HxCDF                 | J    | 404    |      | pg/g  | 302  | 468  |
| 57117-44-9 | 1,2,3,6,7,8-HxCDF                 | J    | 324    |      | pg/g  | 277  | 468  |
| 60851-34-5 | 2,3,4,6,7,8-HxCDF                 |      | 862    |      | pg/g  | 294  | 468  |
| 72918-21-9 | 1,2,3,7,8,9-HxCDF                 | U    | 348    |      | pg/g  | 348  | 468  |
| 67562-39-4 | 1,2,3,4,6,7,8-HpCDF               |      | 16500  |      | pg/g  | 375  | 468  |
| 55673-89-7 | 1,2,3,4,7,8,9-HpCDF               |      | 673    |      | pg/g  | 504  | 468  |
| 39001-02-0 | 1,2,3,4,6,7,8,9-OCDF              |      | 45800  |      | pg/g  | 407  | 937  |
| 41903-57-5 | Total Tetrachlorodibenzo-p-dioxin | U    | 44.8   |      | pg/g  | 44.8 | 93.7 |
| 36088-22-9 | Total Pentachlorodibenzo-p-dioxin | J    | 84.1   |      | pg/g  | 57.5 | 468  |
| 34465-46-8 | Total Hexachlorodibenzo-p-dioxin  |      | 11800  |      | pg/g  | 215  | 468  |
| 37871-00-4 | Total Heptachlorodibenzo-p-dioxin |      | 165000 |      | pg/g  | 856  | 468  |
| 30402-14-3 | Total Tetrachlorodibenzofuran     | U    | 76.2   |      | pg/g  | 76.2 | 93.7 |
| 30402-15-4 | Total Pentachlorodibenzofuran     |      | 4480   | 4580 | pg/g  | 24.9 | 468  |
| 55684-94-1 | Total Hexachlorodibenzofuran      |      | 37500  |      | pg/g  | 277  | 468  |
| 38998-75-3 | Total Heptachlorodibenzofuran     |      | 75500  |      | pg/g  | 375  | 468  |
| 3333-30-0  | TEQ WHO2005 ND=0                  |      | 2230   | 2230 | pg/g  |      |      |
| 3333-30-1  | TEQ WHO2005 ND=0.5                |      | 2290   | 2290 | pg/g  |      |      |

| Surrogate/Tracer recovery | Qual | Result | Nominal | Units | Recovery% | Acceptable Limits |
|---------------------------|------|--------|---------|-------|-----------|-------------------|
|---------------------------|------|--------|---------|-------|-----------|-------------------|

**Comments:****J** Value is estimated**K** Estimated Maximum Possible Concentration**U** Analyte was analyzed for, but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

Page 1 of 1

**SDG Number:** 15L0077  
**Lab Sample ID:** 8569002  
**Client Sample:** 8290 Solid  
**Client ID:** HWP-FTBCon-151201  
**Batch ID:** 30675  
**Run Date:** 12/08/2015 10:45  
**Data File:** A08DEC15A-4  
**Prep Batch:** 30673  
**Prep Date:** 03-DEC-15

**Client:** MICI001  
**Date Collected:** 12/01/2015 14:50  
**Date Received:** 12/02/2015 11:00  
  
**Method:** SW846 8290A  
**Analyst:** JTF  
  
**Prep Method:** SW846 3540C  
**Prep Aliquot:** 11.18 g

**Project:** MICI00115  
**Matrix:** SOLID  
**%Moisture:** 6.7  
**Prep Basis:** Dry Weight  
  
**Instrument:** HRP750  
**Dilution:** 10

| CAS No.    | Parmname                          | Qual | Result | EMPC | Units | EDL  | PQL  |
|------------|-----------------------------------|------|--------|------|-------|------|------|
| 1746-01-6  | 2,3,7,8-TCDD                      | U    | 3.24   |      | pg/g  | 3.24 | 9.59 |
| 40321-76-4 | 1,2,3,7,8-PeCDD                   | J    | 8.35   |      | pg/g  | 4.30 | 47.9 |
| 39227-28-6 | 1,2,3,4,7,8-HxCDD                 | J    | 18.9   |      | pg/g  | 16.4 | 47.9 |
| 57653-85-7 | 1,2,3,6,7,8-HxCDD                 |      | 325    |      | pg/g  | 14.9 | 47.9 |
| 19408-74-3 | 1,2,3,7,8,9-HxCDD                 | JK   |        | 34.6 | pg/g  | 16.0 | 47.9 |
| 35822-46-9 | 1,2,3,4,6,7,8-HpCDD               |      | 8840   |      | pg/g  | 51.2 | 47.9 |
| 3268-87-9  | 1,2,3,4,6,7,8,9-OCDD              |      | 81200  |      | pg/g  | 63.5 | 95.9 |
| 51207-31-9 | 2,3,7,8-TCDF                      | U    | 6.35   |      | pg/g  | 6.35 | 9.59 |
| 57117-41-6 | 1,2,3,7,8-PeCDF                   | JK   |        | 5.85 | pg/g  | 4.85 | 47.9 |
| 57117-31-4 | 2,3,4,7,8-PeCDF                   | J    | 14.6   |      | pg/g  | 4.87 | 47.9 |
| 70648-26-9 | 1,2,3,4,7,8-HxCDF                 | J    | 39.3   |      | pg/g  | 13.8 | 47.9 |
| 57117-44-9 | 1,2,3,6,7,8-HxCDF                 | J    | 17.1   |      | pg/g  | 12.6 | 47.9 |
| 60851-34-5 | 2,3,4,6,7,8-HxCDF                 | J    | 47.1   |      | pg/g  | 13.4 | 47.9 |
| 72918-21-9 | 1,2,3,7,8,9-HxCDF                 | U    | 15.9   |      | pg/g  | 15.9 | 47.9 |
| 67562-39-4 | 1,2,3,4,6,7,8-HpCDF               |      | 1200   |      | pg/g  | 19.9 | 47.9 |
| 55673-89-7 | 1,2,3,4,7,8,9-HpCDF               | J    | 44.4   |      | pg/g  | 26.8 | 47.9 |
| 39001-02-0 | 1,2,3,4,6,7,8,9-OCDF              |      | 5100   |      | pg/g  | 37.6 | 95.9 |
| 41903-57-5 | Total Tetrachlorodibenzo-p-dioxin | U    | 3.24   |      | pg/g  | 3.24 | 9.59 |
| 36088-22-9 | Total Pentachlorodibenzo-p-dioxin | J    | 30.9   |      | pg/g  | 4.30 | 47.9 |
| 34465-46-8 | Total Hexachlorodibenzo-p-dioxin  |      | 859    | 893  | pg/g  | 14.9 | 47.9 |
| 37871-00-4 | Total Heptachlorodibenzo-p-dioxin |      | 14600  |      | pg/g  | 51.2 | 47.9 |
| 30402-14-3 | Total Tetrachlorodibenzofuran     | U    | 6.35   |      | pg/g  | 6.35 | 9.59 |
| 30402-15-4 | Total Pentachlorodibenzofuran     |      | 246    | 264  | pg/g  | 1.53 | 47.9 |
| 55684-94-1 | Total Hexachlorodibenzofuran      |      | 2290   |      | pg/g  | 12.6 | 47.9 |
| 38998-75-3 | Total Heptachlorodibenzofuran     |      | 5600   |      | pg/g  | 19.9 | 47.9 |
| 3333-30-0  | TEQ WHO2005 ND=0                  |      | 184    | 188  | pg/g  |      |      |
| 3333-30-1  | TEQ WHO2005 ND=0.5                |      | 188    | 191  | pg/g  |      |      |

| Surrogate/Tracer recovery | Qual | Result | Nominal | Units | Recovery% | Acceptable Limits |
|---------------------------|------|--------|---------|-------|-----------|-------------------|
| 13C-2,3,7,8-TCDD          |      | 160    | 192     | pg/g  | 83.3      | (40%-135%)        |
| 13C-1,2,3,7,8-PeCDD       |      | 163    | 192     | pg/g  | 85.0      | (40%-135%)        |
| 13C-1,2,3,6,7,8-HxCDD     |      | 188    | 192     | pg/g  | 97.8      | (40%-135%)        |
| 13C-1,2,3,4,6,7,8-HpCDD   |      | 167    | 192     | pg/g  | 87.1      | (40%-135%)        |
| 13C-OCDD                  |      | 318    | 384     | pg/g  | 82.8      | (40%-135%)        |
| 13C-2,3,7,8-TCDF          |      | 150    | 192     | pg/g  | 78.1      | (40%-135%)        |
| 13C-1,2,3,7,8-PeCDF       |      | 171    | 192     | pg/g  | 89.4      | (40%-135%)        |
| 13C-1,2,3,6,7,8-HxCDF     |      | 156    | 192     | pg/g  | 81.3      | (40%-135%)        |
| 13C-1,2,3,4,6,7,8-HpCDF   |      | 171    | 192     | pg/g  | 89.0      | (40%-135%)        |

**Comments:****J** Value is estimated**K** Estimated Maximum Possible Concentration**U** Analyte was analyzed for, but not detected above the specified detection limit.

# **Quality Control Summary**



# **Hi-Res Dioxins/Furans** **Surrogate Recovery Report**

SDG Number: 15L0077

Matrix Type: SOLID

| Sample ID | Client ID            | Surrogate               | QUAL | Recovery (%) | Acceptance Limits |
|-----------|----------------------|-------------------------|------|--------------|-------------------|
| 12014926  | LCS for batch 30673  | 13C-2,3,7,8-TCDD        |      | 82.2         | (40%-135%)        |
|           |                      | 13C-1,2,3,7,8-PeCDD     |      | 80.7         | (40%-135%)        |
|           |                      | 13C-1,2,3,6,7,8-HxCDD   |      | 90.7         | (40%-135%)        |
|           |                      | 13C-1,2,3,4,6,7,8-HpCDD |      | 72.5         | (40%-135%)        |
|           |                      | 13C-OCDD                |      | 49.8         | (40%-135%)        |
|           |                      | 13C-2,3,7,8-TCDF        |      | 81.5         | (40%-135%)        |
|           |                      | 13C-1,2,3,7,8-PeCDF     |      | 83.5         | (40%-135%)        |
|           |                      | 13C-1,2,3,6,7,8-HxCDF   |      | 87.9         | (40%-135%)        |
|           |                      | 13C-1,2,3,4,6,7,8-HpCDF |      | 86.6         | (40%-135%)        |
| 12014927  | LCSD for batch 30673 | 13C-2,3,7,8-TCDD        |      | 75.3         | (40%-135%)        |
|           |                      | 13C-1,2,3,7,8-PeCDD     |      | 72.8         | (40%-135%)        |
|           |                      | 13C-1,2,3,6,7,8-HxCDD   |      | 81.0         | (40%-135%)        |
|           |                      | 13C-1,2,3,4,6,7,8-HpCDD |      | 68.5         | (40%-135%)        |
|           |                      | 13C-OCDD                |      | 45.4         | (40%-135%)        |
|           |                      | 13C-2,3,7,8-TCDF        |      | 76.1         | (40%-135%)        |
|           |                      | 13C-1,2,3,7,8-PeCDF     |      | 73.6         | (40%-135%)        |
|           |                      | 13C-1,2,3,6,7,8-HxCDF   |      | 79.8         | (40%-135%)        |
|           |                      | 13C-1,2,3,4,6,7,8-HpCDF |      | 79.5         | (40%-135%)        |
| 12014925  | MB for batch 30673   | 13C-2,3,7,8-TCDD        |      | 78.3         | (40%-135%)        |
|           |                      | 13C-1,2,3,7,8-PeCDD     |      | 71.5         | (40%-135%)        |
|           |                      | 13C-1,2,3,6,7,8-HxCDD   |      | 89.4         | (40%-135%)        |
|           |                      | 13C-1,2,3,4,6,7,8-HpCDD |      | 72.5         | (40%-135%)        |
|           |                      | 13C-OCDD                |      | 49.9         | (40%-135%)        |
|           |                      | 13C-2,3,7,8-TCDF        |      | 77.6         | (40%-135%)        |
|           |                      | 13C-1,2,3,7,8-PeCDF     |      | 75.6         | (40%-135%)        |
|           |                      | 13C-1,2,3,6,7,8-HxCDF   |      | 87.8         | (40%-135%)        |
|           |                      | 13C-1,2,3,4,6,7,8-HpCDF |      | 86.7         | (40%-135%)        |
| 8569001   | HWP-FTBSoil-151201   | 13C-2,3,7,8-TCDD        |      | 82.2         | (40%-135%)        |
|           |                      | 13C-1,2,3,7,8-PeCDD     |      | 82.0         | (40%-135%)        |
|           |                      | 13C-1,2,3,6,7,8-HxCDD   |      | 90.4         | (40%-135%)        |
|           |                      | 13C-1,2,3,4,6,7,8-HpCDD |      | 95.3         | (40%-135%)        |
|           |                      | 13C-OCDD                |      | 92.7         | (40%-135%)        |
|           |                      | 13C-2,3,7,8-TCDF        |      | 78.2         | (40%-135%)        |
|           |                      | 13C-1,2,3,7,8-PeCDF     |      | 84.9         | (40%-135%)        |
|           |                      | 13C-1,2,3,6,7,8-HxCDF   |      | 86.0         | (40%-135%)        |
|           |                      | 13C-1,2,3,4,6,7,8-HpCDF |      | 97.5         | (40%-135%)        |
| 8569002   | HWP-FTBCon-151201    | 13C-2,3,7,8-TCDD        |      | 83.3         | D (40%-135%)      |
|           |                      | 13C-1,2,3,7,8-PeCDD     |      | 85.0         | D (40%-135%)      |
|           |                      | 13C-1,2,3,6,7,8-HxCDD   |      | 97.8         | D (40%-135%)      |
|           |                      | 13C-1,2,3,4,6,7,8-HpCDD |      | 87.1         | D (40%-135%)      |
|           |                      | 13C-OCDD                |      | 82.8         | D (40%-135%)      |
|           |                      | 13C-2,3,7,8-TCDF        |      | 78.1         | D (40%-135%)      |
|           |                      | 13C-1,2,3,7,8-PeCDF     |      | 89.4         | D (40%-135%)      |
|           |                      | 13C-1,2,3,6,7,8-HxCDF   |      | 81.3         | D (40%-135%)      |
|           |                      | 13C-1,2,3,4,6,7,8-HpCDF |      | 89.0         | D (40%-135%)      |

\* Recovery outside Acceptance Limits

**Hi-Res Dioxins/Furans  
Surrogate Recovery Report**

Page 2 of 2

SDG Number: 15L0077

Matrix Type: SOLID

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| Sample ID | Client ID | Surrogate | QUAL | Recovery (%) | Acceptance Limits |
|-----------|-----------|-----------|------|--------------|-------------------|
|-----------|-----------|-----------|------|--------------|-------------------|

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\* Recovery outside Acceptance Limits

# Column to be used to flag recovery values

D Sample Diluted

**Hi-Res Dioxins/Furans**  
**Quality Control Summary**  
**Spike Recovery Report**

Page 1 of 2

**SDG Number:** 15L0077  
**Client ID:** LCS for batch 30673  
**Lab Sample ID:** 12014926  
**Instrument:** HRP750  
**Analyst:** JTF

**Sample Type:** Laboratory Control Sample  
**Matrix:** SOLID  
**Analysis Date:** 12/05/2015 22:50  
**Prep Batch ID:** 30673  
**Batch ID:** 30675

**Dilution:** 1

| CAS No.    | Parmname                 | Amount<br>Added<br>pg/g | Spike<br>Conc.<br>pg/g | Recovery<br>% | Acceptance<br>Limits |
|------------|--------------------------|-------------------------|------------------------|---------------|----------------------|
| 1746-01-6  | LCS 2,3,7,8-TCDD         | 20.0                    | 20.9                   | 105           | 70-130               |
| 40321-76-4 | LCS 1,2,3,7,8-PeCDD      | 100                     | 103                    | 103           | 70-130               |
| 39227-28-6 | LCS 1,2,3,4,7,8-HxCDD    | 100                     | 109                    | 109           | 70-130               |
| 57653-85-7 | LCS 1,2,3,6,7,8-HxCDD    | 100                     | 120                    | 120           | 70-130               |
| 19408-74-3 | LCS 1,2,3,7,8,9-HxCDD    | 100                     | 113                    | 113           | 70-130               |
| 35822-46-9 | LCS 1,2,3,4,6,7,8-HpCDD  | 100                     | 108                    | 108           | 70-130               |
| 3268-87-9  | LCS 1,2,3,4,6,7,8,9-OCDD | 200                     | 211                    | 106           | 70-130               |
| 51207-31-9 | LCS 2,3,7,8-TCDF         | 20.0                    | 21.5                   | 108           | 70-130               |
| 57117-41-6 | LCS 1,2,3,7,8-PeCDF      | 100                     | 102                    | 102           | 70-130               |
| 57117-31-4 | LCS 2,3,4,7,8-PeCDF      | 100                     | 98.4                   | 98.4          | 70-130               |
| 70648-26-9 | LCS 1,2,3,4,7,8-HxCDF    | 100                     | 109                    | 109           | 70-130               |
| 57117-44-9 | LCS 1,2,3,6,7,8-HxCDF    | 100                     | 124                    | 124           | 70-130               |
| 60851-34-5 | LCS 2,3,4,6,7,8-HxCDF    | 100                     | 115                    | 115           | 70-130               |
| 72918-21-9 | LCS 1,2,3,7,8,9-HxCDF    | 100                     | 89.1                   | 89.1          | 70-130               |
| 67562-39-4 | LCS 1,2,3,4,6,7,8-HpCDF  | 100                     | 105                    | 105           | 70-130               |
| 55673-89-7 | LCS 1,2,3,4,7,8,9-HpCDF  | 100                     | 77.6                   | 77.6          | 70-130               |
| 39001-02-0 | LCS 1,2,3,4,6,7,8,9-OCDF | 200                     | 197                    | 98.6          | 70-130               |

**Hi-Res Dioxins/Furans**  
**Quality Control Summary**  
**Spike Recovery Report**

Page 2 of 2

SDG Number: 15L0077

Sample Type: Laboratory Control Sample Duplicate

Client ID: LCSD for batch 30673

Matrix: SOLID

Lab Sample ID: 12014927

Instrument: HRP750

Analysis Date: 12/05/2015 23:37

Dilution: 1

Analyst: JTF

Prep Batch ID: 30673

Batch ID: 30675

| CAS No.    | Parmname                  | Amount Added<br>pg/g | Spike Conc.<br>pg/g | Recovery<br>% | Acceptance Limits | RPD<br>% | Acceptance Limits |
|------------|---------------------------|----------------------|---------------------|---------------|-------------------|----------|-------------------|
| 1746-01-6  | LCSD 2,3,7,8-TCDD         | 20.0                 | 19.1                | 95.3          | 70-130            | 9.28     | 0-20              |
| 40321-76-4 | LCSD 1,2,3,7,8-PeCDD      | 100                  | 98.4                | 98.4          | 70-130            | 4.90     | 0-20              |
| 39227-28-6 | LCSD 1,2,3,4,7,8-HxCDD    | 100                  | 94.7                | 94.7          | 70-130            | 13.8     | 0-20              |
| 57653-85-7 | LCSD 1,2,3,6,7,8-HxCDD    | 100                  | 113                 | 113           | 70-130            | 6.31     | 0-20              |
| 19408-74-3 | LCSD 1,2,3,7,8,9-HxCDD    | 100                  | 102                 | 102           | 70-130            | 10.5     | 0-20              |
| 35822-46-9 | LCSD 1,2,3,4,6,7,8-HpCDD  | 100                  | 92.8                | 92.8          | 70-130            | 14.8     | 0-20              |
| 3268-87-9  | LCSD 1,2,3,4,6,7,8,9-OCDD | 200                  | 196                 | 97.8          | 70-130            | 7.75     | 0-20              |
| 51207-31-9 | LCSD 2,3,7,8-TCDF         | 20.0                 | 21.0                | 105           | 70-130            | 2.44     | 0-20              |
| 57117-41-6 | LCSD 1,2,3,7,8-PeCDF      | 100                  | 97.1                | 97.1          | 70-130            | 4.63     | 0-20              |
| 57117-31-4 | LCSD 2,3,4,7,8-PeCDF      | 100                  | 97.2                | 97.2          | 70-130            | 1.25     | 0-20              |
| 70648-26-9 | LCSD 1,2,3,4,7,8-HxCDF    | 100                  | 104                 | 104           | 70-130            | 4.80     | 0-20              |
| 57117-44-9 | LCSD 1,2,3,6,7,8-HxCDF    | 100                  | 117                 | 117           | 70-130            | 5.49     | 0-20              |
| 60851-34-5 | LCSD 2,3,4,6,7,8-HxCDF    | 100                  | 109                 | 109           | 70-130            | 5.45     | 0-20              |
| 72918-21-9 | LCSD 1,2,3,7,8,9-HxCDF    | 100                  | 85.2                | 85.2          | 70-130            | 4.43     | 0-20              |
| 67562-39-4 | LCSD 1,2,3,4,6,7,8-HpCDF  | 100                  | 94.5                | 94.5          | 70-130            | 10.5     | 0-20              |
| 55673-89-7 | LCSD 1,2,3,4,7,8,9-HpCDF  | 100                  | 72.6                | 72.6          | 70-130            | 6.73     | 0-20              |
| 39001-02-0 | LCSD 1,2,3,4,6,7,8,9-OCDF | 200                  | 186                 | 92.9          | 70-130            | 5.98     | 0-20              |

## Method Blank Summary

Page 1 of 1

SDG Number: 15L0077  
Client ID: MB for batch 30673  
Lab Sample ID: 12014925  
Column:

Client: MICI001  
Instrument ID: HRP750  
Prep Date: 03-DEC-15

Matrix: SOLID  
Data File: A04DEC15A\_4-3  
Analyzed: 12/06/15 00:25

This method blank applies to the following samples and quality control samples:

| Client Sample ID        | Lab Sample ID | File ID       | Date Analyzed | Time Analyzed |
|-------------------------|---------------|---------------|---------------|---------------|
| 01 LCS for batch 30673  | 12014926      | A04DEC15A_4-1 | 12/05/15      | 2250          |
| 02 LCSD for batch 30673 | 12014927      | A04DEC15A_4-2 | 12/05/15      | 2337          |
| 03 HWP-FTBSoil-151201   | 8569001       | A04DEC15A_4-4 | 12/06/15      | 0113          |
| 04 HWP-FTBCon-151201    | 8569002       | A08DEC15A-4   | 12/08/15      | 1045          |
| 05 HWP-FTBSoil-151201   | 8569001       | A08DEC15A-5   | 12/08/15      | 1132          |

**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

Page 1 of 1

**SDG Number:** 15L0077  
**Lab Sample ID:** 12014925  
**Client Sample:** QC for batch 30673  
**Client ID:** MB for batch 30673  
**Batch ID:** 30675  
**Run Date:** 12/06/2015 00:25  
**Data File:** A04DEC15A\_4-3  
**Prep Batch:** 30673  
**Prep Date:** 03-DEC-15

**Client:** MICI001  
  
**Method:** SW846 8290A  
**Analyst:** JTF  
  
**Prep Method:** SW846 3540C  
**Prep Aliquot:** 10 g

**Project:** MICI00115  
**Matrix:** SOLID  
  
**Prep Basis:** As Received  
  
**Instrument:** HRP750  
**Dilution:** 1

| CAS No.    | Parmname                          | Qual | Result | EMPC   | Units | EDL   | PQL  |
|------------|-----------------------------------|------|--------|--------|-------|-------|------|
| 1746-01-6  | 2,3,7,8-TCDD                      | U    | .378   |        | pg/g  | 0.378 | 1.00 |
| 40321-76-4 | 1,2,3,7,8-PeCDD                   | U    | .424   |        | pg/g  | 0.424 | 5.00 |
| 39227-28-6 | 1,2,3,4,7,8-HxCDD                 | U    | .768   |        | pg/g  | 0.768 | 5.00 |
| 57653-85-7 | 1,2,3,6,7,8-HxCDD                 | U    | .698   |        | pg/g  | 0.698 | 5.00 |
| 19408-74-3 | 1,2,3,7,8,9-HxCDD                 | U    | .75    |        | pg/g  | 0.750 | 5.00 |
| 35822-46-9 | 1,2,3,4,6,7,8-HpCDD               | U    | .946   |        | pg/g  | 0.946 | 5.00 |
| 3268-87-9  | 1,2,3,4,6,7,8,9-OCDD              | U    | 2.02   |        | pg/g  | 2.02  | 10.0 |
| 51207-31-9 | 2,3,7,8-TCDF                      | U    | .58    |        | pg/g  | 0.580 | 1.00 |
| 57117-41-6 | 1,2,3,7,8-PeCDF                   | JK   |        | 0.386  | pg/g  | 0.302 | 5.00 |
| 57117-31-4 | 2,3,4,7,8-PeCDF                   | U    | .302   |        | pg/g  | 0.302 | 5.00 |
| 70648-26-9 | 1,2,3,4,7,8-HxCDF                 | U    | .388   |        | pg/g  | 0.388 | 5.00 |
| 57117-44-9 | 1,2,3,6,7,8-HxCDF                 | U    | .356   |        | pg/g  | 0.356 | 5.00 |
| 60851-34-5 | 2,3,4,6,7,8-HxCDF                 | U    | .376   |        | pg/g  | 0.376 | 5.00 |
| 72918-21-9 | 1,2,3,7,8,9-HxCDF                 | U    | .448   |        | pg/g  | 0.448 | 5.00 |
| 67562-39-4 | 1,2,3,4,6,7,8-HpCDF               | U    | .502   |        | pg/g  | 0.502 | 5.00 |
| 55673-89-7 | 1,2,3,4,7,8,9-HpCDF               | U    | .676   |        | pg/g  | 0.676 | 5.00 |
| 39001-02-0 | 1,2,3,4,6,7,8,9-OCDF              | U    | 2.28   |        | pg/g  | 2.28  | 10.0 |
| 41903-57-5 | Total Tetrachlorodibenzo-p-dioxin | U    | .378   |        | pg/g  | 0.378 | 1.00 |
| 36088-22-9 | Total Pentachlorodibenzo-p-dioxin | U    | .424   |        | pg/g  | 0.424 | 5.00 |
| 34465-46-8 | Total Hexachlorodibenzo-p-dioxin  | U    | .698   |        | pg/g  | 0.698 | 5.00 |
| 37871-00-4 | Total Heptachlorodibenzo-p-dioxin | U    | .946   |        | pg/g  | 0.946 | 5.00 |
| 30402-14-3 | Total Tetrachlorodibenzofuran     | U    | .58    |        | pg/g  | 0.580 | 1.00 |
| 30402-15-4 | Total Pentachlorodibenzofuran     | U    | .252   | 0.386  | pg/g  | 0.252 | 5.00 |
| 55684-94-1 | Total Hexachlorodibenzofuran      | U    | .356   |        | pg/g  | 0.356 | 5.00 |
| 38998-75-3 | Total Heptachlorodibenzofuran     | U    | .502   |        | pg/g  | 0.502 | 5.00 |
| 3333-30-0  | TEQ WHO2005 ND=0                  |      | 0.00   | 0.0116 | pg/g  |       |      |
| 3333-30-1  | TEQ WHO2005 ND=0.5                |      | 0.680  | 0.687  | pg/g  |       |      |

| Surrogate/Tracer recovery | Qual | Result | Nominal | Units | Recovery% | Acceptable Limits |
|---------------------------|------|--------|---------|-------|-----------|-------------------|
| 13C-2,3,7,8-TCDD          |      | 157    | 200     | pg/g  | 78.3      | (40%-135%)        |
| 13C-1,2,3,7,8-PeCDD       |      | 143    | 200     | pg/g  | 71.5      | (40%-135%)        |
| 13C-1,2,3,6,7,8-HxCDD     |      | 179    | 200     | pg/g  | 89.4      | (40%-135%)        |
| 13C-1,2,3,4,6,7,8-HpCDD   |      | 145    | 200     | pg/g  | 72.5      | (40%-135%)        |
| 13C-OCDD                  |      | 200    | 400     | pg/g  | 49.9      | (40%-135%)        |
| 13C-2,3,7,8-TCDF          |      | 155    | 200     | pg/g  | 77.6      | (40%-135%)        |
| 13C-1,2,3,7,8-PeCDF       |      | 151    | 200     | pg/g  | 75.6      | (40%-135%)        |
| 13C-1,2,3,6,7,8-HxCDF     |      | 176    | 200     | pg/g  | 87.8      | (40%-135%)        |
| 13C-1,2,3,4,6,7,8-HpCDF   |      | 173    | 200     | pg/g  | 86.7      | (40%-135%)        |

**Comments:****J** Value is estimated**K** Estimated Maximum Possible Concentration**U** Analyte was analyzed for, but not detected above the specified detection limit.



**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

Page 1 of 1

**SDG Number:** 15L0077  
**Lab Sample ID:** 12014926  
**Client Sample:** QC for batch 30673  
**Client ID:** LCS for batch 30673  
**Batch ID:** 30675  
**Run Date:** 12/05/2015 22:50  
**Data File:** A04DEC15A\_4-1  
**Prep Batch:** 30673  
**Prep Date:** 03-DEC-15

**Client:** MICI001  
  
**Method:** SW846 8290A  
**Analyst:** JTF  
  
**Prep Method:** SW846 3540C  
**Prep Aliquot:** 10 g

**Project:** MICI00115  
**Matrix:** SOLID  
  
**Prep Basis:** As Received  
  
**Instrument:** HRP750  
**Dilution:** 1

| CAS No.    | Parmname             | Qual | Result | EMPC | Units | EDL   | PQL  |
|------------|----------------------|------|--------|------|-------|-------|------|
| 1746-01-6  | 2,3,7,8-TCDD         |      | 20.9   |      | pg/g  | 0.514 | 1.00 |
| 40321-76-4 | 1,2,3,7,8-PeCDD      |      | 103    |      | pg/g  | 0.918 | 5.00 |
| 39227-28-6 | 1,2,3,4,7,8-HxCDD    |      | 109    |      | pg/g  | 2.32  | 5.00 |
| 57653-85-7 | 1,2,3,6,7,8-HxCDD    |      | 120    |      | pg/g  | 2.12  | 5.00 |
| 19408-74-3 | 1,2,3,7,8,9-HxCDD    |      | 113    |      | pg/g  | 2.28  | 5.00 |
| 35822-46-9 | 1,2,3,4,6,7,8-HpCDD  |      | 108    |      | pg/g  | 3.00  | 5.00 |
| 3268-87-9  | 1,2,3,4,6,7,8,9-OCDD |      | 211    |      | pg/g  | 7.78  | 10.0 |
| 51207-31-9 | 2,3,7,8-TCDF         |      | 21.5   |      | pg/g  | 0.744 | 1.00 |
| 57117-41-6 | 1,2,3,7,8-PeCDF      |      | 102    |      | pg/g  | 1.04  | 5.00 |
| 57117-31-4 | 2,3,4,7,8-PeCDF      |      | 98.4   |      | pg/g  | 1.05  | 5.00 |
| 70648-26-9 | 1,2,3,4,7,8-HxCDF    |      | 109    |      | pg/g  | 2.24  | 5.00 |
| 57117-44-9 | 1,2,3,6,7,8-HxCDF    |      | 124    |      | pg/g  | 2.06  | 5.00 |
| 60851-34-5 | 2,3,4,6,7,8-HxCDF    |      | 115    |      | pg/g  | 2.18  | 5.00 |
| 72918-21-9 | 1,2,3,7,8,9-HxCDF    |      | 89.1   |      | pg/g  | 2.58  | 5.00 |
| 67562-39-4 | 1,2,3,4,6,7,8-HpCDF  |      | 105    |      | pg/g  | 1.83  | 5.00 |
| 55673-89-7 | 1,2,3,4,7,8,9-HpCDF  |      | 77.6   |      | pg/g  | 2.46  | 5.00 |
| 39001-02-0 | 1,2,3,4,6,7,8,9-OCDF |      | 197    |      | pg/g  | 5.46  | 10.0 |

| Surrogate/Tracer recovery | Qual | Result | Nominal | Units | Recovery% | Acceptable Limits |
|---------------------------|------|--------|---------|-------|-----------|-------------------|
| 13C-2,3,7,8-TCDD          |      | 164    | 200     | pg/g  | 82.2      | (40%-135%)        |
| 13C-1,2,3,7,8-PeCDD       |      | 161    | 200     | pg/g  | 80.7      | (40%-135%)        |
| 13C-1,2,3,6,7,8-HxCDD     |      | 181    | 200     | pg/g  | 90.7      | (40%-135%)        |
| 13C-1,2,3,4,6,7,8-HpCDD   |      | 145    | 200     | pg/g  | 72.5      | (40%-135%)        |
| 13C-OCDD                  |      | 199    | 400     | pg/g  | 49.8      | (40%-135%)        |
| 13C-2,3,7,8-TCDF          |      | 163    | 200     | pg/g  | 81.5      | (40%-135%)        |
| 13C-1,2,3,7,8-PeCDF       |      | 167    | 200     | pg/g  | 83.5      | (40%-135%)        |
| 13C-1,2,3,6,7,8-HxCDF     |      | 176    | 200     | pg/g  | 87.9      | (40%-135%)        |
| 13C-1,2,3,4,6,7,8-HpCDF   |      | 173    | 200     | pg/g  | 86.6      | (40%-135%)        |

**Comments:**

**U** Analyte was analyzed for, but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

Page 1 of 1

**SDG Number:** 15L0077  
**Lab Sample ID:** 12014927  
**Client Sample:** QC for batch 30673  
**Client ID:** LCSD for batch 30673  
**Batch ID:** 30675  
**Run Date:** 12/05/2015 23:37  
**Data File:** A04DEC15A\_4-2  
**Prep Batch:** 30673  
**Prep Date:** 03-DEC-15

**Client:** MICI001  
  
**Method:** SW846 8290A  
**Analyst:** JTF  
  
**Prep Method:** SW846 3540C  
**Prep Aliquot:** 10 g

**Project:** MICI00115  
**Matrix:** SOLID  
  
**Prep Basis:** As Received  
  
**Instrument:** HRP750  
**Dilution:** 1

| CAS No.    | Parmname             | Qual | Result | EMPC | Units | EDL   | PQL  |
|------------|----------------------|------|--------|------|-------|-------|------|
| 1746-01-6  | 2,3,7,8-TCDD         |      | 19.1   |      | pg/g  | 0.746 | 1.00 |
| 40321-76-4 | 1,2,3,7,8-PeCDD      |      | 98.4   |      | pg/g  | 1.24  | 5.00 |
| 39227-28-6 | 1,2,3,4,7,8-HxCDD    |      | 94.7   |      | pg/g  | 3.24  | 5.00 |
| 57653-85-7 | 1,2,3,6,7,8-HxCDD    |      | 113    |      | pg/g  | 2.94  | 5.00 |
| 19408-74-3 | 1,2,3,7,8,9-HxCDD    |      | 102    |      | pg/g  | 3.16  | 5.00 |
| 35822-46-9 | 1,2,3,4,6,7,8-HpCDD  |      | 92.8   |      | pg/g  | 3.06  | 5.00 |
| 3268-87-9  | 1,2,3,4,6,7,8,9-OCDD |      | 196    |      | pg/g  | 10.4  | 10.0 |
| 51207-31-9 | 2,3,7,8-TCDF         |      | 21.0   |      | pg/g  | 0.874 | 1.00 |
| 57117-41-6 | 1,2,3,7,8-PeCDF      |      | 97.1   |      | pg/g  | 1.47  | 5.00 |
| 57117-31-4 | 2,3,4,7,8-PeCDF      |      | 97.2   |      | pg/g  | 1.47  | 5.00 |
| 70648-26-9 | 1,2,3,4,7,8-HxCDF    |      | 104    |      | pg/g  | 2.96  | 5.00 |
| 57117-44-9 | 1,2,3,6,7,8-HxCDF    |      | 117    |      | pg/g  | 2.70  | 5.00 |
| 60851-34-5 | 2,3,4,6,7,8-HxCDF    |      | 109    |      | pg/g  | 2.88  | 5.00 |
| 72918-21-9 | 1,2,3,7,8,9-HxCDF    |      | 85.2   |      | pg/g  | 3.40  | 5.00 |
| 67562-39-4 | 1,2,3,4,6,7,8-HpCDF  |      | 94.5   |      | pg/g  | 2.76  | 5.00 |
| 55673-89-7 | 1,2,3,4,7,8,9-HpCDF  |      | 72.6   |      | pg/g  | 3.72  | 5.00 |
| 39001-02-0 | 1,2,3,4,6,7,8,9-OCDF |      | 186    |      | pg/g  | 6.32  | 10.0 |

| Surrogate/Tracer recovery | Qual | Result | Nominal | Units | Recovery% | Acceptable Limits |
|---------------------------|------|--------|---------|-------|-----------|-------------------|
| 13C-2,3,7,8-TCDD          |      | 151    | 200     | pg/g  | 75.3      | (40%-135%)        |
| 13C-1,2,3,7,8-PeCDD       |      | 146    | 200     | pg/g  | 72.8      | (40%-135%)        |
| 13C-1,2,3,6,7,8-HxCDD     |      | 162    | 200     | pg/g  | 81.0      | (40%-135%)        |
| 13C-1,2,3,4,6,7,8-HpCDD   |      | 137    | 200     | pg/g  | 68.5      | (40%-135%)        |
| 13C-OCDD                  |      | 182    | 400     | pg/g  | 45.4      | (40%-135%)        |
| 13C-2,3,7,8-TCDF          |      | 152    | 200     | pg/g  | 76.1      | (40%-135%)        |
| 13C-1,2,3,7,8-PeCDF       |      | 147    | 200     | pg/g  | 73.6      | (40%-135%)        |
| 13C-1,2,3,6,7,8-HxCDF     |      | 160    | 200     | pg/g  | 79.8      | (40%-135%)        |
| 13C-1,2,3,4,6,7,8-HpCDF   |      | 159    | 200     | pg/g  | 79.5      | (40%-135%)        |

**Comments:**

**U** Analyte was analyzed for, but not detected above the specified detection limit.

December 15, 2015

Mr. John Behrens  
Environmental Restoration  
1666 Fabick Drive  
Fenton, MO 63026

RE: Project: Hoosier Wood Preservers  
Pace Project No.: 50134102

Dear Mr. Behrens:

Enclosed are the analytical results for sample(s) received by the laboratory on December 09, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Kenneth Hunt  
kenneth.hunt@pacelabs.com  
Project Manager

Enclosures



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Hoosier Wood Preservers

Pace Project No.: 50134102

---

### Indiana Certification IDs

7726 Moller Road, Indianapolis, IN 46268

Illinois Certification #: 200074

Indiana Certification #: C-49-06

Kansas Certification #: E-10177

Kentucky UST Certification #: 0042

Kentucky WW Certification #: 98019

Louisiana Certification #: 04076

Ohio VAP Certification #: CL-0065

Oklahoma Certification #: 2014-148

Texas Certification #: T104704355-15-9

West Virginia Certification #: 330

Wisconsin Certification #: 999788130

USDA Soil Permit #: P330-10-00128

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Hoosier Wood Preservers

Pace Project No.: 50134102

| Lab ID      | Sample ID             | Matrix | Date Collected | Date Received  |
|-------------|-----------------------|--------|----------------|----------------|
| 50134102001 | HWP-FTB bottom-151208 | Solid  | 12/08/15 14:50 | 12/09/15 13:45 |

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE ANALYTE COUNT

Project: Hoosier Wood Preservers

Pace Project No.: 50134102

| Lab ID      | Sample ID             | Method        | Analysts | Analytes Reported |
|-------------|-----------------------|---------------|----------|-------------------|
| 50134102001 | HWP-FTB bottom-151208 | EPA 6010      | JPk      | 7                 |
|             |                       | EPA 7471      | ILP      | 1                 |
|             |                       | ASTM D2974-87 | ESC      | 1                 |

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Hoosier Wood Preservers

Pace Project No.: 50134102

**Sample:** HWP-FTB bottom-151208 **Lab ID:** 50134102001 **Collected:** 12/08/15 14:50 **Received:** 12/09/15 13:45 **Matrix:** Solid

**Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.**

| Parameters   | Results     | Units | Report Limit | DF | Prepared       | Analyzed       | CAS No.   | Qual |
|--|-------------|-------|--------------|----|----------------|----------------|-----------|------|
| <b>6010 MET ICP</b> Analytical Method: EPA 6010 Preparation Method: EPA 3050 |             |       |              |    |                |                |           |      |
| Arsenic  | <b>2670</b> | mg/kg | 2.0          | 2  | 12/11/15 12:52 | 12/14/15 22:08 | 7440-38-2 |      |
| Barium   | <b>27.4</b> | mg/kg | 1.0          | 1  | 12/11/15 12:52 | 12/14/15 21:44 | 7440-39-3 |      |
| Cadmium  | ND          | mg/kg | 5.1          | 10 | 12/11/15 12:52 | 12/14/15 22:21 | 7440-43-9 |      |
| Chromium   | <b>706</b>  | mg/kg | 1.0          | 1  | 12/11/15 12:52 | 12/14/15 21:44 | 7440-47-3 |      |
| Lead   | <b>13.0</b> | mg/kg | 1.0          | 1  | 12/11/15 12:52 | 12/14/15 21:44 | 7439-92-1 |      |
| Selenium   | ND          | mg/kg | 1.0          | 1  | 12/11/15 12:52 | 12/14/15 21:44 | 7782-49-2 |      |
| Silver   | ND          | mg/kg | 0.51         | 1  | 12/11/15 12:52 | 12/14/15 21:44 | 7440-22-4 |      |
| <b>7471 Mercury</b> Analytical Method: EPA 7471 Preparation Method: EPA 7471 |             |       |              |    |                |                |           |      |
| Mercury  | <b>0.28</b> | mg/kg | 0.22         | 1  | 12/14/15 16:15 | 12/15/15 09:16 | 7439-97-6 |      |
| <b>Percent Moisture</b> Analytical Method: ASTM D2974-87                     |             |       |              |    |                |                |           |      |
| Percent Moisture   | <b>8.8</b>  | %     | 0.10         | 1  |                | 12/14/15 10:55 |           |      |

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50134102

QC Batch: MERP/7233

Analysis Method: EPA 7471

QC Batch Method: EPA 7471

Analysis Description: 7471 Mercury

Associated Lab Samples: 50134102001

METHOD BLANK: 1444607

Matrix: Solid

Associated Lab Samples: 50134102001

| Parameter | Units | Blank Result | Reporting Limit | Analyzed       | Qualifiers |
|-----------|-------|--------------|-----------------|----------------|------------|
| Mercury   | mg/kg | ND           | 0.20            | 12/15/15 09:12 |            |

LABORATORY CONTROL SAMPLE: 1444608

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Mercury   | mg/kg | .5          | 0.49       | 97        | 80-120       |            |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1444609 1444610

| Parameter | Units | 50134102001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|-----------|-------|--------------------|----------------|-----------------|-----------|------------|----------|-----------|--------------|-----|---------|------|
| Mercury   | mg/kg | 0.28               | .56            | .54             | 0.93      | 0.95       | 116      | 125       | 75-125       | 2   | 20      |      |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50134102

QC Batch: MPRP/19054

Analysis Method: EPA 6010

QC Batch Method: EPA 3050

Analysis Description: 6010 MET

Associated Lab Samples: 50134102001

METHOD BLANK: 1442473

Matrix: Solid

Associated Lab Samples: 50134102001

| Parameter | Units | Blank Result | Reporting Limit | Analyzed       | Qualifiers |
|-----------|-------|--------------|-----------------|----------------|------------|
| Arsenic   | mg/kg | ND           | 1.0             | 12/14/15 21:38 |            |
| Barium    | mg/kg | ND           | 1.0             | 12/14/15 21:38 |            |
| Cadmium   | mg/kg | ND           | 0.50            | 12/14/15 21:38 |            |
| Chromium  | mg/kg | ND           | 1.0             | 12/14/15 21:38 |            |
| Lead      | mg/kg | ND           | 1.0             | 12/14/15 21:38 |            |
| Selenium  | mg/kg | ND           | 1.0             | 12/14/15 21:38 |            |
| Silver    | mg/kg | ND           | 0.50            | 12/14/15 21:38 |            |

LABORATORY CONTROL SAMPLE: 1442474

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Arsenic   | mg/kg | 50          | 51.4       | 103       | 80-120       |            |
| Barium    | mg/kg | 50          | 51.0       | 102       | 80-120       |            |
| Cadmium   | mg/kg | 50          | 49.6       | 99        | 80-120       |            |
| Chromium  | mg/kg | 50          | 49.5       | 99        | 80-120       |            |
| Lead      | mg/kg | 50          | 48.6       | 97        | 80-120       |            |
| Selenium  | mg/kg | 50          | 50.4       | 101       | 80-120       |            |
| Silver    | mg/kg | 25          | 23.8       | 95        | 80-120       |            |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1442475 1442476

| Parameter | Units | 50134164002 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|-----------|-------|--------------------|----------------|-----------------|-----------|------------|----------|-----------|--------------|-----|---------|------|
| Arsenic   | mg/kg | 17.3               | 52.9           | 54.5            | 71.4      | 70.9       | 102      | 98        | 75-125       | 1   | 20      |      |
| Barium    | mg/kg | 79.7               | 52.9           | 54.5            | 120       | 131        | 76       | 94        | 75-125       | 9   | 20      |      |
| Cadmium   | mg/kg | ND                 | 52.9           | 54.5            | 55.6      | 56.8       | 104      | 103       | 75-125       | 2   | 20      |      |
| Chromium  | mg/kg | 613                | 52.9           | 54.5            | 618       | 632        | 9        | 35        | 75-125       | 2   | 20      | P6   |
| Lead      | mg/kg | 7.5                | 52.9           | 54.5            | 51.3      | 51.0       | 83       | 80        | 75-125       | 1   | 20      |      |
| Selenium  | mg/kg | 1.3                | 52.9           | 54.5            | 52.9      | 55.2       | 98       | 99        | 75-125       | 4   | 20      |      |
| Silver    | mg/kg | 1.3                | 26.5           | 27.3            | 25.8      | 26.0       | 92       | 91        | 75-125       | 1   | 20      |      |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50134102

QC Batch: PMST/11475

Analysis Method: ASTM D2974-87

QC Batch Method: ASTM D2974-87

Analysis Description: Dry Weight/Percent Moisture

Associated Lab Samples: 50134102001

SAMPLE DUPLICATE: 1444572

| Parameter        | Units | 50134286004<br>Result | Dup<br>Result | RPD | Max<br>RPD | Qualifiers |
|------------------|-------|-----------------------|---------------|-----|------------|------------|
| Percent Moisture | %     | 16.0                  | 15.4          | 4   | 5          |            |

SAMPLE DUPLICATE: 1444658

| Parameter        | Units | 50134102001<br>Result | Dup<br>Result | RPD | Max<br>RPD | Qualifiers |
|------------------|-------|-----------------------|---------------|-----|------------|------------|
| Percent Moisture | %     | 8.8                   | 6.7           | 27  | 5          | R1         |

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## QUALIFIERS

Project: Hoosier Wood Preservers

Pace Project No.: 50134102

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### ANALYTE QUALIFIERS

P6 Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.

R1 RPD value was outside control limits.

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Hoosier Wood Preservers

Pace Project No.: 50134102

| Lab ID      | Sample ID             | QC Batch Method | QC Batch   | Analytical Method | Analytical Batch |
|-------------|-----------------------|-----------------|------------|-------------------|------------------|
| 50134102001 | HWP-FTB bottom-151208 | EPA 3050        | MPRP/19054 | EPA 6010          | ICP/23195        |
| 50134102001 | HWP-FTB bottom-151208 | EPA 7471        | MERP/7233  | EPA 7471          | MERC/8542        |
| 50134102001 | HWP-FTB bottom-151208 | ASTM D2974-87   | PMST/11475 |                   |                  |

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**CHAIN-OF-CUSTODY / Analytical Request Document**  
The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

**The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.**

|  |  |   |  |  |  |
|--|--|---|--|--|--|
| <b>Section A</b><br>Required Client Information: |  | <b>Section B</b><br>Required Project Information: |  | <b>Section C</b><br>Invoice Information: |  |
| Company: <b>Environmental Restoration</b>        |  | Report To:  |  | Attention:                               |  |
| Address: <b>1666 Fabick Dr</b>                   |  | Copy To: <b>Lstamps@gepi.com</b>                  |  | Company Name:                            |  |
| <b>Fenton MO 63026</b>                           |  |   |  | Address:                                 |  |
| Email To: <b>j.b.behrns@ERLLC.com</b>            |  | Purchase Order No.:                               |  | Price Quote Reference:                   |  |
| Phone: <b>106-473-7124</b>                       |  | Project Name: <b>Hoosier Wood Preservers</b>      |  | Price Project Manager:                   |  |
| Requested Due Date/TAT: <b>5TD</b>               |  | Project Number:                                   |  | Price Profile #:                         |  |

Pages: \_\_\_\_\_ of \_\_\_\_\_  

1958133

REGULATORY AGENCY  
☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER  
☐ UST ☐ RORA ☐ OTHER \_\_\_\_\_

Site Location  

IN

STATE: \_\_\_\_\_

[illegible]

**\*Important Note:** By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

# Sample Condition Upon Receipt



Client Name: Env. Restoration Project # 50134102

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☒ Client ☐ Commercial ☐ Pace Other \_\_\_\_\_

Tracking #: \_\_\_\_\_

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☒ no

Date/Time 5035A kits placed in freezer

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☒ Other Ziplock

Thermometer 1 2 3 4 5 6 A B C D E F Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 3.3°C / 3.3°C Ice Visible in Sample Containers: ☐ yes ☒ no

Temp should be above freezing to 6°C Comments: Date and Initials of person examining contents: KEP 12-9-15

|   |  |  |
|---|--|--|
| Are samples from West Virginia?   | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                              | 1.                                     |
| Document any containers out of temp.  |  |  |
| Chain of Custody Present:   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 2.                                     |
| Chain of Custody Filled Out:  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 3.                                     |
| Chain of Custody Relinquished:  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 4.                                     |
| Sampler Name & Signature on COC:  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 5.                                     |
| Short Hold Time Analysis (<72hr):   | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | 6.                                     |
| Rush Turn Around Time Requested:  | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | 7.                                     |
| Containers Intact:  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 8.                                     |
| Sample Labels match COC:<br>-Includes date/time/ID/Analysis   | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | 9. <u>No sample time on containers</u> |
| All containers needing acid/base pres. have been checked?<br><small>exceptions: VOA, coliform, TOC, O&amp;G</small>             | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | 10 (Circle) HNO3 H2SO4 NaOH NaOH/ZnAc  |
| All containers needing preservation are found to be in compliance with EPA recommendation (<2, >9, >12) unless otherwise noted. |  |  |
| Residual Chlorine Check (SVOC 625 Pest/PCB 608)   |  | 11. Present Absent                     |
| Residual Chlorine Check (Total/Amenable/Free Cyanide)   |  | 12. Present Absent                     |
| Headspace in VOA Vials (>6mm):  | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | 13.                                    |
| Headspace Wisconsin Sulfide   | <input type="checkbox"/> Yes <input type="checkbox"/> No   | 14.                                    |
| Trip Blank Present:   | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | 15.                                    |
| Trip Blank Custody Seals Present  | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A |  |
| Project Manager Review  |  |  |
| Samples Arrived within Hold Time:   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 15.                                    |
| Sufficient Volume:  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 16.                                    |
| Correct Containers Used:  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 17.                                    |

Client Notification/ Resolution: \_\_\_\_\_ Field Data Required? Y / N

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

\_\_\_\_\_

Project Manager Review: Kenneth Hunt Date: 12/9/15



# Sample Container Count

CLIENT: Env. Restoration

COC PAGE 1 of 1  
COC ID# 1958133

Project # 50134102

| Sample Line Item | DG9H | AG1U | WG9U | AG0U | R | 4 / 6 | BP2N | BP2U | BP2S | BP3N | BP3U | BP3S | AG3S | AG1H | BP3C | BP1U | SP5T | AG2U | pH <2 | pH >9 | pH >12 |
|------------------|------|------|------|------|---|-------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|--------|
| 1                |      |      |      |      |   |       |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 2                |      |      |      |      |   |       |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 3                |      |      |      |      |   |       |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 4                |      |      |      |      |   |       |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 5                |      |      |      |      |   |       |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 6                |      |      |      |      |   |       |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 7                |      |      |      |      |   |       |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 8                |      |      |      |      |   |       |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 9                |      |      |      |      |   |       |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 10               |      |      |      |      |   |       |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 11               |      |      |      |      |   |       |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 12               |      |      |      |      |   |       |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |

## Container Codes

|      |                                |      |                                    |      |                              |      |                               |
|------|--------------------------------|------|------------------------------------|------|------------------------------|------|-------------------------------|
| DG9H | 40mL HCL amber vial            | AG0U | 100mL unpreserved amber glass      | BP1N | 1 liter HNO3 plastic         | DG9P | 40mL TSP amber vial           |
| AG1U | 1liter unpreserved amber glass | AG1H | 1 liter HCL amber glass            | BP1S | 1 liter H2SO4 plastic        | DG9S | 40mL H2SO4 amber vial         |
| WG9U | 4oz clear soil jar             | AG1S | 1 liter H2SO4 amber glass          | BP1U | 1 liter unpreserved plastic  | DG9T | 40mL Na Thio amber vial       |
| R    | terra core kit                 | AG1T | 1 liter Na Thiosulfate amber glass | BP1Z | 1 liter NaOH, Zn, Ac         | DG9U | 40mL unpreserved amber vial   |
| BP2N | 500mL HNO3 plastic             | AG2N | 500mL HNO3 amber glass             | BP2A | 500mL NaOH, Asc Acid plastic | SP5T | 120mL Coliform Na Thiosulfate |
| BP2U | 500mL unpreserved plastic      | AG2S | 500mL H2SO4 amber glass            | BP2O | 500mL NaOH plastic           | JGFU | 4oz unpreserved amber wide    |
| BP2S | 500mL H2SO4 plastic            | AG2U | 500mL unpreserved amber glass      | BP2Z | 500mL NaOH, Zn Ac            | U    | Summa Can                     |
| BP3N | 250mL HNO3 plastic             | AG3U | 250mL unpreserved amber glass      | AF   | Air Filter                   | VG9H | 40mL HCL clear vial           |
| BP3U | 250mL unpreserved plastic      | BG1H | 1 liter HCL clear glass            | BP3C | 250mL NaOH plastic           | VG9T | 40mL Na Thio. clear vial      |
| BP3S | 250mL H2SO4 plastic            | BG1S | 1 liter H2SO4 clear glass          | BP3Z | 250mL NaOH, Zn Ac plastic    | VG9U | 40mL unpreserved clear vial   |
| AG3S | 250mL H2SO4 glass amber        | BG1T | 1 liter Na Thiosulfate clear glass | C    | Air Cassettes                | VSG  | Headspace septa vial & HCL    |
| AG1S | 1 liter H2SO4 amber glass      | BG1U | 1 liter unpreserved glass          | DG9B | 40mL Na Bisulfate amber vial | WGFU | 4oz wide jar w/hexane wipe    |
| BP1U | 1 liter unpreserved plastic    | BP1A | 1 liter NaOH, Asc Acid plastic     | DG9M | 40mL MeOH clear vial         | ZPLC | Ziploc Bag                    |

December 10, 2015

Mr. John Behrens  
Environmental Restoration  
1666 Fabick Drive  
Fenton, MO 63026

RE: Project: Hoosier Wood  
Pace Project No.: 50133913

Dear Mr. Behrens:

Enclosed are the analytical results for sample(s) received by the laboratory on December 07, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Kenneth Hunt  
kenneth.hunt@pacelabs.com  
Project Manager

Enclosures



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Hoosier Wood

Pace Project No.: 50133913

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### Indiana Certification IDs

7726 Moller Road, Indianapolis, IN 46268

Illinois Certification #: 200074

Indiana Certification #: C-49-06

Kansas Certification #: E-10177

Kentucky UST Certification #: 0042

Kentucky WW Certification #: 98019

Louisiana Certification #: 04076

Ohio VAP Certification #: CL-0065

Oklahoma Certification #: 2014-148

Texas Certification #: T104704355-15-9

West Virginia Certification #: 330

Wisconsin Certification #: 999788130

USDA Soil Permit #: P330-10-00128

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Hoosier Wood

Pace Project No.: 50133913

| Lab ID      | Sample ID              | Matrix | Date Collected | Date Received  |
|-------------|------------------------|--------|----------------|----------------|
| 50133913001 | HVP-FTB treated-151207 | Solid  | 12/07/15 14:30 | 12/07/15 16:55 |

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## SAMPLE ANALYTE COUNT

Project: Hoosier Wood

Pace Project No.: 50133913

| Lab ID      | Sample ID              | Method        | Analysts | Analytes Reported |
|-------------|------------------------|---------------|----------|-------------------|
| 50133913001 | HVP-FTB treated-151207 | EPA 6010      | JPK      | 7                 |
|             |                        | EPA 7470      | ILP      | 1                 |
|             |                        | EPA 8270      | TBP      | 66                |
|             |                        | EPA 8270      | TBP      | 18                |
|             |                        | EPA 8260      | JLZ      | 73                |
|             |                        | EPA 8260      | GRM      | 13                |
|             |                        | ASTM D2974-87 | MLS      | 1                 |

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## ANALYTICAL RESULTS

Project: Hoosier Wood

Pace Project No.: 50133913

Sample: HVP-FTB treated-151207 Lab ID: 50133913001 Collected: 12/07/15 14:30 Received: 12/07/15 16:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

| Parameters   | Results | Units | Report Limit | DF | Prepared       | Analyzed       | CAS No.   | Qual |
|--|---------|-------|--------------|----|----------------|----------------|-----------|------|
| <b>6010 MET ICP, TCLP</b>                                |         |       |              |    |                |                |           |      |
| Analytical Method: EPA 6010 Preparation Method: EPA 3010 |         |       |              |    |                |                |           |      |
| Leachate Method/Date: EPA 1311; 12/08/15 15:30           |         |       |              |    |                |                |           |      |
| Arsenic  | ND      | mg/L  | 0.10         | 1  | 12/09/15 15:52 | 12/10/15 02:29 | 7440-38-2 |      |
| Barium   | ND      | mg/L  | 5.0          | 1  | 12/09/15 15:52 | 12/10/15 02:29 | 7440-39-3 |      |
| Cadmium  | ND      | mg/L  | 0.050        | 1  | 12/09/15 15:52 | 12/10/15 02:29 | 7440-43-9 |      |
| Chromium   | ND      | mg/L  | 0.10         | 1  | 12/09/15 15:52 | 12/10/15 02:29 | 7440-47-3 |      |
| Lead   | ND      | mg/L  | 0.10         | 1  | 12/09/15 15:52 | 12/10/15 02:29 | 7439-92-1 |      |
| Selenium   | ND      | mg/L  | 0.10         | 1  | 12/09/15 15:52 | 12/10/15 02:29 | 7782-49-2 |      |
| Silver   | ND      | mg/L  | 0.10         | 1  | 12/09/15 15:52 | 12/10/15 02:29 | 7440-22-4 |      |
| <b>7470 Mercury, TCLP</b>                                |         |       |              |    |                |                |           |      |
| Analytical Method: EPA 7470 Preparation Method: EPA 7470 |         |       |              |    |                |                |           |      |
| Leachate Method/Date: EPA 1311; 12/08/15 15:30           |         |       |              |    |                |                |           |      |
| Mercury  | ND      | mg/L  | 0.0020       | 1  | 12/10/15 00:26 | 12/10/15 09:46 | 7439-97-6 |      |
| <b>8270 MSSV SHORT LIST MICROWAVE</b>                    |         |       |              |    |                |                |           |      |
| Analytical Method: EPA 8270 Preparation Method: EPA 3546 |         |       |              |    |                |                |           |      |
| Acenaphthene   | ND      | ug/kg | 359          | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 83-32-9   |      |
| Acenaphthylene   | ND      | ug/kg | 359          | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 208-96-8  |      |
| Anthracene   | ND      | ug/kg | 359          | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 120-12-7  |      |
| Benzo(a)anthracene                                       | ND      | ug/kg | 359          | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 56-55-3   |      |
| Benzo(a)pyrene   | ND      | ug/kg | 185          | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 50-32-8   |      |
| Benzo(b)fluoranthene                                     | ND      | ug/kg | 359          | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 205-99-2  |      |
| Benzo(g,h,i)perylene                                     | ND      | ug/kg | 359          | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 191-24-2  |      |
| Benzo(k)fluoranthene                                     | ND      | ug/kg | 359          | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 207-08-9  |      |
| Benzyl alcohol   | ND      | ug/kg | 719          | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 100-51-6  |      |
| 4-Bromophenylphenyl ether                                | ND      | ug/kg | 359          | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 101-55-3  |      |
| Butylbenzylphthalate                                     | ND      | ug/kg | 359          | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 85-68-7   |      |
| 4-Chloro-3-methylphenol                                  | ND      | ug/kg | 719          | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 59-50-7   |      |
| 4-Chloroaniline  | ND      | ug/kg | 719          | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 106-47-8  |      |
| bis(2-Chloroethoxy)methane                               | ND      | ug/kg | 359          | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 111-91-1  |      |
| bis(2-Chloroethyl) ether                                 | ND      | ug/kg | 359          | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 111-44-4  |      |
| bis(2chloro1methylethyl) ether                           | ND      | ug/kg | 359          | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 108-60-1  |      |
| 2-Chloronaphthalene                                      | ND      | ug/kg | 359          | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 91-58-7   |      |
| 2-Chlorophenol   | ND      | ug/kg | 359          | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 95-57-8   |      |
| 4-Chlorophenylphenyl ether                               | ND      | ug/kg | 359          | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 7005-72-3 |      |
| Chrysene   | ND      | ug/kg | 359          | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 218-01-9  |      |
| Dibenz(a,h)anthracene                                    | ND      | ug/kg | 185          | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 53-70-3   |      |
| Dibenzofuran   | ND      | ug/kg | 359          | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 132-64-9  |      |
| 3,3'-Dichlorobenzidine                                   | ND      | ug/kg | 719          | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 91-94-1   |      |
| 2,4-Dichlorophenol                                       | ND      | ug/kg | 359          | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 120-83-2  |      |
| Diethylphthalate   | ND      | ug/kg | 359          | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 84-66-2   |      |
| 2,4-Dimethylphenol                                       | ND      | ug/kg | 359          | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 105-67-9  |      |
| Dimethylphthalate  | ND      | ug/kg | 359          | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 131-11-3  |      |
| Di-n-butylphthalate                                      | ND      | ug/kg | 359          | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 84-74-2   |      |
| 4,6-Dinitro-2-methylphenol                               | ND      | ug/kg | 1740         | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 534-52-1  |      |
| 2,4-Dinitrophenol  | ND      | ug/kg | 1740         | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 51-28-5   |      |
| 2,4-Dinitrotoluene                                       | ND      | ug/kg | 359          | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 121-14-2  |      |
| 2,6-Dinitrotoluene                                       | ND      | ug/kg | 359          | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 606-20-2  |      |

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Hoosier Wood

Pace Project No.: 50133913

Sample: HVP-FTB treated-151207 Lab ID: 50133913001 Collected: 12/07/15 14:30 Received: 12/07/15 16:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

| Parameters   | Results      | Units | Report Limit | DF | Prepared       | Analyzed       | CAS No.   | Qual |
|--|--------------|-------|--------------|----|----------------|----------------|-----------|------|
| <b>8270 MSSV SHORT LIST MICROWAVE</b> Analytical Method: EPA 8270 Preparation Method: EPA 3546 |              |       |              |    |                |                |           |      |
| Di-n-octylphthalate  | ND           | ug/kg | 359          | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 117-84-0  |      |
| bis(2-Ethylhexyl)phthalate   | ND           | ug/kg | 359          | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 117-81-7  |      |
| Fluoranthene   | ND           | ug/kg | 359          | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 206-44-0  |      |
| Fluorene   | ND           | ug/kg | 359          | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 86-73-7   |      |
| Hexachloro-1,3-butadiene   | ND           | ug/kg | 359          | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 87-68-3   |      |
| Hexachlorobenzene  | ND           | ug/kg | 359          | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 118-74-1  |      |
| Hexachlorocyclopentadiene  | ND           | ug/kg | 359          | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 77-47-4   |      |
| Hexachloroethane   | ND           | ug/kg | 359          | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 67-72-1   |      |
| Indeno(1,2,3-cd)pyrene   | ND           | ug/kg | 359          | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 193-39-5  |      |
| Isophorone   | ND           | ug/kg | 359          | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 78-59-1   |      |
| 2-Methylnaphthalene  | ND           | ug/kg | 359          | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 91-57-6   |      |
| 2-Methylphenol(o-Cresol)   | ND           | ug/kg | 359          | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 95-48-7   |      |
| 3&4-Methylphenol(m&p Cresol)   | ND           | ug/kg | 719          | 1  | 12/08/15 10:00 | 12/08/15 17:55 |           |      |
| Naphthalene  | ND           | ug/kg | 359          | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 91-20-3   |      |
| 2-Nitroaniline   | ND           | ug/kg | 1740         | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 88-74-4   |      |
| 3-Nitroaniline   | ND           | ug/kg | 1740         | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 99-09-2   |      |
| 4-Nitroaniline   | ND           | ug/kg | 1740         | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 100-01-6  |      |
| Nitrobenzene   | ND           | ug/kg | 359          | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 98-95-3   |      |
| 2-Nitrophenol  | ND           | ug/kg | 359          | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 88-75-5   |      |
| 4-Nitrophenol  | ND           | ug/kg | 1740         | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 100-02-7  |      |
| N-Nitroso-di-n-propylamine   | ND           | ug/kg | 359          | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 621-64-7  |      |
| N-Nitrosodiphenylamine   | ND           | ug/kg | 359          | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 86-30-6   |      |
| Pentachlorophenol  | <b>43800</b> | ug/kg | 34900        | 20 | 12/08/15 10:00 | 12/09/15 11:53 | 87-86-5   |      |
| Phenanthrene   | ND           | ug/kg | 359          | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 85-01-8   |      |
| Phenol   | ND           | ug/kg | 359          | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 108-95-2  |      |
| Pyrene   | ND           | ug/kg | 359          | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 129-00-0  |      |
| 2,4,5-Trichlorophenol  | ND           | ug/kg | 359          | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 95-95-4   |      |
| 2,4,6-Trichlorophenol  | ND           | ug/kg | 359          | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 88-06-2   |      |
| <b>Surrogates</b>  |              |       |              |    |                |                |           |      |
| Nitrobenzene-d5 (S)  | 37           | %.    | 28-101       | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 4165-60-0 |      |
| Phenol-d5 (S)  | 61           | %.    | 28-101       | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 4165-62-2 |      |
| 2-Fluorophenol (S)   | 54           | %.    | 24-104       | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 367-12-4  |      |
| 2,4,6-Tribromophenol (S)   | 58           | %.    | 16-122       | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 118-79-6  |      |
| 2-Fluorobiphenyl (S)   | 50           | %.    | 31-94        | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 321-60-8  |      |
| p-Terphenyl-d14 (S)  | 55           | %.    | 26-110       | 1  | 12/08/15 10:00 | 12/08/15 17:55 | 1718-51-0 |      |

### 8270 MSSV TCLP Sep Funnel

Analytical Method: EPA 8270 Preparation Method: EPA 3510

Leachate Method/Date: EPA 1311; 12/08/15 15:30

|                              |    |      |     |   |                |                |          |  |
|------------------------------|----|------|-----|---|----------------|----------------|----------|--|
| 1,4-Dichlorobenzene          | ND | ug/L | 100 | 1 | 12/09/15 14:30 | 12/09/15 19:18 | 106-46-7 |  |
| 2,4-Dinitrotoluene           | ND | ug/L | 100 | 1 | 12/09/15 14:30 | 12/09/15 19:18 | 121-14-2 |  |
| Hexachloro-1,3-butadiene     | ND | ug/L | 100 | 1 | 12/09/15 14:30 | 12/09/15 19:18 | 87-68-3  |  |
| Hexachlorobenzene            | ND | ug/L | 100 | 1 | 12/09/15 14:30 | 12/09/15 19:18 | 118-74-1 |  |
| Hexachloroethane             | ND | ug/L | 100 | 1 | 12/09/15 14:30 | 12/09/15 19:18 | 67-72-1  |  |
| 2-Methylphenol(o-Cresol)     | ND | ug/L | 100 | 1 | 12/09/15 14:30 | 12/09/15 19:18 | 95-48-7  |  |
| 3&4-Methylphenol(m&p Cresol) | ND | ug/L | 200 | 1 | 12/09/15 14:30 | 12/09/15 19:18 |          |  |
| Nitrobenzene                 | ND | ug/L | 100 | 1 | 12/09/15 14:30 | 12/09/15 19:18 | 98-95-3  |  |

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## ANALYTICAL RESULTS

Project: Hoosier Wood

Pace Project No.: 50133913

Sample: HVP-FTB treated-151207 Lab ID: 50133913001 Collected: 12/07/15 14:30 Received: 12/07/15 16:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

| Parameters   | Results | Units | Report Limit | DF | Prepared       | Analyzed       | CAS No.   | Qual |
|--|---------|-------|--------------|----|----------------|----------------|-----------|------|
| <b>8270 MSSV TCLP Sep Funnel</b>                         |         |       |              |    |                |                |           |      |
| Analytical Method: EPA 8270 Preparation Method: EPA 3510 |         |       |              |    |                |                |           |      |
| Leachate Method/Date: EPA 1311; 12/08/15 15:30           |         |       |              |    |                |                |           |      |
| Pentachlorophenol  | ND      | ug/L  | 500          | 1  | 12/09/15 14:30 | 12/09/15 19:18 | 87-86-5   |      |
| Pyridine   | ND      | ug/L  | 100          | 1  | 12/09/15 14:30 | 12/09/15 19:18 | 110-86-1  |      |
| 2,4,5-Trichlorophenol                                    | ND      | ug/L  | 500          | 1  | 12/09/15 14:30 | 12/09/15 19:18 | 95-95-4   |      |
| 2,4,6-Trichlorophenol                                    | ND      | ug/L  | 100          | 1  | 12/09/15 14:30 | 12/09/15 19:18 | 88-06-2   |      |
| <b>Surrogates</b>  |         |       |              |    |                |                |           |      |
| Nitrobenzene-d5 (S)                                      | 54      | %.    | 29-126       | 1  | 12/09/15 14:30 | 12/09/15 19:18 | 4165-60-0 |      |
| 2-Fluorobiphenyl (S)                                     | 46      | %.    | 31-118       | 1  | 12/09/15 14:30 | 12/09/15 19:18 | 321-60-8  |      |
| p-Terphenyl-d14 (S)                                      | 46      | %.    | 28-129       | 1  | 12/09/15 14:30 | 12/09/15 19:18 | 1718-51-0 |      |
| Phenol-d5 (S)  | 11      | %.    | 10-47        | 1  | 12/09/15 14:30 | 12/09/15 19:18 | 4165-62-2 |      |
| 2-Fluorophenol (S)                                       | 18      | %.    | 10-67        | 1  | 12/09/15 14:30 | 12/09/15 19:18 | 367-12-4  |      |
| 2,4,6-Tribromophenol (S)                                 | 52      | %.    | 31-161       | 1  | 12/09/15 14:30 | 12/09/15 19:18 | 118-79-6  |      |
| <b>8260 MSV 5030 Low Level</b>                           |         |       |              |    |                |                |           |      |
| Analytical Method: EPA 8260                              |         |       |              |    |                |                |           |      |
| Acetone  | 364     | ug/kg | 110          | 1  |                | 12/08/15 16:52 | 67-64-1   |      |
| Acrolein   | ND      | ug/kg | 110          | 1  |                | 12/08/15 16:52 | 107-02-8  |      |
| Acrylonitrile  | ND      | ug/kg | 110          | 1  |                | 12/08/15 16:52 | 107-13-1  |      |
| Benzene  | ND      | ug/kg | 5.5          | 1  |                | 12/08/15 16:52 | 71-43-2   |      |
| Bromobenzene   | ND      | ug/kg | 5.5          | 1  |                | 12/08/15 16:52 | 108-86-1  |      |
| Bromochloromethane                                       | ND      | ug/kg | 5.5          | 1  |                | 12/08/15 16:52 | 74-97-5   |      |
| Bromodichloromethane                                     | ND      | ug/kg | 5.5          | 1  |                | 12/08/15 16:52 | 75-27-4   |      |
| Bromoform  | ND      | ug/kg | 5.5          | 1  |                | 12/08/15 16:52 | 75-25-2   |      |
| Bromomethane   | ND      | ug/kg | 5.5          | 1  |                | 12/08/15 16:52 | 74-83-9   |      |
| 2-Butanone (MEK)   | 56.3    | ug/kg | 27.5         | 1  |                | 12/08/15 16:52 | 78-93-3   |      |
| n-Butylbenzene   | ND      | ug/kg | 5.5          | 1  |                | 12/08/15 16:52 | 104-51-8  |      |
| sec-Butylbenzene   | ND      | ug/kg | 5.5          | 1  |                | 12/08/15 16:52 | 135-98-8  |      |
| tert-Butylbenzene  | ND      | ug/kg | 5.5          | 1  |                | 12/08/15 16:52 | 98-06-6   |      |
| Carbon disulfide   | ND      | ug/kg | 11.0         | 1  |                | 12/08/15 16:52 | 75-15-0   |      |
| Carbon tetrachloride                                     | ND      | ug/kg | 5.5          | 1  |                | 12/08/15 16:52 | 56-23-5   |      |
| Chlorobenzene  | ND      | ug/kg | 5.5          | 1  |                | 12/08/15 16:52 | 108-90-7  |      |
| Chloroethane   | ND      | ug/kg | 5.5          | 1  |                | 12/08/15 16:52 | 75-00-3   |      |
| Chloroform   | ND      | ug/kg | 5.5          | 1  |                | 12/08/15 16:52 | 67-66-3   |      |
| Chloromethane  | ND      | ug/kg | 5.5          | 1  |                | 12/08/15 16:52 | 74-87-3   |      |
| 2-Chlorotoluene  | ND      | ug/kg | 5.5          | 1  |                | 12/08/15 16:52 | 95-49-8   |      |
| 4-Chlorotoluene  | ND      | ug/kg | 5.5          | 1  |                | 12/08/15 16:52 | 106-43-4  |      |
| Dibromochloromethane                                     | ND      | ug/kg | 5.5          | 1  |                | 12/08/15 16:52 | 124-48-1  |      |
| 1,2-Dibromoethane (EDB)                                  | ND      | ug/kg | 5.5          | 1  |                | 12/08/15 16:52 | 106-93-4  |      |
| Dibromomethane   | ND      | ug/kg | 5.5          | 1  |                | 12/08/15 16:52 | 74-95-3   |      |
| 1,2-Dichlorobenzene                                      | ND      | ug/kg | 5.5          | 1  |                | 12/08/15 16:52 | 95-50-1   |      |
| 1,3-Dichlorobenzene                                      | ND      | ug/kg | 5.5          | 1  |                | 12/08/15 16:52 | 541-73-1  |      |
| 1,4-Dichlorobenzene                                      | ND      | ug/kg | 5.5          | 1  |                | 12/08/15 16:52 | 106-46-7  |      |
| trans-1,4-Dichloro-2-butene                              | ND      | ug/kg | 110          | 1  |                | 12/08/15 16:52 | 110-57-6  |      |
| Dichlorodifluoromethane                                  | ND      | ug/kg | 5.5          | 1  |                | 12/08/15 16:52 | 75-71-8   |      |
| 1,1-Dichloroethane                                       | ND      | ug/kg | 5.5          | 1  |                | 12/08/15 16:52 | 75-34-3   |      |
| 1,2-Dichloroethane                                       | ND      | ug/kg | 5.5          | 1  |                | 12/08/15 16:52 | 107-06-2  |      |
| 1,1-Dichloroethene                                       | ND      | ug/kg | 5.5          | 1  |                | 12/08/15 16:52 | 75-35-4   |      |

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## ANALYTICAL RESULTS

Project: Hoosier Wood

Pace Project No.: 50133913

Sample: HVP-FTB treated-151207 Lab ID: 50133913001 Collected: 12/07/15 14:30 Received: 12/07/15 16:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

| Parameters                     | Results | Units                       | Report Limit | DF | Prepared | Analyzed       | CAS No.    | Qual |
|--------------------------------|---------|-----------------------------|--------------|----|----------|----------------|------------|------|
| <b>8260 MSV 5030 Low Level</b> |         | Analytical Method: EPA 8260 |              |    |          |                |            |      |
| cis-1,2-Dichloroethene         | ND      | ug/kg                       | 5.5          | 1  |          | 12/08/15 16:52 | 156-59-2   |      |
| trans-1,2-Dichloroethene       | ND      | ug/kg                       | 5.5          | 1  |          | 12/08/15 16:52 | 156-60-5   |      |
| 1,2-Dichloropropane            | ND      | ug/kg                       | 5.5          | 1  |          | 12/08/15 16:52 | 78-87-5    |      |
| 1,3-Dichloropropane            | ND      | ug/kg                       | 5.5          | 1  |          | 12/08/15 16:52 | 142-28-9   |      |
| 2,2-Dichloropropane            | ND      | ug/kg                       | 5.5          | 1  |          | 12/08/15 16:52 | 594-20-7   |      |
| 1,1-Dichloropropene            | ND      | ug/kg                       | 5.5          | 1  |          | 12/08/15 16:52 | 563-58-6   |      |
| cis-1,3-Dichloropropene        | ND      | ug/kg                       | 5.5          | 1  |          | 12/08/15 16:52 | 10061-01-5 |      |
| trans-1,3-Dichloropropene      | ND      | ug/kg                       | 5.5          | 1  |          | 12/08/15 16:52 | 10061-02-6 |      |
| Ethylbenzene                   | ND      | ug/kg                       | 5.5          | 1  |          | 12/08/15 16:52 | 100-41-4   |      |
| Ethyl methacrylate             | ND      | ug/kg                       | 110          | 1  |          | 12/08/15 16:52 | 97-63-2    |      |
| Hexachloro-1,3-butadiene       | ND      | ug/kg                       | 5.5          | 1  |          | 12/08/15 16:52 | 87-68-3    |      |
| n-Hexane                       | ND      | ug/kg                       | 5.5          | 1  |          | 12/08/15 16:52 | 110-54-3   |      |
| 2-Hexanone                     | ND      | ug/kg                       | 110          | 1  |          | 12/08/15 16:52 | 591-78-6   |      |
| Iodomethane                    | ND      | ug/kg                       | 110          | 1  |          | 12/08/15 16:52 | 74-88-4    |      |
| Isopropylbenzene (Cumene)      | ND      | ug/kg                       | 5.5          | 1  |          | 12/08/15 16:52 | 98-82-8    |      |
| p-Isopropyltoluene             | ND      | ug/kg                       | 5.5          | 1  |          | 12/08/15 16:52 | 99-87-6    |      |
| Methylene Chloride             | ND      | ug/kg                       | 22.0         | 1  |          | 12/08/15 16:52 | 75-09-2    |      |
| 4-Methyl-2-pentanone (MIBK)    | ND      | ug/kg                       | 27.5         | 1  |          | 12/08/15 16:52 | 108-10-1   |      |
| Methyl-tert-butyl ether        | ND      | ug/kg                       | 5.5          | 1  |          | 12/08/15 16:52 | 1634-04-4  |      |
| Naphthalene                    | 5.6     | ug/kg                       | 5.5          | 1  |          | 12/08/15 16:52 | 91-20-3    |      |
| n-Propylbenzene                | ND      | ug/kg                       | 5.5          | 1  |          | 12/08/15 16:52 | 103-65-1   |      |
| Styrene                        | ND      | ug/kg                       | 5.5          | 1  |          | 12/08/15 16:52 | 100-42-5   |      |
| 1,1,1,2-Tetrachloroethane      | ND      | ug/kg                       | 5.5          | 1  |          | 12/08/15 16:52 | 630-20-6   |      |
| 1,1,2,2-Tetrachloroethane      | ND      | ug/kg                       | 5.5          | 1  |          | 12/08/15 16:52 | 79-34-5    |      |
| Tetrachloroethene              | ND      | ug/kg                       | 5.5          | 1  |          | 12/08/15 16:52 | 127-18-4   |      |
| Toluene                        | ND      | ug/kg                       | 5.5          | 1  |          | 12/08/15 16:52 | 108-88-3   |      |
| 1,2,3-Trichlorobenzene         | ND      | ug/kg                       | 5.5          | 1  |          | 12/08/15 16:52 | 87-61-6    |      |
| 1,2,4-Trichlorobenzene         | ND      | ug/kg                       | 5.5          | 1  |          | 12/08/15 16:52 | 120-82-1   |      |
| 1,1,1-Trichloroethane          | ND      | ug/kg                       | 5.5          | 1  |          | 12/08/15 16:52 | 71-55-6    |      |
| 1,1,2-Trichloroethane          | ND      | ug/kg                       | 5.5          | 1  |          | 12/08/15 16:52 | 79-00-5    |      |
| Trichloroethene                | ND      | ug/kg                       | 5.5          | 1  |          | 12/08/15 16:52 | 79-01-6    |      |
| Trichlorofluoromethane         | ND      | ug/kg                       | 5.5          | 1  |          | 12/08/15 16:52 | 75-69-4    |      |
| 1,2,3-Trichloropropane         | ND      | ug/kg                       | 5.5          | 1  |          | 12/08/15 16:52 | 96-18-4    |      |
| 1,2,4-Trimethylbenzene         | ND      | ug/kg                       | 5.5          | 1  |          | 12/08/15 16:52 | 95-63-6    |      |
| 1,3,5-Trimethylbenzene         | ND      | ug/kg                       | 5.5          | 1  |          | 12/08/15 16:52 | 108-67-8   |      |
| Vinyl acetate                  | ND      | ug/kg                       | 110          | 1  |          | 12/08/15 16:52 | 108-05-4   |      |
| Vinyl chloride                 | ND      | ug/kg                       | 5.5          | 1  |          | 12/08/15 16:52 | 75-01-4    |      |
| Xylene (Total)                 | ND      | ug/kg                       | 11.0         | 1  |          | 12/08/15 16:52 | 1330-20-7  |      |
| <b>Surrogates</b>              |         |                             |              |    |          |                |            |      |
| Dibromofluoromethane (S)       | 97      | %.                          | 85-118       | 1  |          | 12/08/15 16:52 | 1868-53-7  |      |
| Toluene-d8 (S)                 | 105     | %.                          | 71-128       | 1  |          | 12/08/15 16:52 | 2037-26-5  |      |
| 4-Bromofluorobenzene (S)       | 91      | %.                          | 56-144       | 1  |          | 12/08/15 16:52 | 460-00-4   |      |

### 8260 MSV TCLP

Analytical Method: EPA 8260 Leachate Method/Date: EPA 1311; 12/08/15 18:15

|                  |    |      |      |   |  |                |         |  |
|------------------|----|------|------|---|--|----------------|---------|--|
| Benzene          | ND | ug/L | 50.0 | 1 |  | 12/10/15 01:56 | 71-43-2 |  |
| 2-Butanone (MEK) | ND | ug/L | 1000 | 1 |  | 12/10/15 01:56 | 78-93-3 |  |

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## ANALYTICAL RESULTS

Project: Hoosier Wood

Pace Project No.: 50133913

**Sample:** HVP-FTB treated-151207 **Lab ID:** 50133913001 **Collected:** 12/07/15 14:30 **Received:** 12/07/15 16:55 **Matrix:** Solid

**Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.**

| Parameters  | Results | Units | Report Limit | DF | Prepared | Analyzed       | CAS No.   | Qual |
|---|---------|-------|--------------|----|----------|----------------|-----------|------|
| <b>8260 MSV TCLP</b> Analytical Method: EPA 8260 Leachate Method/Date: EPA 1311; 12/08/15 18:15 |         |       |              |    |          |                |           |      |
| Carbon tetrachloride  | ND      | ug/L  | 50.0         | 1  |          | 12/10/15 01:56 | 56-23-5   |      |
| Chlorobenzene   | ND      | ug/L  | 50.0         | 1  |          | 12/10/15 01:56 | 108-90-7  |      |
| Chloroform  | ND      | ug/L  | 50.0         | 1  |          | 12/10/15 01:56 | 67-66-3   |      |
| 1,2-Dichloroethane  | ND      | ug/L  | 50.0         | 1  |          | 12/10/15 01:56 | 107-06-2  |      |
| 1,1-Dichloroethene  | ND      | ug/L  | 50.0         | 1  |          | 12/10/15 01:56 | 75-35-4   |      |
| Tetrachloroethene   | ND      | ug/L  | 50.0         | 1  |          | 12/10/15 01:56 | 127-18-4  |      |
| Trichloroethene   | ND      | ug/L  | 50.0         | 1  |          | 12/10/15 01:56 | 79-01-6   |      |
| Vinyl chloride  | ND      | ug/L  | 20.0         | 1  |          | 12/10/15 01:56 | 75-01-4   |      |
| <b>Surrogates</b>   |         |       |              |    |          |                |           |      |
| Toluene-d8 (S)  | 73      | %.    | 81-110       | 1  |          | 12/10/15 01:56 | 2037-26-5 | S1   |
| 4-Bromofluorobenzene (S)  | 72      | %.    | 80-114       | 1  |          | 12/10/15 01:56 | 460-00-4  | S1   |
| Dibromofluoromethane (S)  | 107     | %.    | 79-116       | 1  |          | 12/10/15 01:56 | 1868-53-7 |      |
| <b>Percent Moisture</b> Analytical Method: ASTM D2974-87  |         |       |              |    |          |                |           |      |
| Percent Moisture  | 9.1     | %     | 0.10         | 1  |          | 12/08/15 09:17 |           |      |

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## QUALITY CONTROL DATA

Project: Hoosier Wood

Pace Project No.: 50133913

QC Batch: MERP/7219

Analysis Method: EPA 7470

QC Batch Method: EPA 7470

Analysis Description: 7470 Mercury TCLP

Associated Lab Samples: 50133913001

METHOD BLANK: 1441767

Matrix: Water

Associated Lab Samples: 50133913001

| Parameter | Units | Blank Result | Reporting Limit | Analyzed       | Qualifiers |
|-----------|-------|--------------|-----------------|----------------|------------|
| Mercury   | mg/L  | ND           | 0.0020          | 12/10/15 09:42 |            |

LABORATORY CONTROL SAMPLE: 1441768

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Mercury   | mg/L  | .015        | 0.015      | 101       | 80-120       |            |

MATRIX SPIKE SAMPLE: 1441769

| Parameter | Units | 50133913001 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Mercury   | mg/L  | ND                 | .015        | 0.015     | 98       | 75-125       |            |

MATRIX SPIKE SAMPLE: 1441770

| Parameter | Units | 50133918001 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Mercury   | mg/L  | ND                 | .015        | 0.015     | 98       | 75-125       |            |

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## QUALITY CONTROL DATA

Project: Hoosier Wood

Pace Project No.: 50133913

QC Batch: MPRP/19037

Analysis Method: EPA 6010

QC Batch Method: EPA 3010

Analysis Description: 6010 MET TCLP

Associated Lab Samples: 50133913001

METHOD BLANK: 1441532

Matrix: Water

Associated Lab Samples: 50133913001

| Parameter | Units | Blank Result | Reporting Limit | Analyzed       | Qualifiers |
|-----------|-------|--------------|-----------------|----------------|------------|
| Arsenic   | mg/L  | ND           | 0.10            | 12/10/15 02:05 |            |
| Barium    | mg/L  | ND           | 5.0             | 12/10/15 02:05 |            |
| Cadmium   | mg/L  | ND           | 0.050           | 12/10/15 02:05 |            |
| Chromium  | mg/L  | ND           | 0.10            | 12/10/15 02:05 |            |
| Lead      | mg/L  | ND           | 0.10            | 12/10/15 02:05 |            |
| Selenium  | mg/L  | ND           | 0.10            | 12/10/15 02:05 |            |
| Silver    | mg/L  | ND           | 0.10            | 12/10/15 02:05 |            |

LABORATORY CONTROL SAMPLE: 1441533

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Arsenic   | mg/L  | 10          | 10.1       | 101       | 80-120       |            |
| Barium    | mg/L  | 10          | 9.6        | 96        | 80-120       |            |
| Cadmium   | mg/L  | 10          | 9.7        | 97        | 80-120       |            |
| Chromium  | mg/L  | 10          | 9.6        | 96        | 80-120       |            |
| Lead      | mg/L  | 10          | 9.0        | 90        | 80-120       |            |
| Selenium  | mg/L  | 10          | 10.2       | 102       | 80-120       |            |
| Silver    | mg/L  | 5           | 4.8        | 96        | 80-120       |            |

MATRIX SPIKE SAMPLE: 1441534

| Parameter | Units | 50133235001 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Arsenic   | mg/L  | ND                 | 10          | 10.0      | 100      | 50-150       |            |
| Barium    | mg/L  |                    | 10          | 10.7      | 96       | 50-150       |            |
| Cadmium   | mg/L  |                    | 10          | 9.7       | 97       | 50-150       |            |
| Chromium  | mg/L  |                    | 10          | 9.6       | 96       | 50-150       |            |
| Lead      | mg/L  | 3.2                | 10          | 12.2      | 90       | 50-150       |            |
| Selenium  | mg/L  |                    | 10          | 10.1      | 101      | 50-150       |            |
| Silver    | mg/L  |                    | 5           | 4.8       | 96       | 50-150       |            |

MATRIX SPIKE SAMPLE: 1441535

| Parameter | Units | 50133913001 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Arsenic   | mg/L  | ND                 | 10          | 10.3      | 103      | 50-150       |            |
| Barium    | mg/L  | ND                 | 10          | 9.9       | 97       | 50-150       |            |
| Cadmium   | mg/L  | ND                 | 10          | 9.8       | 98       | 50-150       |            |
| Chromium  | mg/L  | ND                 | 10          | 9.6       | 96       | 50-150       |            |

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## QUALITY CONTROL DATA

Project: Hoosier Wood

Pace Project No.: 50133913

|                      |       |             |       |        |       |        |            |
|----------------------|-------|-------------|-------|--------|-------|--------|------------|
| MATRIX SPIKE SAMPLE: |       | 1441535     |       |        |       |        |            |
|                      |       | 50133913001 | Spike | MS     | MS    | % Rec  |            |
| Parameter            | Units | Result      | Conc. | Result | % Rec | Limits | Qualifiers |
| Lead                 | mg/L  | ND          | 10    | 9.0    | 90    | 50-150 |            |
| Selenium             | mg/L  | ND          | 10    | 10.2   | 102   | 50-150 |            |
| Silver               | mg/L  | ND          | 5     | 4.8    | 95    | 50-150 |            |

|                      |       |             |       |        |       |        |            |
|----------------------|-------|-------------|-------|--------|-------|--------|------------|
| MATRIX SPIKE SAMPLE: |       | 1441536     |       |        |       |        |            |
|                      |       | 50133918001 | Spike | MS     | MS    | % Rec  |            |
| Parameter            | Units | Result      | Conc. | Result | % Rec | Limits | Qualifiers |
| Arsenic              | mg/L  | ND          | 10    | 10.4   | 103   | 50-150 |            |
| Barium               | mg/L  | ND          | 10    | 10.3   | 97    | 50-150 |            |
| Cadmium              | mg/L  | ND          | 10    | 9.8    | 98    | 50-150 |            |
| Chromium             | mg/L  | ND          | 10    | 9.7    | 97    | 50-150 |            |
| Lead                 | mg/L  | ND          | 10    | 9.2    | 92    | 50-150 |            |
| Selenium             | mg/L  | ND          | 10    | 10.2   | 101   | 50-150 |            |
| Silver               | mg/L  | ND          | 5     | 4.7    | 94    | 50-150 |            |

|                      |       |             |       |        |       |        |            |
|----------------------|-------|-------------|-------|--------|-------|--------|------------|
| MATRIX SPIKE SAMPLE: |       | 1441537     |       |        |       |        |            |
|                      |       | 50134006001 | Spike | MS     | MS    | % Rec  |            |
| Parameter            | Units | Result      | Conc. | Result | % Rec | Limits | Qualifiers |
| Arsenic              | mg/L  | ND          | 10    | 10.6   | 105   | 50-150 |            |
| Barium               | mg/L  | ND          | 10    | 11.2   | 98    | 50-150 |            |
| Cadmium              | mg/L  | ND          | 10    | 10     | 100   | 50-150 |            |
| Chromium             | mg/L  | ND          | 10    | 9.8    | 98    | 50-150 |            |
| Lead                 | mg/L  | ND          | 10    | 9.3    | 92    | 50-150 |            |
| Selenium             | mg/L  | ND          | 10    | 10.4   | 104   | 50-150 |            |
| Silver               | mg/L  | ND          | 5     | 4.7    | 95    | 50-150 |            |

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## QUALITY CONTROL DATA

Project: Hoosier Wood

Pace Project No.: 50133913

QC Batch: MSV/84633

Analysis Method: EPA 8260

QC Batch Method: EPA 8260

Analysis Description: 8260 MSV 5030 Low

Associated Lab Samples: 50133913001

METHOD BLANK: 1440407

Matrix: Solid

Associated Lab Samples: 50133913001

| Parameter                   | Units | Blank Result | Reporting Limit | Analyzed       | Qualifiers |
|-----------------------------|-------|--------------|-----------------|----------------|------------|
| 1,1,1,2-Tetrachloroethane   | ug/kg | ND           | 5.0             | 12/08/15 13:09 |            |
| 1,1,1-Trichloroethane       | ug/kg | ND           | 5.0             | 12/08/15 13:09 |            |
| 1,1,2,2-Tetrachloroethane   | ug/kg | ND           | 5.0             | 12/08/15 13:09 |            |
| 1,1,2-Trichloroethane       | ug/kg | ND           | 5.0             | 12/08/15 13:09 |            |
| 1,1-Dichloroethane          | ug/kg | ND           | 5.0             | 12/08/15 13:09 |            |
| 1,1-Dichloroethene          | ug/kg | ND           | 5.0             | 12/08/15 13:09 |            |
| 1,1-Dichloropropene         | ug/kg | ND           | 5.0             | 12/08/15 13:09 |            |
| 1,2,3-Trichlorobenzene      | ug/kg | ND           | 5.0             | 12/08/15 13:09 |            |
| 1,2,3-Trichloropropane      | ug/kg | ND           | 5.0             | 12/08/15 13:09 |            |
| 1,2,4-Trichlorobenzene      | ug/kg | ND           | 5.0             | 12/08/15 13:09 |            |
| 1,2,4-Trimethylbenzene      | ug/kg | ND           | 5.0             | 12/08/15 13:09 |            |
| 1,2-Dibromoethane (EDB)     | ug/kg | ND           | 5.0             | 12/08/15 13:09 |            |
| 1,2-Dichlorobenzene         | ug/kg | ND           | 5.0             | 12/08/15 13:09 |            |
| 1,2-Dichloroethane          | ug/kg | ND           | 5.0             | 12/08/15 13:09 |            |
| 1,2-Dichloropropane         | ug/kg | ND           | 5.0             | 12/08/15 13:09 |            |
| 1,3,5-Trimethylbenzene      | ug/kg | ND           | 5.0             | 12/08/15 13:09 |            |
| 1,3-Dichlorobenzene         | ug/kg | ND           | 5.0             | 12/08/15 13:09 |            |
| 1,3-Dichloropropane         | ug/kg | ND           | 5.0             | 12/08/15 13:09 |            |
| 1,4-Dichlorobenzene         | ug/kg | ND           | 5.0             | 12/08/15 13:09 |            |
| 2,2-Dichloropropane         | ug/kg | ND           | 5.0             | 12/08/15 13:09 |            |
| 2-Butanone (MEK)            | ug/kg | ND           | 25.0            | 12/08/15 13:09 |            |
| 2-Chlorotoluene             | ug/kg | ND           | 5.0             | 12/08/15 13:09 |            |
| 2-Hexanone                  | ug/kg | ND           | 100             | 12/08/15 13:09 |            |
| 4-Chlorotoluene             | ug/kg | ND           | 5.0             | 12/08/15 13:09 |            |
| 4-Methyl-2-pentanone (MIBK) | ug/kg | ND           | 25.0            | 12/08/15 13:09 |            |
| Acetone                     | ug/kg | ND           | 100             | 12/08/15 13:09 |            |
| Acrolein                    | ug/kg | ND           | 100             | 12/08/15 13:09 |            |
| Acrylonitrile               | ug/kg | ND           | 100             | 12/08/15 13:09 |            |
| Benzene                     | ug/kg | ND           | 5.0             | 12/08/15 13:09 |            |
| Bromobenzene                | ug/kg | ND           | 5.0             | 12/08/15 13:09 |            |
| Bromochloromethane          | ug/kg | ND           | 5.0             | 12/08/15 13:09 |            |
| Bromodichloromethane        | ug/kg | ND           | 5.0             | 12/08/15 13:09 |            |
| Bromoform                   | ug/kg | ND           | 5.0             | 12/08/15 13:09 |            |
| Bromomethane                | ug/kg | ND           | 5.0             | 12/08/15 13:09 |            |
| Carbon disulfide            | ug/kg | ND           | 10.0            | 12/08/15 13:09 |            |
| Carbon tetrachloride        | ug/kg | ND           | 5.0             | 12/08/15 13:09 |            |
| Chlorobenzene               | ug/kg | ND           | 5.0             | 12/08/15 13:09 |            |
| Chloroethane                | ug/kg | ND           | 5.0             | 12/08/15 13:09 |            |
| Chloroform                  | ug/kg | ND           | 5.0             | 12/08/15 13:09 |            |
| Chloromethane               | ug/kg | ND           | 5.0             | 12/08/15 13:09 |            |
| cis-1,2-Dichloroethene      | ug/kg | ND           | 5.0             | 12/08/15 13:09 |            |

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## QUALITY CONTROL DATA

Project: Hoosier Wood

Pace Project No.: 50133913

METHOD BLANK: 1440407

Matrix: Solid

Associated Lab Samples: 50133913001

| Parameter                   | Units | Blank Result | Reporting Limit | Analyzed       | Qualifiers |
|-----------------------------|-------|--------------|-----------------|----------------|------------|
| cis-1,3-Dichloropropene     | ug/kg | ND           | 5.0             | 12/08/15 13:09 |            |
| Dibromochloromethane        | ug/kg | ND           | 5.0             | 12/08/15 13:09 |            |
| Dibromomethane              | ug/kg | ND           | 5.0             | 12/08/15 13:09 |            |
| Dichlorodifluoromethane     | ug/kg | ND           | 5.0             | 12/08/15 13:09 |            |
| Ethyl methacrylate          | ug/kg | ND           | 100             | 12/08/15 13:09 |            |
| Ethylbenzene                | ug/kg | ND           | 5.0             | 12/08/15 13:09 |            |
| Hexachloro-1,3-butadiene    | ug/kg | ND           | 5.0             | 12/08/15 13:09 |            |
| Iodomethane                 | ug/kg | ND           | 100             | 12/08/15 13:09 |            |
| Isopropylbenzene (Cumene)   | ug/kg | ND           | 5.0             | 12/08/15 13:09 |            |
| Methyl-tert-butyl ether     | ug/kg | ND           | 5.0             | 12/08/15 13:09 |            |
| Methylene Chloride          | ug/kg | ND           | 20.0            | 12/08/15 13:09 |            |
| n-Butylbenzene              | ug/kg | ND           | 5.0             | 12/08/15 13:09 |            |
| n-Hexane                    | ug/kg | ND           | 5.0             | 12/08/15 13:09 |            |
| n-Propylbenzene             | ug/kg | ND           | 5.0             | 12/08/15 13:09 |            |
| Naphthalene                 | ug/kg | ND           | 5.0             | 12/08/15 13:09 |            |
| p-Isopropyltoluene          | ug/kg | ND           | 5.0             | 12/08/15 13:09 |            |
| sec-Butylbenzene            | ug/kg | ND           | 5.0             | 12/08/15 13:09 |            |
| Styrene                     | ug/kg | ND           | 5.0             | 12/08/15 13:09 |            |
| tert-Butylbenzene           | ug/kg | ND           | 5.0             | 12/08/15 13:09 |            |
| Tetrachloroethene           | ug/kg | ND           | 5.0             | 12/08/15 13:09 |            |
| Toluene                     | ug/kg | ND           | 5.0             | 12/08/15 13:09 |            |
| trans-1,2-Dichloroethene    | ug/kg | ND           | 5.0             | 12/08/15 13:09 |            |
| trans-1,3-Dichloropropene   | ug/kg | ND           | 5.0             | 12/08/15 13:09 |            |
| trans-1,4-Dichloro-2-butene | ug/kg | ND           | 100             | 12/08/15 13:09 |            |
| Trichloroethene             | ug/kg | ND           | 5.0             | 12/08/15 13:09 |            |
| Trichlorofluoromethane      | ug/kg | ND           | 5.0             | 12/08/15 13:09 |            |
| Vinyl acetate               | ug/kg | ND           | 100             | 12/08/15 13:09 |            |
| Vinyl chloride              | ug/kg | ND           | 5.0             | 12/08/15 13:09 |            |
| Xylene (Total)              | ug/kg | ND           | 10.0            | 12/08/15 13:09 |            |
| 4-Bromofluorobenzene (S)    | %     | 95           | 56-144          | 12/08/15 13:09 |            |
| Dibromofluoromethane (S)    | %     | 97           | 85-118          | 12/08/15 13:09 |            |
| Toluene-d8 (S)              | %     | 103          | 71-128          | 12/08/15 13:09 |            |

LABORATORY CONTROL SAMPLE: 1440408

| Parameter                 | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---------------------------|-------|-------------|------------|-----------|--------------|------------|
| 1,1,1-Trichloroethane     | ug/kg | 50          | 41.7       | 83        | 70-123       |            |
| 1,1,2,2-Tetrachloroethane | ug/kg | 50          | 57.3       | 115       | 65-124       |            |
| 1,1-Dichloroethene        | ug/kg | 50          | 43.2       | 86        | 66-126       |            |
| 1,2,4-Trimethylbenzene    | ug/kg | 50          | 46.8       | 94        | 67-126       |            |
| 1,2-Dichloropropane       | ug/kg | 50          | 44.0       | 88        | 75-118       |            |
| Benzene                   | ug/kg | 50          | 44.6       | 89        | 74-119       |            |
| Chlorobenzene             | ug/kg | 50          | 47.3       | 95        | 77-122       |            |
| Chloroform                | ug/kg | 50          | 43.5       | 87        | 75-124       |            |

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## QUALITY CONTROL DATA

Project: Hoosier Wood

Pace Project No.: 50133913

LABORATORY CONTROL SAMPLE: 1440408

| Parameter                 | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---------------------------|-------|-------------|------------|-----------|--------------|------------|
| Ethylbenzene              | ug/kg | 50          | 48.6       | 97        | 72-123       |            |
| Isopropylbenzene (Cumene) | ug/kg | 50          | 48.1       | 96        | 65-123       |            |
| Methyl-tert-butyl ether   | ug/kg | 50          | 43.9       | 88        | 68-120       |            |
| Naphthalene               | ug/kg | 50          | 47.4       | 95        | 67-131       |            |
| Tetrachloroethene         | ug/kg | 50          | 42.9       | 86        | 72-126       |            |
| Toluene                   | ug/kg | 50          | 46.0       | 92        | 71-121       |            |
| Trichloroethene           | ug/kg | 50          | 44.3       | 89        | 74-123       |            |
| Vinyl chloride            | ug/kg | 50          | 42.9       | 86        | 55-128       |            |
| Xylene (Total)            | ug/kg | 150         | 141        | 94        | 66-124       |            |
| 4-Bromofluorobenzene (S)  | %.    |             |            | 96        | 56-144       |            |
| Dibromofluoromethane (S)  | %.    |             |            | 101       | 85-118       |            |
| Toluene-d8 (S)            | %.    |             |            | 102       | 71-128       |            |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1440409 1440410

| Parameter                 | Units | 50133556001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---------------------------|-------|--------------------|----------------|-----------------|-----------|------------|----------|-----------|--------------|-----|---------|------|
| 1,1,1-Trichloroethane     | ug/kg | ND                 | 50             | 50              | 37.5      | 43.7       | 75       | 87        | 26-143       | 15  | 20      |      |
| 1,1,2,2-Tetrachloroethane | ug/kg | ND                 | 50             | 50              | 50.1      | 52.4       | 100      | 105       | 10-156       | 4   | 20      |      |
| 1,1-Dichloroethene        | ug/kg | ND                 | 50             | 50              | 41.5      | 60.3       | 83       | 121       | 31-146       | 37  | 20      | R1   |
| 1,2,4-Trimethylbenzene    | ug/kg | ND                 | 50             | 50              | 42.8      | 44.6       | 86       | 89        | 10-139       | 4   | 20      |      |
| 1,2-Dichloropropane       | ug/kg | ND                 | 50             | 50              | 41.6      | 47.6       | 83       | 95        | 29-135       | 13  | 20      |      |
| Benzene                   | ug/kg | ND                 | 50             | 50              | 42.1      | 47.3       | 84       | 95        | 27-140       | 11  | 20      |      |
| Chlorobenzene             | ug/kg | ND                 | 50             | 50              | 42.9      | 47.7       | 86       | 95        | 10-136       | 10  | 20      |      |
| Chloroform                | ug/kg | ND                 | 50             | 50              | 41.1      | 47.7       | 82       | 95        | 36-138       | 15  | 20      |      |
| Ethylbenzene              | ug/kg | ND                 | 50             | 50              | 43.9      | 51.1       | 88       | 102       | 10-144       | 15  | 20      |      |
| Isopropylbenzene (Cumene) | ug/kg | ND                 | 50             | 50              | 43.9      | 49.9       | 88       | 100       | 10-134       | 13  | 20      |      |
| Methyl-tert-butyl ether   | ug/kg | ND                 | 50             | 50              | 41.1      | 46.2       | 82       | 92        | 30-147       | 12  | 20      |      |
| Naphthalene               | ug/kg | ND                 | 50             | 50              | 40.9      | 42.1       | 82       | 84        | 10-130       | 3   | 20      |      |
| Tetrachloroethene         | ug/kg | ND                 | 50             | 50              | 38.3      | 41.8       | 77       | 84        | 10-153       | 9   | 20      |      |
| Toluene                   | ug/kg | ND                 | 50             | 50              | 42.8      | 48.6       | 86       | 97        | 10-140       | 13  | 20      |      |
| Trichloroethene           | ug/kg | ND                 | 50             | 50              | 41.8      | 50.3       | 84       | 101       | 17-148       | 18  | 20      |      |
| Vinyl chloride            | ug/kg | ND                 | 50             | 50              | 40.9      | 49.0       | 82       | 98        | 30-145       | 18  | 20      |      |
| Xylene (Total)            | ug/kg | ND                 | 150            | 150             | 129       | 145        | 86       | 97        | 10-143       | 12  | 20      |      |
| 4-Bromofluorobenzene (S)  | %.    |                    |                |                 |           |            | 97       | 99        | 56-144       |     |         |      |
| Dibromofluoromethane (S)  | %.    |                    |                |                 |           |            | 98       | 102       | 85-118       |     |         |      |
| Toluene-d8 (S)            | %.    |                    |                |                 |           |            | 100      | 100       | 71-128       |     |         |      |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1440411 1440412

| Parameter                 | Units | 50133556001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---------------------------|-------|--------------------|----------------|-----------------|-----------|------------|----------|-----------|--------------|-----|---------|------|
| 1,1,1-Trichloroethane     | ug/kg | ND                 | 50             | 50              | 43.5      | 40.0       | 87       | 80        | 26-143       | 8   | 20      |      |
| 1,1,2,2-Tetrachloroethane | ug/kg | ND                 | 50             | 50              | 63.6      | 64.0       | 127      | 128       | 10-156       | 1   | 20      |      |

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Hoosier Wood

Pace Project No.: 50133913

| MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1440411 1440412 |       |             |       |       |       |       |       |        |       |        |       |
|--|-------|-------------|-------|-------|-------|-------|-------|--------|-------|--------|-------|
| Parameter  | Units | 50133566001 |       | MS    |       | MSD   |       | MS     |       | MSD    |       |
|  |       | Result      | Conc. | Spike | Conc. | Spike | Conc. | Result | % Rec | MSD    | % Rec |
|  |       |             |       |       |       |       |       |        |       |        |       |
| 1,1-Dichloroethene                                     | ug/kg | ND          | 50    | 50    | 50    | 44.8  | 40.6  | 90     | 81    | 31-146 | 10    |
| 1,2,4-Trimethylbenzene                                 | ug/kg | ND          | 50    | 50    | 50    | 31.2  | 30.9  | 62     | 62    | 10-139 | 1     |
| 1,2-Dichloropropane                                    | ug/kg | ND          | 50    | 50    | 50    | 46.3  | 43.4  | 93     | 87    | 29-135 | 6     |
| Benzene  | ug/kg | ND          | 50    | 50    | 50    | 43.8  | 40.2  | 88     | 80    | 27-140 | 9     |
| Chlorobenzene  | ug/kg | ND          | 50    | 50    | 50    | 36.0  | 35.7  | 72     | 71    | 10-136 | 1     |
| Chloroform   | ug/kg | ND          | 50    | 50    | 50    | 47.1  | 43.2  | 94     | 86    | 36-138 | 8     |
| Ethylbenzene   | ug/kg | ND          | 50    | 50    | 50    | 37.9  | 34.8  | 76     | 70    | 10-144 | 9     |
| Isopropylbenzene (Cumene)                              | ug/kg | ND          | 50    | 50    | 50    | 36.7  | 33.5  | 73     | 67    | 10-134 | 9     |
| Methyl-tert-butyl ether                                | ug/kg | ND          | 50    | 50    | 50    | 54.2  | 50.9  | 108    | 102   | 30-147 | 6     |
| Naphthalene  | ug/kg | ND          | 50    | 50    | 50    | 25.2  | 26.9  | 50     | 54    | 10-130 | 7     |
| Tetrachloroethene                                      | ug/kg | ND          | 50    | 50    | 50    | 33.8  | 32.8  | 68     | 66    | 10-153 | 3     |
| Toluene  | ug/kg | ND          | 50    | 50    | 50    | 40.2  | 38.9  | 79     | 76    | 10-140 | 3     |
| Trichloroethene  | ug/kg | ND          | 50    | 50    | 50    | 42.4  | 39.0  | 85     | 78    | 17-148 | 8     |
| Vinyl chloride   | ug/kg | ND          | 50    | 50    | 50    | 46.6  | 42.1  | 93     | 84    | 30-145 | 10    |
| Xylene (Total)   | ug/kg | ND          | 150   | 150   | 150   | 105   | 100   | 70     | 67    | 10-143 | 4     |
| 4-Bromofluorobenzene (S)                               | %.    |             |       |       |       |       |       | 96     | 92    | 56-144 |       |
| Dibromofluoromethane (S)                               | %.    |             |       |       |       |       |       | 104    | 102   | 85-118 |       |
| Toluene-d8 (S)   | %.    |             |       |       |       |       |       | 99     | 101   | 71-128 |       |

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Hoosier Wood

Pace Project No.: 50133913

QC Batch: MSV/84722

Analysis Method: EPA 8260

QC Batch Method: EPA 8260

Analysis Description: 8260 MSV TCLP

Associated Lab Samples: 50133913001

METHOD BLANK: 1441742

Matrix: Water

Associated Lab Samples: 50133913001

| Parameter                | Units | Blank Result | Reporting Limit | Analyzed       | Qualifiers |
|--------------------------|-------|--------------|-----------------|----------------|------------|
| 1,1-Dichloroethene       | ug/L  | ND           | 50.0            | 12/09/15 20:01 |            |
| 1,2-Dichloroethane       | ug/L  | ND           | 50.0            | 12/09/15 20:01 |            |
| 2-Butanone (MEK)         | ug/L  | ND           | 1000            | 12/09/15 20:01 |            |
| Benzene                  | ug/L  | ND           | 50.0            | 12/09/15 20:01 |            |
| Carbon tetrachloride     | ug/L  | ND           | 50.0            | 12/09/15 20:01 |            |
| Chlorobenzene            | ug/L  | ND           | 50.0            | 12/09/15 20:01 |            |
| Chloroform               | ug/L  | ND           | 50.0            | 12/09/15 20:01 |            |
| Tetrachloroethene        | ug/L  | ND           | 50.0            | 12/09/15 20:01 |            |
| Trichloroethene          | ug/L  | ND           | 50.0            | 12/09/15 20:01 |            |
| Vinyl chloride           | ug/L  | ND           | 20.0            | 12/09/15 20:01 |            |
| 4-Bromofluorobenzene (S) | %     | 96           | 80-114          | 12/09/15 20:01 |            |
| Dibromofluoromethane (S) | %     | 106          | 79-116          | 12/09/15 20:01 |            |
| Toluene-d8 (S)           | %     | 95           | 81-110          | 12/09/15 20:01 |            |

LABORATORY CONTROL SAMPLE: 1441743

| Parameter                | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|--------------------------|-------|-------------|------------|-----------|--------------|------------|
| 1,1-Dichloroethene       | ug/L  | 500         | 541        | 108       | 68-127       |            |
| 1,2-Dichloroethane       | ug/L  | 500         | 577        | 115       | 75-128       |            |
| 2-Butanone (MEK)         | ug/L  | 2500        | 2470       | 99        | 58-139       |            |
| Benzene                  | ug/L  | 500         | 494        | 99        | 74-122       |            |
| Carbon tetrachloride     | ug/L  | 500         | 650        | 130       | 56-137       |            |
| Chlorobenzene            | ug/L  | 500         | 479        | 96        | 78-123       |            |
| Chloroform               | ug/L  | 500         | 524        | 105       | 78-126       |            |
| Tetrachloroethene        | ug/L  | 500         | 415        | 83        | 69-130       |            |
| Trichloroethene          | ug/L  | 500         | 551        | 110       | 76-126       |            |
| Vinyl chloride           | ug/L  | 500         | 520        | 104       | 59-126       |            |
| 4-Bromofluorobenzene (S) | %     |             |            | 107       | 80-114       |            |
| Dibromofluoromethane (S) | %     |             |            | 107       | 79-116       |            |
| Toluene-d8 (S)           | %     |             |            | 97        | 81-110       |            |

MATRIX SPIKE SAMPLE: 1441744

| Parameter          | Units | 50133913001 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|--------------------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| 1,1-Dichloroethene | ug/L  | ND                 | 500         | 574       | 115      | 55-145       |            |
| 1,2-Dichloroethane | ug/L  | ND                 | 500         | 598       | 120      | 62-138       |            |
| 2-Butanone (MEK)   | ug/L  | ND                 | 2500        | 2710      | 108      | 37-156       |            |
| Benzene            | ug/L  | ND                 | 500         | 519       | 104      | 62-129       |            |

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## QUALITY CONTROL DATA

Project: Hoosier Wood

Pace Project No.: 50133913

| MATRIX SPIKE SAMPLE:     |       | 1441744               |                |              |             |                 |            |
|--------------------------|-------|-----------------------|----------------|--------------|-------------|-----------------|------------|
| Parameter                | Units | 50133913001<br>Result | Spike<br>Conc. | MS<br>Result | MS<br>% Rec | % Rec<br>Limits | Qualifiers |
| Carbon tetrachloride     | ug/L  | ND                    | 500            | 660          | 132         | 46-142          |            |
| Chlorobenzene            | ug/L  | ND                    | 500            | 493          | 99          | 49-136          |            |
| Chloroform               | ug/L  | ND                    | 500            | 548          | 110         | 54-150          |            |
| Tetrachloroethene        | ug/L  | ND                    | 500            | 424          | 85          | 33-151          |            |
| Trichloroethene          | ug/L  | ND                    | 500            | 575          | 115         | 50-143          |            |
| Vinyl chloride           | ug/L  | ND                    | 500            | 793          | 159         | 44-145          | M0         |
| 4-Bromofluorobenzene (S) | %.    |                       |                |              | 131         | 80-114          | S0         |
| Dibromofluoromethane (S) | %.    |                       |                |              | 107         | 79-116          |            |
| Toluene-d8 (S)           | %.    |                       |                |              | 96          | 81-110          |            |

| MATRIX SPIKE SAMPLE:     |       | 1441746               |                |              |             |                 |            |
|--------------------------|-------|-----------------------|----------------|--------------|-------------|-----------------|------------|
| Parameter                | Units | 50133917001<br>Result | Spike<br>Conc. | MS<br>Result | MS<br>% Rec | % Rec<br>Limits | Qualifiers |
| 1,1-Dichloroethene       | ug/L  | ND                    | 500            | 580          | 116         | 55-145          |            |
| 1,2-Dichloroethane       | ug/L  | ND                    | 500            | 611          | 122         | 62-138          |            |
| 2-Butanone (MEK)         | ug/L  | ND                    | 2500           | 2900         | 116         | 37-156          |            |
| Benzene                  | ug/L  | ND                    | 500            | 529          | 106         | 62-129          |            |
| Carbon tetrachloride     | ug/L  | ND                    | 500            | 675          | 135         | 46-142          |            |
| Chlorobenzene            | ug/L  | ND                    | 500            | 515          | 103         | 49-136          |            |
| Chloroform               | ug/L  | ND                    | 500            | 552          | 110         | 54-150          |            |
| Tetrachloroethene        | ug/L  | ND                    | 500            | 436          | 87          | 33-151          |            |
| Trichloroethene          | ug/L  | ND                    | 500            | 585          | 117         | 50-143          |            |
| Vinyl chloride           | ug/L  | ND                    | 500            | 778          | 156         | 44-145          | M0         |
| 4-Bromofluorobenzene (S) | %.    |                       |                |              | 99          | 80-114          |            |
| Dibromofluoromethane (S) | %.    |                       |                |              | 108         | 79-116          |            |
| Toluene-d8 (S)           | %.    |                       |                |              | 78          | 81-110          | S1         |

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## QUALITY CONTROL DATA

Project: Hoosier Wood

Pace Project No.: 50133913

QC Batch: OEXT/41768

Analysis Method: EPA 8270

QC Batch Method: EPA 3546

Analysis Description: 8270 Solid MSSV Microwave Short Spike

Associated Lab Samples: 50133913001

METHOD BLANK: 1440035

Matrix: Solid

Associated Lab Samples: 50133913001

| Parameter                       | Units | Blank Result | Reporting Limit | Analyzed       | Qualifiers |
|---------------------------------|-------|--------------|-----------------|----------------|------------|
| 2,4,5-Trichlorophenol           | ug/kg | ND           | 328             | 12/08/15 17:17 |            |
| 2,4,6-Trichlorophenol           | ug/kg | ND           | 328             | 12/08/15 17:17 |            |
| 2,4-Dichlorophenol              | ug/kg | ND           | 328             | 12/08/15 17:17 |            |
| 2,4-Dimethylphenol              | ug/kg | ND           | 328             | 12/08/15 17:17 |            |
| 2,4-Dinitrophenol               | ug/kg | ND           | 1590            | 12/08/15 17:17 |            |
| 2,4-Dinitrotoluene              | ug/kg | ND           | 328             | 12/08/15 17:17 |            |
| 2,6-Dinitrotoluene              | ug/kg | ND           | 328             | 12/08/15 17:17 |            |
| 2-Chloronaphthalene             | ug/kg | ND           | 328             | 12/08/15 17:17 |            |
| 2-Chlorophenol                  | ug/kg | ND           | 328             | 12/08/15 17:17 |            |
| 2-Methylnaphthalene             | ug/kg | ND           | 328             | 12/08/15 17:17 |            |
| 2-Methylphenol(o-Cresol)        | ug/kg | ND           | 328             | 12/08/15 17:17 |            |
| 2-Nitroaniline                  | ug/kg | ND           | 1590            | 12/08/15 17:17 |            |
| 2-Nitrophenol                   | ug/kg | ND           | 328             | 12/08/15 17:17 |            |
| 3&4-Methylphenol(m&p Cresol)    | ug/kg | ND           | 656             | 12/08/15 17:17 |            |
| 3,3'-Dichlorobenzidine          | ug/kg | ND           | 656             | 12/08/15 17:17 |            |
| 3-Nitroaniline                  | ug/kg | ND           | 1590            | 12/08/15 17:17 |            |
| 4,6-Dinitro-2-methylphenol      | ug/kg | ND           | 1590            | 12/08/15 17:17 |            |
| 4-Bromophenylphenyl ether       | ug/kg | ND           | 328             | 12/08/15 17:17 |            |
| 4-Chloro-3-methylphenol         | ug/kg | ND           | 656             | 12/08/15 17:17 |            |
| 4-Chloroaniline                 | ug/kg | ND           | 656             | 12/08/15 17:17 |            |
| 4-Chlorophenylphenyl ether      | ug/kg | ND           | 328             | 12/08/15 17:17 |            |
| 4-Nitroaniline                  | ug/kg | ND           | 1590            | 12/08/15 17:17 |            |
| 4-Nitrophenol                   | ug/kg | ND           | 1590            | 12/08/15 17:17 |            |
| Acenaphthene                    | ug/kg | ND           | 328             | 12/08/15 17:17 |            |
| Acenaphthylene                  | ug/kg | ND           | 328             | 12/08/15 17:17 |            |
| Anthracene                      | ug/kg | ND           | 328             | 12/08/15 17:17 |            |
| Benzo(a)anthracene              | ug/kg | ND           | 328             | 12/08/15 17:17 |            |
| Benzo(a)pyrene                  | ug/kg | ND           | 169             | 12/08/15 17:17 |            |
| Benzo(b)fluoranthene            | ug/kg | ND           | 328             | 12/08/15 17:17 |            |
| Benzo(g,h,i)perylene            | ug/kg | ND           | 328             | 12/08/15 17:17 |            |
| Benzo(k)fluoranthene            | ug/kg | ND           | 328             | 12/08/15 17:17 |            |
| Benzyl alcohol                  | ug/kg | ND           | 656             | 12/08/15 17:17 |            |
| bis(2-Chloroethoxy)methane      | ug/kg | ND           | 328             | 12/08/15 17:17 |            |
| bis(2-Chloroethyl) ether        | ug/kg | ND           | 328             | 12/08/15 17:17 |            |
| bis(2-Ethylhexyl)phthalate      | ug/kg | ND           | 328             | 12/08/15 17:17 |            |
| bis(2chloro1 methylethyl) ether | ug/kg | ND           | 328             | 12/08/15 17:17 |            |
| Butylbenzylphthalate            | ug/kg | ND           | 328             | 12/08/15 17:17 |            |
| Chrysene                        | ug/kg | ND           | 328             | 12/08/15 17:17 |            |
| Di-n-butylphthalate             | ug/kg | ND           | 328             | 12/08/15 17:17 |            |
| Di-n-octylphthalate             | ug/kg | ND           | 328             | 12/08/15 17:17 |            |
| Dibenz(a,h)anthracene           | ug/kg | ND           | 169             | 12/08/15 17:17 |            |

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## QUALITY CONTROL DATA

Project: Hoosier Wood

Pace Project No.: 50133913

METHOD BLANK: 1440035

Matrix: Solid

Associated Lab Samples: 50133913001

| Parameter                  | Units | Blank Result | Reporting Limit | Analyzed       | Qualifiers |
|----------------------------|-------|--------------|-----------------|----------------|------------|
| Dibenzofuran               | ug/kg | ND           | 328             | 12/08/15 17:17 |            |
| Diethylphthalate           | ug/kg | ND           | 328             | 12/08/15 17:17 |            |
| Dimethylphthalate          | ug/kg | ND           | 328             | 12/08/15 17:17 |            |
| Fluoranthene               | ug/kg | ND           | 328             | 12/08/15 17:17 |            |
| Fluorene                   | ug/kg | ND           | 328             | 12/08/15 17:17 |            |
| Hexachloro-1,3-butadiene   | ug/kg | ND           | 328             | 12/08/15 17:17 |            |
| Hexachlorobenzene          | ug/kg | ND           | 328             | 12/08/15 17:17 |            |
| Hexachlorocyclopentadiene  | ug/kg | ND           | 328             | 12/08/15 17:17 |            |
| Hexachloroethane           | ug/kg | ND           | 328             | 12/08/15 17:17 |            |
| Indeno(1,2,3-cd)pyrene     | ug/kg | ND           | 328             | 12/08/15 17:17 |            |
| Isophorone                 | ug/kg | ND           | 328             | 12/08/15 17:17 |            |
| N-Nitroso-di-n-propylamine | ug/kg | ND           | 328             | 12/08/15 17:17 |            |
| N-Nitrosodiphenylamine     | ug/kg | ND           | 328             | 12/08/15 17:17 |            |
| Naphthalene                | ug/kg | ND           | 328             | 12/08/15 17:17 |            |
| Nitrobenzene               | ug/kg | ND           | 328             | 12/08/15 17:17 |            |
| Pentachlorophenol          | ug/kg | ND           | 1590            | 12/08/15 17:17 |            |
| Phenanthrene               | ug/kg | ND           | 328             | 12/08/15 17:17 |            |
| Phenol                     | ug/kg | ND           | 328             | 12/08/15 17:17 |            |
| Pyrene                     | ug/kg | ND           | 328             | 12/08/15 17:17 |            |
| 2,4,6-Tribromophenol (S)   | %     | 67           | 16-122          | 12/08/15 17:17 |            |
| 2-Fluorobiphenyl (S)       | %     | 54           | 31-94           | 12/08/15 17:17 |            |
| 2-Fluorophenol (S)         | %     | 65           | 24-104          | 12/08/15 17:17 |            |
| Nitrobenzene-d5 (S)        | %     | 54           | 28-101          | 12/08/15 17:17 |            |
| p-Terphenyl-d14 (S)        | %     | 84           | 26-110          | 12/08/15 17:17 |            |
| Phenol-d5 (S)              | %     | 71           | 28-101          | 12/08/15 17:17 |            |

LABORATORY CONTROL SAMPLE: 1440036

| Parameter               | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-------------------------|-------|-------------|------------|-----------|--------------|------------|
| 2,4-Dinitrotoluene      | ug/kg | 3300        | 960        | 29        | 39-103       | L0         |
| 2-Chlorophenol          | ug/kg | 3300        | 2310       | 70        | 38-96        |            |
| 2-Methylnaphthalene     | ug/kg | 3300        | 2670       | 81        | 36-94        |            |
| 4-Chloro-3-methylphenol | ug/kg | 3300        | 2810       | 85        | 38-104       |            |
| 4-Nitrophenol           | ug/kg | 3300        | 1430J      | 43        | 34-104       |            |
| Acenaphthene            | ug/kg | 3300        | 2270       | 69        | 43-99        |            |
| Acenaphthylene          | ug/kg | 3300        | 2260       | 68        | 42-101       |            |
| Anthracene              | ug/kg | 3300        | 2520       | 76        | 46-107       |            |
| Benzo(a)anthracene      | ug/kg | 3300        | 2380       | 72        | 45-108       |            |
| Benzo(a)pyrene          | ug/kg | 3300        | 2330       | 70        | 47-113       |            |
| Benzo(b)fluoranthene    | ug/kg | 3300        | 2410       | 73        | 41-110       |            |
| Benzo(g,h,i)perylene    | ug/kg | 3300        | 1850       | 56        | 42-112       |            |
| Benzo(k)fluoranthene    | ug/kg | 3300        | 2220       | 67        | 44-107       |            |
| Chrysene                | ug/kg | 3300        | 2370       | 72        | 43-103       |            |
| Dibenz(a,h)anthracene   | ug/kg | 3300        | 1910       | 58        | 43-110       |            |

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Hoosier Wood

Pace Project No.: 50133913

LABORATORY CONTROL SAMPLE: 1440036

| Parameter                  | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|----------------------------|-------|-------------|------------|-----------|--------------|------------|
| Fluoranthene               | ug/kg | 3300        | 2570       | 78        | 45-105       |            |
| Fluorene                   | ug/kg | 3300        | 2350       | 71        | 42-103       |            |
| Indeno(1,2,3-cd)pyrene     | ug/kg | 3300        | 1950       | 59        | 43-111       |            |
| N-Nitroso-di-n-propylamine | ug/kg | 3300        | 2230       | 67        | 37-96        |            |
| Naphthalene                | ug/kg | 3300        | 2150       | 65        | 44-100       |            |
| Pentachlorophenol          | ug/kg | 3300        | 2170       | 66        | 21-103       |            |
| Phenanthrene               | ug/kg | 3300        | 2470       | 75        | 44-104       |            |
| Phenol                     | ug/kg | 3300        | 2380       | 72        | 37-101       |            |
| Pyrene                     | ug/kg | 3300        | 2790       | 85        | 44-105       |            |
| 2,4,6-Tribromophenol (S)   | %     |             |            | 77        | 16-122       |            |
| 2-Fluorobiphenyl (S)       | %     |             |            | 60        | 31-94        |            |
| 2-Fluorophenol (S)         | %     |             |            | 70        | 24-104       |            |
| Nitrobenzene-d5 (S)        | %     |             |            | 57        | 28-101       |            |
| p-Terphenyl-d14 (S)        | %     |             |            | 87        | 26-110       |            |
| Phenol-d5 (S)              | %     |             |            | 77        | 28-101       |            |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1440037 1440038

| Parameter                  | Units | 50133913001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual   |
|----------------------------|-------|--------------------|----------------|-----------------|-----------|------------|----------|-----------|--------------|-----|---------|--------|
| 2,4-Dinitrotoluene         | ug/kg | ND                 | 3640           | 3640            | 642       | 205J       | 18       | 6         | 15-102       |     | 20      | M0, R1 |
| 2-Chlorophenol             | ug/kg | ND                 | 3640           | 3640            | 1950      | 1220       | 54       | 33        | 22-96        | 46  | 20      | R1     |
| 2-Methylnaphthalene        | ug/kg | ND                 | 3640           | 3640            | 2290      | 1340       | 61       | 34        | 14-107       | 53  | 20      | R1     |
| 4-Chloro-3-methylphenol    | ug/kg | ND                 | 3640           | 3640            | 2240      | 1290       | 61       | 35        | 21-105       | 54  | 20      | R1     |
| 4-Nitrophenol              | ug/kg | ND                 | 3640           | 3640            | 1470J     | 449J       | 40       | 12        | 12-107       |     | 20      |        |
| Acenaphthene               | ug/kg | ND                 | 3640           | 3640            | 2100      | 1220       | 58       | 33        | 19-110       | 53  | 20      | R1     |
| Acenaphthylene             | ug/kg | ND                 | 3640           | 3640            | 2250      | 1150       | 62       | 32        | 21-106       | 64  | 20      | R1     |
| Anthracene                 | ug/kg | ND                 | 3640           | 3640            | 2250      | 1240       | 62       | 34        | 22-112       | 58  | 20      | R1     |
| Benzo(a)anthracene         | ug/kg | ND                 | 3640           | 3640            | 2120      | 1230       | 57       | 32        | 13-116       | 53  | 20      | R1     |
| Benzo(a)pyrene             | ug/kg | ND                 | 3640           | 3640            | 2120      | 1220       | 57       | 32        | 11-119       | 54  | 20      | R1     |
| Benzo(b)fluoranthene       | ug/kg | ND                 | 3640           | 3640            | 2020      | 1090       | 54       | 29        | 10-126       | 60  | 20      | R1     |
| Benzo(g,h,i)perylene       | ug/kg | ND                 | 3640           | 3640            | 1810      | 1050       | 48       | 27        | 10-114       | 53  | 20      | R1     |
| Benzo(k)fluoranthene       | ug/kg | ND                 | 3640           | 3640            | 2130      | 1200       | 57       | 31        | 10-117       | 56  | 20      | R1     |
| Chrysene                   | ug/kg | ND                 | 3640           | 3640            | 2100      | 1170       | 55       | 30        | 14-107       | 57  | 20      | R1     |
| Dibenz(a,h)anthracene      | ug/kg | ND                 | 3640           | 3640            | 1860      | 977        | 51       | 27        | 10-119       | 62  | 20      | R1     |
| Fluoranthene               | ug/kg | ND                 | 3640           | 3640            | 2020      | 1250       | 53       | 32        | 17-110       | 47  | 20      | R1     |
| Fluorene                   | ug/kg | ND                 | 3640           | 3640            | 2270      | 1250       | 62       | 34        | 17-115       | 58  | 20      | R1     |
| Indeno(1,2,3-cd)pyrene     | ug/kg | ND                 | 3640           | 3640            | 1850      | 963        | 50       | 25        | 11-111       | 63  | 20      | R1     |
| N-Nitroso-di-n-propylamine | ug/kg | ND                 | 3640           | 3640            | 1940      | 1050       | 53       | 29        | 18-103       | 59  | 20      | R1     |
| Naphthalene                | ug/kg | ND                 | 3640           | 3640            | 2010      | 964        | 55       | 26        | 16-102       | 70  | 20      | R1     |
| Pentachlorophenol          | ug/kg | 43800              | 3640           | 3640            | 20500J    | 7600J      | -640     | -995      | 10-100       |     | 20      | M0     |
| Phenanthrene               | ug/kg | ND                 | 3640           | 3640            | 2370      | 1390       | 61       | 34        | 10-128       | 53  | 20      | R1     |
| Phenol                     | ug/kg | ND                 | 3640           | 3640            | 2100      | 1200       | 58       | 33        | 22-97        | 55  | 20      | R1     |
| Pyrene                     | ug/kg | ND                 | 3640           | 3640            | 2440      | 1460       | 63       | 36        | 10-123       | 50  | 20      | R1     |
| 2,4,6-Tribromophenol (S)   | %     |                    |                |                 |           |            | 60       | 34        | 16-122       |     |         |        |

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## QUALITY CONTROL DATA

Project: Hoosier Wood

Pace Project No.: 50133913

| MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1440037 1440038 |       |                       |                      |                       |              |               |             |              |                 |            |     |      |
|--|-------|-----------------------|----------------------|-----------------------|--------------|---------------|-------------|--------------|-----------------|------------|-----|------|
| Parameter  | Units | 50133913001<br>Result | MS<br>Spike<br>Conc. | MSD<br>Spike<br>Conc. | MS<br>Result | MSD<br>Result | MS<br>% Rec | MSD<br>% Rec | % Rec<br>Limits | Max<br>RPD | RPD | Qual |
| 2-Fluorobiphenyl (S)                                   | %.    |                       |                      |                       |              |               | 51          | 27           | 31-94           |            |     | S0   |
| 2-Fluorophenol (S)                                     | %.    |                       |                      |                       |              |               | 56          | 31           | 24-104          |            |     |      |
| Nitrobenzene-d5 (S)                                    | %.    |                       |                      |                       |              |               | 37          | 12           | 26-98           |            |     | S0   |
| p-Terphenyl-d14 (S)                                    | %.    |                       |                      |                       |              |               | 61          | 30           | 26-110          |            |     |      |
| Phenol-d5 (S)  | %.    |                       |                      |                       |              |               | 58          | 33           | 28-101          |            |     |      |

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## QUALITY CONTROL DATA

Project: Hoosier Wood

Pace Project No.: 50133913

QC Batch: OEXT/41792

Analysis Method: EPA 8270

QC Batch Method: EPA 3510

Analysis Description: 8270 TCLP MSSV

Associated Lab Samples: 50133913001

METHOD BLANK: 1441369

Matrix: Water

Associated Lab Samples: 50133913001

| Parameter                    | Units | Blank Result | Reporting Limit | Analyzed       | Qualifiers |
|------------------------------|-------|--------------|-----------------|----------------|------------|
| 1,4-Dichlorobenzene          | ug/L  | ND           | 100             | 12/09/15 18:41 |            |
| 2,4,5-Trichlorophenol        | ug/L  | ND           | 500             | 12/09/15 18:41 |            |
| 2,4,6-Trichlorophenol        | ug/L  | ND           | 100             | 12/09/15 18:41 |            |
| 2,4-Dinitrotoluene           | ug/L  | ND           | 100             | 12/09/15 18:41 |            |
| 2-Methylphenol(o-Cresol)     | ug/L  | ND           | 100             | 12/09/15 18:41 |            |
| 3&4-Methylphenol(m&p Cresol) | ug/L  | ND           | 200             | 12/09/15 18:41 |            |
| Hexachloro-1,3-butadiene     | ug/L  | ND           | 100             | 12/09/15 18:41 |            |
| Hexachlorobenzene            | ug/L  | ND           | 100             | 12/09/15 18:41 |            |
| Hexachloroethane             | ug/L  | ND           | 100             | 12/09/15 18:41 |            |
| Nitrobenzene                 | ug/L  | ND           | 100             | 12/09/15 18:41 |            |
| Pentachlorophenol            | ug/L  | ND           | 500             | 12/09/15 18:41 |            |
| Pyridine                     | ug/L  | ND           | 100             | 12/09/15 18:41 |            |
| 2,4,6-Tribromophenol (S)     | %     | 64           | 31-161          | 12/09/15 18:41 |            |
| 2-Fluorobiphenyl (S)         | %     | 57           | 31-118          | 12/09/15 18:41 |            |
| 2-Fluorophenol (S)           | %     | 21           | 10-67           | 12/09/15 18:41 |            |
| Nitrobenzene-d5 (S)          | %     | 62           | 29-126          | 12/09/15 18:41 |            |
| p-Terphenyl-d14 (S)          | %     | 66           | 28-129          | 12/09/15 18:41 |            |
| Phenol-d5 (S)                | %     | 12           | 10-47           | 12/09/15 18:41 |            |

LABORATORY CONTROL SAMPLE: 1441370

| Parameter                    | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|------------------------------|-------|-------------|------------|-----------|--------------|------------|
| 1,4-Dichlorobenzene          | ug/L  | 1000        | 550        | 55        | 29-102       |            |
| 2,4,5-Trichlorophenol        | ug/L  | 1000        | 566        | 57        | 42-125       |            |
| 2,4,6-Trichlorophenol        | ug/L  | 1000        | 601        | 60        | 44-122       |            |
| 2,4-Dinitrotoluene           | ug/L  | 1000        | 630        | 63        | 36-126       |            |
| 2-Methylphenol(o-Cresol)     | ug/L  | 1000        | 373        | 37        | 30-85        |            |
| 3&4-Methylphenol(m&p Cresol) | ug/L  | 2000        | 648        | 32        | 22-76        |            |
| Hexachloro-1,3-butadiene     | ug/L  | 1000        | 568        | 57        | 26-102       |            |
| Hexachlorobenzene            | ug/L  | 1000        | 418        | 42        | 36-115       |            |
| Hexachloroethane             | ug/L  | 1000        | 443        | 44        | 24-101       |            |
| Nitrobenzene                 | ug/L  | 1000        | 639        | 64        | 36-114       |            |
| Pentachlorophenol            | ug/L  | 1000        | 581        | 58        | 31-125       |            |
| Pyridine                     | ug/L  | 1000        | ND         | 10        | 10-41        |            |
| 2,4,6-Tribromophenol (S)     | %     |             |            | 66        | 31-161       |            |
| 2-Fluorobiphenyl (S)         | %     |             |            | 59        | 31-118       |            |
| 2-Fluorophenol (S)           | %     |             |            | 26        | 10-67        |            |
| Nitrobenzene-d5 (S)          | %     |             |            | 64        | 29-126       |            |
| p-Terphenyl-d14 (S)          | %     |             |            | 59        | 28-129       |            |
| Phenol-d5 (S)                | %     |             |            | 15        | 10-47        |            |

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## QUALITY CONTROL DATA

Project: Hoosier Wood

Pace Project No.: 50133913

| MATRIX SPIKE SAMPLE:         |       | 1441371               |                |              |             |                 |            |
|------------------------------|-------|-----------------------|----------------|--------------|-------------|-----------------|------------|
| Parameter                    | Units | 50133913001<br>Result | Spike<br>Conc. | MS<br>Result | MS<br>% Rec | % Rec<br>Limits | Qualifiers |
| 1,4-Dichlorobenzene          | ug/L  | ND                    | 1000           | 250          | 25          | 39-91           | M0         |
| 2,4,5-Trichlorophenol        | ug/L  | ND                    | 1000           | 266J         | 27          | 41-125          | M0         |
| 2,4,6-Trichlorophenol        | ug/L  | ND                    | 1000           | 272          | 27          | 42-120          | M0         |
| 2,4-Dinitrotoluene           | ug/L  | ND                    | 1000           | 281          | 28          | 34-124          | M0         |
| 2-Methylphenol(o-Cresol)     | ug/L  | ND                    | 1000           | 153          | 15          | 21-101          | M0         |
| 3&4-Methylphenol(m&p Cresol) | ug/L  | ND                    | 2000           | 251          | 13          | 10-104          |            |
| Hexachloro-1,3-butadiene     | ug/L  | ND                    | 1000           | 248          | 25          | 36-97           | M0         |
| Hexachlorobenzene            | ug/L  | ND                    | 1000           | 208          | 21          | 37-115          | M0         |
| Hexachloroethane             | ug/L  | ND                    | 1000           | 185          | 18          | 31-93           | M0         |
| Nitrobenzene                 | ug/L  | ND                    | 1000           | 286          | 29          | 42-114          | M0         |
| Pentachlorophenol            | ug/L  | ND                    | 1000           | 443J         | 11          | 30-128          | M0         |
| Pyridine                     | ug/L  | ND                    | 1000           | 130          | 13          | 10-46           |            |
| 2,4,6-Tribromophenol (S)     | %     |                       |                |              | 30          | 31-161          | S0         |
| 2-Fluorobiphenyl (S)         | %     |                       |                |              | 25          | 31-118          | S0         |
| 2-Fluorophenol (S)           | %     |                       |                |              | 9           | 10-67           | S0         |
| Nitrobenzene-d5 (S)          | %     |                       |                |              | 28          | 29-126          | S0         |
| p-Terphenyl-d14 (S)          | %     |                       |                |              | 28          | 28-129          |            |
| Phenol-d5 (S)                | %     |                       |                |              | 6           | 10-47           | S0         |

| MATRIX SPIKE SAMPLE:         |       | 1441372               |                |              |             |                 |            |
|------------------------------|-------|-----------------------|----------------|--------------|-------------|-----------------|------------|
| Parameter                    | Units | 50133917001<br>Result | Spike<br>Conc. | MS<br>Result | MS<br>% Rec | % Rec<br>Limits | Qualifiers |
| 1,4-Dichlorobenzene          | ug/L  | ND                    | 1000           | 421          | 42          | 39-91           |            |
| 2,4,5-Trichlorophenol        | ug/L  | ND                    | 1000           | 446J         | 45          | 41-125          |            |
| 2,4,6-Trichlorophenol        | ug/L  | ND                    | 1000           | 435          | 43          | 42-120          |            |
| 2,4-Dinitrotoluene           | ug/L  | ND                    | 1000           | 490          | 49          | 34-124          |            |
| 2-Methylphenol(o-Cresol)     | ug/L  | ND                    | 1000           | 264          | 26          | 21-101          |            |
| 3&4-Methylphenol(m&p Cresol) | ug/L  | ND                    | 2000           | 435          | 22          | 10-104          |            |
| Hexachloro-1,3-butadiene     | ug/L  | ND                    | 1000           | 411          | 41          | 36-97           |            |
| Hexachlorobenzene            | ug/L  | ND                    | 1000           | 364          | 36          | 37-115          | M0         |
| Hexachloroethane             | ug/L  | ND                    | 1000           | 310          | 31          | 31-93           |            |
| Nitrobenzene                 | ug/L  | ND                    | 1000           | 472          | 47          | 42-114          |            |
| Pentachlorophenol            | ug/L  | ND                    | 1000           | 498J         | 50          | 30-128          |            |
| Pyridine                     | ug/L  | ND                    | 1000           | 168          | 17          | 10-46           |            |
| 2,4,6-Tribromophenol (S)     | %     |                       |                |              | 48          | 31-161          |            |
| 2-Fluorobiphenyl (S)         | %     |                       |                |              | 44          | 31-118          |            |
| 2-Fluorophenol (S)           | %     |                       |                |              | 17          | 10-67           |            |
| Nitrobenzene-d5 (S)          | %     |                       |                |              | 50          | 29-126          |            |
| p-Terphenyl-d14 (S)          | %     |                       |                |              | 55          | 28-129          |            |
| Phenol-d5 (S)                | %     |                       |                |              | 10          | 10-47           |            |

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## QUALITY CONTROL DATA

Project: Hoosier Wood

Pace Project No.: 50133913

| MATRIX SPIKE SAMPLE:         |       | 1441373               |                |              |             |                 |            |
|------------------------------|-------|-----------------------|----------------|--------------|-------------|-----------------|------------|
| Parameter                    | Units | 50134006001<br>Result | Spike<br>Conc. | MS<br>Result | MS<br>% Rec | % Rec<br>Limits | Qualifiers |
| 1,4-Dichlorobenzene          | ug/L  | 132                   | 1000           | 543          | 41          | 39-91           |            |
| 2,4,5-Trichlorophenol        | ug/L  | ND                    | 1000           | 442J         | 44          | 41-125          |            |
| 2,4,6-Trichlorophenol        | ug/L  | ND                    | 1000           | 435          | 43          | 42-120          |            |
| 2,4-Dinitrotoluene           | ug/L  | ND                    | 1000           | 487          | 49          | 34-124          |            |
| 2-Methylphenol(o-Cresol)     | ug/L  | ND                    | 1000           | 240          | 24          | 21-101          |            |
| 3&4-Methylphenol(m&p Cresol) | ug/L  | ND                    | 2000           | 411          | 21          | 10-104          |            |
| Hexachloro-1,3-butadiene     | ug/L  | ND                    | 1000           | 443          | 44          | 36-97           |            |
| Hexachlorobenzene            | ug/L  | ND                    | 1000           | 351          | 35          | 37-115          | M0         |
| Hexachloroethane             | ug/L  | ND                    | 1000           | 326          | 33          | 31-93           |            |
| Nitrobenzene                 | ug/L  | ND                    | 1000           | 477          | 48          | 42-114          |            |
| Pentachlorophenol            | ug/L  | ND                    | 1000           | 485J         | 48          | 30-128          |            |
| Pyridine                     | ug/L  | ND                    | 1000           | 136          | 14          | 10-46           |            |
| 2,4,6-Tribromophenol (S)     | %.    |                       |                |              | 52          | 31-161          |            |
| 2-Fluorobiphenyl (S)         | %.    |                       |                |              | 44          | 31-118          |            |
| 2-Fluorophenol (S)           | %.    |                       |                |              | 16          | 10-67           |            |
| Nitrobenzene-d5 (S)          | %.    |                       |                |              | 49          | 29-126          |            |
| p-Terphenyl-d14 (S)          | %.    |                       |                |              | 45          | 28-129          |            |
| Phenol-d5 (S)                | %.    |                       |                |              | 8           | 10-47           | S0         |

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## QUALITY CONTROL DATA

Project: Hoosier Wood

Pace Project No.: 50133913

QC Batch: PMST/11460

Analysis Method: ASTM D2974-87

QC Batch Method: ASTM D2974-87

Analysis Description: Dry Weight/Percent Moisture

Associated Lab Samples: 50133913001

SAMPLE DUPLICATE: 1439979

| Parameter        | Units | 50133729001<br>Result | Dup<br>Result | RPD | Max<br>RPD | Qualifiers |
|------------------|-------|-----------------------|---------------|-----|------------|------------|
| Percent Moisture | %     | 22.0                  | 21.1          | 4   | 5          |            |

SAMPLE DUPLICATE: 1439980

| Parameter        | Units | 50133729003<br>Result | Dup<br>Result | RPD | Max<br>RPD | Qualifiers |
|------------------|-------|-----------------------|---------------|-----|------------|------------|
| Percent Moisture | %     | 16.4                  | 15.7          | 5   | 5          |            |

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## QUALIFIERS

Project: Hoosier Wood

Pace Project No.: 50133913

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### ANALYTE QUALIFIERS

L0 Analyte recovery in the laboratory control sample (LCS) was outside QC limits.

M0 Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

R1 RPD value was outside control limits.

S0 Surrogate recovery outside laboratory control limits.

S1 Surrogate recovery outside laboratory control limits (confirmed by re-analysis).

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Hoosier Wood

Pace Project No.: 50133913

| Lab ID      | Sample ID              | QC Batch Method | QC Batch   | Analytical Method | Analytical Batch |
|-------------|------------------------|-----------------|------------|-------------------|------------------|
| 50133913001 | HVP-FTB treated-151207 | EPA 3010        | MPRP/19037 | EPA 6010          | ICP/23124        |
| 50133913001 | HVP-FTB treated-151207 | EPA 7470        | MERP/7219  | EPA 7470          | MERC/8520        |
| 50133913001 | HVP-FTB treated-151207 | EPA 3546        | OEXT/41768 | EPA 8270          | MSSV/19742       |
| 50133913001 | HVP-FTB treated-151207 | EPA 3510        | OEXT/41792 | EPA 8270          | MSSV/19764       |
| 50133913001 | HVP-FTB treated-151207 | EPA 8260        | MSV/84633  |                   |                  |
| 50133913001 | HVP-FTB treated-151207 | EPA 8260        | MSV/84722  |                   |                  |
| 50133913001 | HVP-FTB treated-151207 | ASTM D2974-87   | PMST/11460 |                   |                  |

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50133913

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**Sample Condition Upon Receipt**

Face Analytical

Client Name: ENVIRONMENTAL RESTORATION

Project # 50/339/13

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☒ Client ☐ Commercial ☐ Pace Other \_\_\_\_\_

Tracking #: \_\_\_\_\_

Custody Seal on Cooler/Box Present: ☐ yes ☒ no      Seals intact: ☐ yes ☒ no

Date/Time 5035A kits placed in freezer

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ None ☐ Other \_\_\_\_\_

Thermometer 1 2 3 4 5 6 A B C D E F

Type of Ice: Wet Blue None ☒ Samples on ice, cooling process has begun

Cooler Temperature 07/10-7

Ice Visible In Sample Containers: ☐ yes ☒ no

(Initial/Corrected)  
Temp should be above freezing to 6°C

Comments:

Date and initials of person examining contents: 12-15 JLF

|   |  |   |
|---|--|---|
| Are samples from West Virginia?   | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                              | 1.  |
| Document any containers out of temp.  |  |   |
| Chain of Custody Present:   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 2.  |
| Chain of Custody Filled Out:  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 3.  |
| Chain of Custody Relinquished:  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 4.  |
| Sampler Name & Signature on COC:  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 5.  |
| Short Hold Time Analysis (<72hr):   | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | 6.  |
| Rush Turn Around Time Requested:  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 7. <u>2 DAY TAT</u>                             |
| Containers Intact:  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 8.  |
| Sample Labels match COC:<br>-Includes date/time/ID/Analysis   | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | 9. <u>No time on sample labels</u>              |
| All containers needing acid/base pres. have been checked?<br>exceptions: VOA, coliform, TOC, O&G                                | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | 10. (Circle) HNO3    H2SO4    NaOH    NaOH/ZnAc |
| All containers needing preservation are found to be in compliance with EPA recommendation (<2, >9, >12) unless otherwise noted. |  |   |
| Residual Chlorine Check (SVOC 625 Pest/PCB 608)   |  | 11. Present      Absent                         |
| Residual Chlorine Check (Total/Amenable/Free Cyanide)   |  | 12. Present      Absent                         |
| Headspace in VOA Vials (>6mm):  | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | 13.   |
| Headspace Wisconsin Sulfide   | <input type="checkbox"/> Yes <input type="checkbox"/> No   | 14.   |
| Trip Blank Present:   | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | 15.   |
| Trip Blank Custody Seals Present  | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A |   |
| <b>Project Manager Review</b>   |  |   |
| Samples Arrived within Hold Time:   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 15.   |
| Sufficient Volume:  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 16.   |
| Correct Containers Used:  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 17.   |

Client Notification/ Resolution:

Field Data Required?      Y / N

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments/ Resolution:

Project Manager Review:

SJB

Date: 12/15

# Sample Container Count

CLIENT: ENVIRONMENTAL RESTORATION

COC PAGE 1 of 1

COC ID#                     

Project # 20133913

| Sample Line Item | DG9H | AG1U | WG1U | AG0U | R | 4/6 | BP2N | BP2U | BP2S | BP3N | BP3U | BP3S | AG3S | AG1H | BP3C | BP1U | SP5T | AG2U | pH <2 | pH >9 | pH >12 |
|------------------|------|------|------|------|---|-----|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|--------|
| 1                |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 2                |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 3                |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 4                |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 5                |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 6                |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 7                |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 8                |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 9                |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 10               |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 11               |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 12               |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |

## Container Codes

|      |                                 |      |                                    |      |                              |      |                               |
|------|---------------------------------|------|------------------------------------|------|------------------------------|------|-------------------------------|
| DG9H | 40mL HCL amber vial             | AG0U | 100mL unpreserved amber glass      | BP1N | 1 liter HNO3 plastic         | DG9P | 40mL TSP amber vial           |
| AG1U | 1 liter unpreserved amber glass | AG1H | 1 liter HCL amber glass            | BP1S | 1 liter H2SO4 plastic        | DG9S | 40mL H2SO4 amber vial         |
| WG1U | 4oz clear soil jar              | AG1S | 1 liter H2SO4 amber glass          | BP1U | 1 liter unpreserved plastic  | DG9T | 40mL Na Thio amber vial       |
| R    | terra core kit                  | AG1T | 1 liter Na Thiosulfate amber glass | BP1Z | 1 liter NaOH, Zn, Ac         | DG9U | 40mL unpreserved amber vial   |
| BP2N | 500mL HNO3 plastic              | AG2N | 500mL HNO3 amber glass             | BP2A | 500mL NaOH, Asc Acid plastic | SP5T | 120mL Coliform Na Thiosulfate |
| BP2U | 500mL unpreserved plastic       | AG2S | 500mL H2SO4 amber glass            | BP2O | 500mL NaOH plastic           | JGFU | 4oz unpreserved amber wide    |
| BP2S | 500mL H2SO4 plastic             | AG2U | 500mL unpreserved amber glass      | BP2Z | 500mL NaOH, Zn Ac            | U    | Summa Can                     |
| BP3N | 250mL HNO3 plastic              | AG3U | 250mL unpreserved amber glass      | AF   | Air Filter                   | VG9H | 40mL HCL clear vial           |
| BP3U | 250mL unpreserved plastic       | BG1H | 1 liter HCL clear glass            | BP3C | 250mL NaOH plastic           | VG9T | 40mL Na Thio. clear vial      |
| BP3S | 250mL H2SO4 plastic             | BG1S | 1 liter H2SO4 clear glass          | BP3Z | 250mL NaOH, Zn Ac plastic    | VG9U | 40mL unpreserved clear vial   |
| AG3S | 250mL H2SO4 glass amber         | BG1T | 1 liter Na Thiosulfate clear glass | C    | Air Cassettes                | VSG  | Headspace septa vial & HCL    |
| AG1S | 1 liter H2SO4 amber glass       | BG1U | 1 liter unpreserved glass          | DG9B | 40mL Na Bisulfate amber vial | WGFX | 4oz wide jar w/hexane wipe    |
| BP1U | 1 liter unpreserved plastic     | BP1A | 1 liter NaOH, Asc Acid plastic     | DG9M | 40mL MeOH clear vial         | ZPLC | Ziploc Bag                    |

December 09, 2015

Mr. John Behrens  
Environmental Restoration  
1666 Fabick Drive  
Fenton, MO 63026

RE: Project: Hoosier Wood Preservers  
Pace Project No.: 50133797

Dear Mr. Behrens:

Enclosed are the analytical results for sample(s) received by the laboratory on December 04, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Kenneth Hunt  
kenneth.hunt@pacelabs.com  
Project Manager

Enclosures



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Hoosier Wood Preservers

Pace Project No.: 50133797

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### Indiana Certification IDs

7726 Moller Road, Indianapolis, IN 46268

Illinois Certification #: 200074

Indiana Certification #: C-49-06

Kansas Certification #: E-10177

Kentucky UST Certification #: 0042

Kentucky WW Certification #: 98019

Louisiana Certification #: 04076

Ohio VAP Certification #: CL-0065

Oklahoma Certification #: 2014-148

Texas Certification #: T104704355-15-9

West Virginia Certification #: 330

Wisconsin Certification #: 999788130

USDA Soil Permit #: P330-10-00128

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## SAMPLE SUMMARY

Project: Hoosier Wood Preservers

Pace Project No.: 50133797

| Lab ID      | Sample ID           | Matrix      | Date Collected | Date Received  |
|-------------|---------------------|-------------|----------------|----------------|
| 50133797001 | HWP-FTBvault-151203 | Non Aqueous | 12/03/15 15:05 | 12/04/15 13:45 |
| 50133797002 | HWP-FTBCONC-151204  | Solid       | 12/04/15 13:10 | 12/04/15 13:45 |

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## SAMPLE ANALYTE COUNT

Project: Hoosier Wood Preservers

Pace Project No.: 50133797

| Lab ID      | Sample ID           | Method        | Analysts | Analytes Reported |
|-------------|---------------------|---------------|----------|-------------------|
| 50133797001 | HWP-FTBvault-151203 | EPA 8082      | CPH      | 8                 |
| 50133797002 | HWP-FTBCONC-151204  | EPA 6010      | JKP      | 7                 |
|             |                     | EPA 7470      | JGJ      | 1                 |
|             |                     | EPA 8270      | TBP      | 66                |
|             |                     | EPA 8270      | TBP      | 18                |
|             |                     | EPA 8260      | TMW      | 73                |
|             |                     | EPA 8260      | JLZ      | 13                |
|             |                     | ASTM D2974-87 | MLS      | 1                 |

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## ANALYTICAL RESULTS

Project: Hoosier Wood Preservers

Pace Project No.: 50133797

**Sample:** HWP-FTBvault-151203    **Lab ID:** 50133797001    Collected: 12/03/15 15:05    Received: 12/04/15 13:45    Matrix: Non Aqueous Liquid

**Results reported on a "wet-weight" basis**

| Parameters   | Results | Units | Report Limit | DF | Prepared       | Analyzed       | CAS No.    | Qual |
|--|---------|-------|--------------|----|----------------|----------------|------------|------|
| <b>8082 GCS PCB</b>                                      |         |       |              |    |                |                |            |      |
| Analytical Method: EPA 8082 Preparation Method: EPA 3580 |         |       |              |    |                |                |            |      |
| PCB-1016 (Aroclor 1016)                                  | ND      | mg/kg | 1.0          | 1  | 12/07/15 17:00 | 12/08/15 13:30 | 12674-11-2 |      |
| PCB-1221 (Aroclor 1221)                                  | ND      | mg/kg | 1.0          | 1  | 12/07/15 17:00 | 12/08/15 13:30 | 11104-28-2 |      |
| PCB-1232 (Aroclor 1232)                                  | ND      | mg/kg | 1.0          | 1  | 12/07/15 17:00 | 12/08/15 13:30 | 11141-16-5 |      |
| PCB-1242 (Aroclor 1242)                                  | ND      | mg/kg | 1.0          | 1  | 12/07/15 17:00 | 12/08/15 13:30 | 53469-21-9 |      |
| PCB-1248 (Aroclor 1248)                                  | ND      | mg/kg | 1.0          | 1  | 12/07/15 17:00 | 12/08/15 13:30 | 12672-29-6 |      |
| PCB-1254 (Aroclor 1254)                                  | ND      | mg/kg | 1.0          | 1  | 12/07/15 17:00 | 12/08/15 13:30 | 11097-69-1 |      |
| PCB-1260 (Aroclor 1260)                                  | ND      | mg/kg | 1.0          | 1  | 12/07/15 17:00 | 12/08/15 13:30 | 11096-82-5 |      |
| <b>Surrogates</b>  |         |       |              |    |                |                |            |      |
| Tetrachloro-m-xylene (S)                                 | 71      | %.    | 31-138       | 1  | 12/07/15 17:00 | 12/08/15 13:30 | 877-09-8   |      |

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## ANALYTICAL RESULTS

Project: Hoosier Wood Preservers

Pace Project No.: 50133797

Sample: HWP-FTBCONC-151204 Lab ID: 50133797002 Collected: 12/04/15 13:10 Received: 12/04/15 13:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

| Parameters   | Results | Units | Report Limit | DF | Prepared       | Analyzed       | CAS No.   | Qual |
|--|---------|-------|--------------|----|----------------|----------------|-----------|------|
| <b>6010 MET ICP, TCLP</b>                                |         |       |              |    |                |                |           |      |
| Analytical Method: EPA 6010 Preparation Method: EPA 3010 |         |       |              |    |                |                |           |      |
| Leachate Method/Date: EPA 1311; 12/04/15 18:10           |         |       |              |    |                |                |           |      |
| Arsenic  | 0.27    | mg/L  | 0.10         | 1  | 12/07/15 16:09 | 12/08/15 02:15 | 7440-38-2 |      |
| Barium   | ND      | mg/L  | 5.0          | 1  | 12/07/15 16:09 | 12/08/15 02:15 | 7440-39-3 |      |
| Cadmium  | ND      | mg/L  | 0.050        | 1  | 12/07/15 16:09 | 12/08/15 02:15 | 7440-43-9 |      |
| Chromium   | 30.8    | mg/L  | 0.10         | 1  | 12/07/15 16:09 | 12/08/15 02:15 | 7440-47-3 |      |
| Lead   | ND      | mg/L  | 0.10         | 1  | 12/07/15 16:09 | 12/08/15 02:15 | 7439-92-1 |      |
| Selenium   | ND      | mg/L  | 0.10         | 1  | 12/07/15 16:09 | 12/08/15 02:15 | 7782-49-2 |      |
| Silver   | ND      | mg/L  | 0.10         | 1  | 12/07/15 16:09 | 12/08/15 02:15 | 7440-22-4 |      |
| <b>7470 Mercury, TCLP</b>                                |         |       |              |    |                |                |           |      |
| Analytical Method: EPA 7470 Preparation Method: EPA 7470 |         |       |              |    |                |                |           |      |
| Leachate Method/Date: EPA 1311; 12/04/15 18:10           |         |       |              |    |                |                |           |      |
| Mercury  | ND      | mg/L  | 0.0020       | 1  | 12/08/15 11:06 | 12/08/15 18:47 | 7439-97-6 |      |
| <b>8270 MSSV SHORT LIST MICROWAVE</b>                    |         |       |              |    |                |                |           |      |
| Analytical Method: EPA 8270 Preparation Method: EPA 3546 |         |       |              |    |                |                |           |      |
| Acenaphthene   | ND      | ug/kg | 1010         | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 83-32-9   |      |
| Acenaphthylene   | ND      | ug/kg | 1010         | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 208-96-8  |      |
| Anthracene   | ND      | ug/kg | 1010         | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 120-12-7  |      |
| Benzo(a)anthracene                                       | ND      | ug/kg | 1010         | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 56-55-3   |      |
| Benzo(a)pyrene   | ND      | ug/kg | 520          | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 50-32-8   |      |
| Benzo(b)fluoranthene                                     | ND      | ug/kg | 1010         | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 205-99-2  |      |
| Benzo(g,h,i)perylene                                     | ND      | ug/kg | 1010         | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 191-24-2  |      |
| Benzo(k)fluoranthene                                     | ND      | ug/kg | 1010         | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 207-08-9  |      |
| Benzyl alcohol   | ND      | ug/kg | 2020         | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 100-51-6  |      |
| 4-Bromophenylphenyl ether                                | ND      | ug/kg | 1010         | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 101-55-3  |      |
| Butylbenzylphthalate                                     | ND      | ug/kg | 1010         | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 85-68-7   |      |
| 4-Chloro-3-methylphenol                                  | ND      | ug/kg | 2020         | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 59-50-7   |      |
| 4-Chloroaniline  | ND      | ug/kg | 2020         | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 106-47-8  |      |
| bis(2-Chloroethoxy)methane                               | ND      | ug/kg | 1010         | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 111-91-1  |      |
| bis(2-Chloroethyl) ether                                 | ND      | ug/kg | 1010         | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 111-44-4  |      |
| bis(2chloro1methylethyl) ether                           | ND      | ug/kg | 1010         | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 108-60-1  |      |
| 2-Chloronaphthalene                                      | ND      | ug/kg | 1010         | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 91-58-7   |      |
| 2-Chlorophenol   | ND      | ug/kg | 1010         | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 95-57-8   |      |
| 4-Chlorophenylphenyl ether                               | ND      | ug/kg | 1010         | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 7005-72-3 |      |
| Chrysene   | ND      | ug/kg | 1010         | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 218-01-9  |      |
| Dibenz(a,h)anthracene                                    | ND      | ug/kg | 520          | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 53-70-3   |      |
| Dibenzofuran   | ND      | ug/kg | 1010         | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 132-64-9  |      |
| 3,3'-Dichlorobenzidine                                   | ND      | ug/kg | 2020         | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 91-94-1   |      |
| 2,4-Dichlorophenol                                       | ND      | ug/kg | 1010         | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 120-83-2  |      |
| Diethylphthalate   | ND      | ug/kg | 1010         | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 84-66-2   |      |
| 2,4-Dimethylphenol                                       | ND      | ug/kg | 1010         | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 105-67-9  |      |
| Dimethylphthalate  | ND      | ug/kg | 1010         | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 131-11-3  |      |
| Di-n-butylphthalate                                      | ND      | ug/kg | 1010         | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 84-74-2   |      |
| 4,6-Dinitro-2-methylphenol                               | ND      | ug/kg | 4900         | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 534-52-1  |      |
| 2,4-Dinitrophenol  | ND      | ug/kg | 4900         | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 51-28-5   |      |
| 2,4-Dinitrotoluene                                       | ND      | ug/kg | 1010         | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 121-14-2  |      |
| 2,6-Dinitrotoluene                                       | ND      | ug/kg | 1010         | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 606-20-2  |      |

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Hoosier Wood Preservers

Pace Project No.: 50133797

Sample: HWP-FTBCONC-151204 Lab ID: 50133797002 Collected: 12/04/15 13:10 Received: 12/04/15 13:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

| Parameters   | Results | Units | Report Limit | DF | Prepared       | Analyzed       | CAS No.   | Qual |
|--|---------|-------|--------------|----|----------------|----------------|-----------|------|
| <b>8270 MSSV SHORT LIST MICROWAVE</b> Analytical Method: EPA 8270 Preparation Method: EPA 3546 |         |       |              |    |                |                |           |      |
| Di-n-octylphthalate  | ND      | ug/kg | 1010         | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 117-84-0  |      |
| bis(2-Ethylhexyl)phthalate   | ND      | ug/kg | 1010         | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 117-81-7  |      |
| Fluoranthene   | ND      | ug/kg | 1010         | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 206-44-0  |      |
| Fluorene   | ND      | ug/kg | 1010         | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 86-73-7   |      |
| Hexachloro-1,3-butadiene   | ND      | ug/kg | 1010         | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 87-68-3   |      |
| Hexachlorobenzene  | ND      | ug/kg | 1010         | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 118-74-1  |      |
| Hexachlorocyclopentadiene  | ND      | ug/kg | 1010         | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 77-47-4   |      |
| Hexachloroethane   | ND      | ug/kg | 1010         | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 67-72-1   |      |
| Indeno(1,2,3-cd)pyrene   | ND      | ug/kg | 1010         | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 193-39-5  |      |
| Isophorone   | ND      | ug/kg | 1010         | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 78-59-1   |      |
| 2-Methylnaphthalene  | ND      | ug/kg | 1010         | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 91-57-6   |      |
| 2-Methylphenol(o-Cresol)   | ND      | ug/kg | 1010         | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 95-48-7   |      |
| 3&4-Methylphenol(m&p Cresol)   | ND      | ug/kg | 2020         | 1  | 12/07/15 11:25 | 12/08/15 13:52 |           |      |
| Naphthalene  | ND      | ug/kg | 1010         | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 91-20-3   |      |
| 2-Nitroaniline   | ND      | ug/kg | 4900         | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 88-74-4   |      |
| 3-Nitroaniline   | ND      | ug/kg | 4900         | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 99-09-2   |      |
| 4-Nitroaniline   | ND      | ug/kg | 4900         | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 100-01-6  |      |
| Nitrobenzene   | ND      | ug/kg | 1010         | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 98-95-3   |      |
| 2-Nitrophenol  | ND      | ug/kg | 1010         | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 88-75-5   |      |
| 4-Nitrophenol  | ND      | ug/kg | 4900         | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 100-02-7  |      |
| N-Nitroso-di-n-propylamine   | ND      | ug/kg | 1010         | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 621-64-7  |      |
| N-Nitrosodiphenylamine   | ND      | ug/kg | 1010         | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 86-30-6   |      |
| Pentachlorophenol  | ND      | ug/kg | 4900         | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 87-86-5   |      |
| Phenanthrene   | ND      | ug/kg | 1010         | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 85-01-8   |      |
| Phenol   | ND      | ug/kg | 1010         | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 108-95-2  |      |
| Pyrene   | ND      | ug/kg | 1010         | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 129-00-0  |      |
| 2,4,5-Trichlorophenol  | ND      | ug/kg | 1010         | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 95-95-4   |      |
| 2,4,6-Trichlorophenol  | ND      | ug/kg | 1010         | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 88-06-2   |      |
| <b>Surrogates</b>  |         |       |              |    |                |                |           |      |
| Nitrobenzene-d5 (S)  | 55      | %.    | 28-101       | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 4165-60-0 |      |
| Phenol-d5 (S)  | 67      | %.    | 28-101       | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 4165-62-2 |      |
| 2-Fluorophenol (S)   | 48      | %.    | 24-104       | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 367-12-4  |      |
| 2,4,6-Tribromophenol (S)   | 6       | %.    | 16-122       | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 118-79-6  | S5   |
| 2-Fluorobiphenyl (S)   | 57      | %.    | 31-94        | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 321-60-8  |      |
| p-Terphenyl-d14 (S)  | 82      | %.    | 26-110       | 1  | 12/07/15 11:25 | 12/08/15 13:52 | 1718-51-0 |      |

### 8270 MSSV TCLP Sep Funnel

Analytical Method: EPA 8270 Preparation Method: EPA 3510

Leachate Method/Date: EPA 1311; 12/04/15 18:10

|                              |    |      |     |   |                |                |          |  |
|------------------------------|----|------|-----|---|----------------|----------------|----------|--|
| 1,4-Dichlorobenzene          | ND | ug/L | 100 | 1 | 12/08/15 14:00 | 12/09/15 11:16 | 106-46-7 |  |
| 2,4-Dinitrotoluene           | ND | ug/L | 100 | 1 | 12/08/15 14:00 | 12/09/15 11:16 | 121-14-2 |  |
| Hexachloro-1,3-butadiene     | ND | ug/L | 100 | 1 | 12/08/15 14:00 | 12/09/15 11:16 | 87-68-3  |  |
| Hexachlorobenzene            | ND | ug/L | 100 | 1 | 12/08/15 14:00 | 12/09/15 11:16 | 118-74-1 |  |
| Hexachloroethane             | ND | ug/L | 100 | 1 | 12/08/15 14:00 | 12/09/15 11:16 | 67-72-1  |  |
| 2-Methylphenol(o-Cresol)     | ND | ug/L | 100 | 1 | 12/08/15 14:00 | 12/09/15 11:16 | 95-48-7  |  |
| 3&4-Methylphenol(m&p Cresol) | ND | ug/L | 200 | 1 | 12/08/15 14:00 | 12/09/15 11:16 |          |  |
| Nitrobenzene                 | ND | ug/L | 100 | 1 | 12/08/15 14:00 | 12/09/15 11:16 | 98-95-3  |  |

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Hoosier Wood Preservers

Pace Project No.: 50133797

Sample: HWP-FTBCONC-151204 Lab ID: 50133797002 Collected: 12/04/15 13:10 Received: 12/04/15 13:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|------------|---------|-------|--------------|----|----------|----------|---------|------|
|------------|---------|-------|--------------|----|----------|----------|---------|------|

### 8270 MSSV TCLP Sep Funnel

Analytical Method: EPA 8270 Preparation Method: EPA 3510

Leachate Method/Date: EPA 1311; 12/04/15 18:10

|                          |    |      |        |   |                |                |           |  |
|--------------------------|----|------|--------|---|----------------|----------------|-----------|--|
| Pentachlorophenol        | ND | ug/L | 500    | 1 | 12/08/15 14:00 | 12/09/15 11:16 | 87-86-5   |  |
| Pyridine                 | ND | ug/L | 100    | 1 | 12/08/15 14:00 | 12/09/15 11:16 | 110-86-1  |  |
| 2,4,5-Trichlorophenol    | ND | ug/L | 500    | 1 | 12/08/15 14:00 | 12/09/15 11:16 | 95-95-4   |  |
| 2,4,6-Trichlorophenol    | ND | ug/L | 100    | 1 | 12/08/15 14:00 | 12/09/15 11:16 | 88-06-2   |  |
| <b>Surrogates</b>        |    |      |        |   |                |                |           |  |
| Nitrobenzene-d5 (S)      | 67 | %.   | 29-126 | 1 | 12/08/15 14:00 | 12/09/15 11:16 | 4165-60-0 |  |
| 2-Fluorobiphenyl (S)     | 59 | %.   | 31-118 | 1 | 12/08/15 14:00 | 12/09/15 11:16 | 321-60-8  |  |
| p-Terphenyl-d14 (S)      | 65 | %.   | 28-129 | 1 | 12/08/15 14:00 | 12/09/15 11:16 | 1718-51-0 |  |
| Phenol-d5 (S)            | 12 | %.   | 10-47  | 1 | 12/08/15 14:00 | 12/09/15 11:16 | 4165-62-2 |  |
| 2-Fluorophenol (S)       | 22 | %.   | 10-67  | 1 | 12/08/15 14:00 | 12/09/15 11:16 | 367-12-4  |  |
| 2,4,6-Tribromophenol (S) | 60 | %.   | 31-161 | 1 | 12/08/15 14:00 | 12/09/15 11:16 | 118-79-6  |  |

### 8260 MSV 5030 Low Level

Analytical Method: EPA 8260

|                             |    |       |      |   |                |          |  |
|-----------------------------|----|-------|------|---|----------------|----------|--|
| Acetone                     | ND | ug/kg | 104  | 1 | 12/08/15 07:10 | 67-64-1  |  |
| Acrolein                    | ND | ug/kg | 104  | 1 | 12/08/15 07:10 | 107-02-8 |  |
| Acrylonitrile               | ND | ug/kg | 104  | 1 | 12/08/15 07:10 | 107-13-1 |  |
| Benzene                     | ND | ug/kg | 5.2  | 1 | 12/08/15 07:10 | 71-43-2  |  |
| Bromobenzene                | ND | ug/kg | 5.2  | 1 | 12/08/15 07:10 | 108-86-1 |  |
| Bromochloromethane          | ND | ug/kg | 5.2  | 1 | 12/08/15 07:10 | 74-97-5  |  |
| Bromodichloromethane        | ND | ug/kg | 5.2  | 1 | 12/08/15 07:10 | 75-27-4  |  |
| Bromoform                   | ND | ug/kg | 5.2  | 1 | 12/08/15 07:10 | 75-25-2  |  |
| Bromomethane                | ND | ug/kg | 5.2  | 1 | 12/08/15 07:10 | 74-83-9  |  |
| 2-Butanone (MEK)            | ND | ug/kg | 26.0 | 1 | 12/08/15 07:10 | 78-93-3  |  |
| n-Butylbenzene              | ND | ug/kg | 5.2  | 1 | 12/08/15 07:10 | 104-51-8 |  |
| sec-Butylbenzene            | ND | ug/kg | 5.2  | 1 | 12/08/15 07:10 | 135-98-8 |  |
| tert-Butylbenzene           | ND | ug/kg | 5.2  | 1 | 12/08/15 07:10 | 98-06-6  |  |
| Carbon disulfide            | ND | ug/kg | 10.4 | 1 | 12/08/15 07:10 | 75-15-0  |  |
| Carbon tetrachloride        | ND | ug/kg | 5.2  | 1 | 12/08/15 07:10 | 56-23-5  |  |
| Chlorobenzene               | ND | ug/kg | 5.2  | 1 | 12/08/15 07:10 | 108-90-7 |  |
| Chloroethane                | ND | ug/kg | 5.2  | 1 | 12/08/15 07:10 | 75-00-3  |  |
| Chloroform                  | ND | ug/kg | 5.2  | 1 | 12/08/15 07:10 | 67-66-3  |  |
| Chloromethane               | ND | ug/kg | 5.2  | 1 | 12/08/15 07:10 | 74-87-3  |  |
| 2-Chlorotoluene             | ND | ug/kg | 5.2  | 1 | 12/08/15 07:10 | 95-49-8  |  |
| 4-Chlorotoluene             | ND | ug/kg | 5.2  | 1 | 12/08/15 07:10 | 106-43-4 |  |
| Dibromochloromethane        | ND | ug/kg | 5.2  | 1 | 12/08/15 07:10 | 124-48-1 |  |
| 1,2-Dibromoethane (EDB)     | ND | ug/kg | 5.2  | 1 | 12/08/15 07:10 | 106-93-4 |  |
| Dibromomethane              | ND | ug/kg | 5.2  | 1 | 12/08/15 07:10 | 74-95-3  |  |
| 1,2-Dichlorobenzene         | ND | ug/kg | 5.2  | 1 | 12/08/15 07:10 | 95-50-1  |  |
| 1,3-Dichlorobenzene         | ND | ug/kg | 5.2  | 1 | 12/08/15 07:10 | 541-73-1 |  |
| 1,4-Dichlorobenzene         | ND | ug/kg | 5.2  | 1 | 12/08/15 07:10 | 106-46-7 |  |
| trans-1,4-Dichloro-2-butene | ND | ug/kg | 104  | 1 | 12/08/15 07:10 | 110-57-6 |  |
| Dichlorodifluoromethane     | ND | ug/kg | 5.2  | 1 | 12/08/15 07:10 | 75-71-8  |  |
| 1,1-Dichloroethane          | ND | ug/kg | 5.2  | 1 | 12/08/15 07:10 | 75-34-3  |  |
| 1,2-Dichloroethane          | ND | ug/kg | 5.2  | 1 | 12/08/15 07:10 | 107-06-2 |  |
| 1,1-Dichloroethene          | ND | ug/kg | 5.2  | 1 | 12/08/15 07:10 | 75-35-4  |  |

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Hoosier Wood Preservers

Pace Project No.: 50133797

Sample: HWP-FTBCONC-151204 Lab ID: 50133797002 Collected: 12/04/15 13:10 Received: 12/04/15 13:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

| Parameters                     | Results | Units                       | Report Limit | DF | Prepared | Analyzed       | CAS No.    | Qual |
|--------------------------------|---------|-----------------------------|--------------|----|----------|----------------|------------|------|
| <b>8260 MSV 5030 Low Level</b> |         | Analytical Method: EPA 8260 |              |    |          |                |            |      |
| cis-1,2-Dichloroethene         | ND      | ug/kg                       | 5.2          | 1  |          | 12/08/15 07:10 | 156-59-2   |      |
| trans-1,2-Dichloroethene       | ND      | ug/kg                       | 5.2          | 1  |          | 12/08/15 07:10 | 156-60-5   |      |
| 1,2-Dichloropropane            | ND      | ug/kg                       | 5.2          | 1  |          | 12/08/15 07:10 | 78-87-5    |      |
| 1,3-Dichloropropane            | ND      | ug/kg                       | 5.2          | 1  |          | 12/08/15 07:10 | 142-28-9   |      |
| 2,2-Dichloropropane            | ND      | ug/kg                       | 5.2          | 1  |          | 12/08/15 07:10 | 594-20-7   |      |
| 1,1-Dichloropropene            | ND      | ug/kg                       | 5.2          | 1  |          | 12/08/15 07:10 | 563-58-6   |      |
| cis-1,3-Dichloropropene        | ND      | ug/kg                       | 5.2          | 1  |          | 12/08/15 07:10 | 10061-01-5 |      |
| trans-1,3-Dichloropropene      | ND      | ug/kg                       | 5.2          | 1  |          | 12/08/15 07:10 | 10061-02-6 |      |
| Ethylbenzene                   | ND      | ug/kg                       | 5.2          | 1  |          | 12/08/15 07:10 | 100-41-4   |      |
| Ethyl methacrylate             | ND      | ug/kg                       | 104          | 1  |          | 12/08/15 07:10 | 97-63-2    |      |
| Hexachloro-1,3-butadiene       | ND      | ug/kg                       | 5.2          | 1  |          | 12/08/15 07:10 | 87-68-3    |      |
| n-Hexane                       | ND      | ug/kg                       | 5.2          | 1  |          | 12/08/15 07:10 | 110-54-3   |      |
| 2-Hexanone                     | ND      | ug/kg                       | 104          | 1  |          | 12/08/15 07:10 | 591-78-6   |      |
| Iodomethane                    | ND      | ug/kg                       | 104          | 1  |          | 12/08/15 07:10 | 74-88-4    |      |
| Isopropylbenzene (Cumene)      | ND      | ug/kg                       | 5.2          | 1  |          | 12/08/15 07:10 | 98-82-8    |      |
| p-Isopropyltoluene             | ND      | ug/kg                       | 5.2          | 1  |          | 12/08/15 07:10 | 99-87-6    |      |
| Methylene Chloride             | ND      | ug/kg                       | 20.8         | 1  |          | 12/08/15 07:10 | 75-09-2    |      |
| 4-Methyl-2-pentanone (MIBK)    | ND      | ug/kg                       | 26.0         | 1  |          | 12/08/15 07:10 | 108-10-1   |      |
| Methyl-tert-butyl ether        | ND      | ug/kg                       | 5.2          | 1  |          | 12/08/15 07:10 | 1634-04-4  |      |
| Naphthalene                    | ND      | ug/kg                       | 5.2          | 1  |          | 12/08/15 07:10 | 91-20-3    |      |
| n-Propylbenzene                | ND      | ug/kg                       | 5.2          | 1  |          | 12/08/15 07:10 | 103-65-1   |      |
| Styrene                        | ND      | ug/kg                       | 5.2          | 1  |          | 12/08/15 07:10 | 100-42-5   |      |
| 1,1,1,2-Tetrachloroethane      | ND      | ug/kg                       | 5.2          | 1  |          | 12/08/15 07:10 | 630-20-6   |      |
| 1,1,2,2-Tetrachloroethane      | ND      | ug/kg                       | 5.2          | 1  |          | 12/08/15 07:10 | 79-34-5    |      |
| Tetrachloroethene              | ND      | ug/kg                       | 5.2          | 1  |          | 12/08/15 07:10 | 127-18-4   |      |
| Toluene                        | ND      | ug/kg                       | 5.2          | 1  |          | 12/08/15 07:10 | 108-88-3   |      |
| 1,2,3-Trichlorobenzene         | ND      | ug/kg                       | 5.2          | 1  |          | 12/08/15 07:10 | 87-61-6    |      |
| 1,2,4-Trichlorobenzene         | ND      | ug/kg                       | 5.2          | 1  |          | 12/08/15 07:10 | 120-82-1   |      |
| 1,1,1-Trichloroethane          | ND      | ug/kg                       | 5.2          | 1  |          | 12/08/15 07:10 | 71-55-6    |      |
| 1,1,2-Trichloroethane          | ND      | ug/kg                       | 5.2          | 1  |          | 12/08/15 07:10 | 79-00-5    |      |
| Trichloroethene                | ND      | ug/kg                       | 5.2          | 1  |          | 12/08/15 07:10 | 79-01-6    |      |
| Trichlorofluoromethane         | ND      | ug/kg                       | 5.2          | 1  |          | 12/08/15 07:10 | 75-69-4    |      |
| 1,2,3-Trichloropropane         | ND      | ug/kg                       | 5.2          | 1  |          | 12/08/15 07:10 | 96-18-4    |      |
| 1,2,4-Trimethylbenzene         | ND      | ug/kg                       | 5.2          | 1  |          | 12/08/15 07:10 | 95-63-6    |      |
| 1,3,5-Trimethylbenzene         | ND      | ug/kg                       | 5.2          | 1  |          | 12/08/15 07:10 | 108-67-8   |      |
| Vinyl acetate                  | ND      | ug/kg                       | 104          | 1  |          | 12/08/15 07:10 | 108-05-4   |      |
| Vinyl chloride                 | ND      | ug/kg                       | 5.2          | 1  |          | 12/08/15 07:10 | 75-01-4    |      |
| Xylene (Total)                 | ND      | ug/kg                       | 10.4         | 1  |          | 12/08/15 07:10 | 1330-20-7  |      |
| <b>Surrogates</b>              |         |                             |              |    |          |                |            |      |
| Dibromofluoromethane (S)       | 75      | %.                          | 85-118       | 1  |          | 12/08/15 07:10 | 1868-53-7  | S2   |
| Toluene-d8 (S)                 | 101     | %.                          | 71-128       | 1  |          | 12/08/15 07:10 | 2037-26-5  |      |
| 4-Bromofluorobenzene (S)       | 99      | %.                          | 56-144       | 1  |          | 12/08/15 07:10 | 460-00-4   |      |

### 8260 MSV TCLP

Analytical Method: EPA 8260 Leachate Method/Date: EPA 1311; 12/04/15 18:10

|                  |    |      |      |   |  |                |         |  |
|------------------|----|------|------|---|--|----------------|---------|--|
| Benzene          | ND | ug/L | 50.0 | 1 |  | 12/08/15 13:56 | 71-43-2 |  |
| 2-Butanone (MEK) | ND | ug/L | 1000 | 1 |  | 12/08/15 13:56 | 78-93-3 |  |

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## ANALYTICAL RESULTS

Project: Hoosier Wood Preservers

Pace Project No.: 50133797

**Sample:** HWP-FTBCONC-151204 **Lab ID:** 50133797002 **Collected:** 12/04/15 13:10 **Received:** 12/04/15 13:45 **Matrix:** Solid

*Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.*

| Parameters  | Results | Units | Report Limit | DF | Prepared | Analyzed       | CAS No.   | Qual |
|---|---------|-------|--------------|----|----------|----------------|-----------|------|
| <b>8260 MSV TCLP</b> Analytical Method: EPA 8260 Leachate Method/Date: EPA 1311; 12/04/15 18:10 |         |       |              |    |          |                |           |      |
| Carbon tetrachloride  | ND      | ug/L  | 50.0         | 1  |          | 12/08/15 13:56 | 56-23-5   |      |
| Chlorobenzene   | ND      | ug/L  | 50.0         | 1  |          | 12/08/15 13:56 | 108-90-7  |      |
| Chloroform  | ND      | ug/L  | 50.0         | 1  |          | 12/08/15 13:56 | 67-66-3   |      |
| 1,2-Dichloroethane  | ND      | ug/L  | 50.0         | 1  |          | 12/08/15 13:56 | 107-06-2  |      |
| 1,1-Dichloroethene  | ND      | ug/L  | 50.0         | 1  |          | 12/08/15 13:56 | 75-35-4   |      |
| Tetrachloroethene   | ND      | ug/L  | 50.0         | 1  |          | 12/08/15 13:56 | 127-18-4  |      |
| Trichloroethene   | ND      | ug/L  | 50.0         | 1  |          | 12/08/15 13:56 | 79-01-6   |      |
| Vinyl chloride  | ND      | ug/L  | 20.0         | 1  |          | 12/08/15 13:56 | 75-01-4   |      |
| <b>Surrogates</b>   |         |       |              |    |          |                |           |      |
| Toluene-d8 (S)  | 101     | %.    | 81-110       | 1  |          | 12/08/15 13:56 | 2037-26-5 |      |
| 4-Bromofluorobenzene (S)  | 96      | %.    | 80-114       | 1  |          | 12/08/15 13:56 | 460-00-4  |      |
| Dibromofluoromethane (S)  | 100     | %.    | 79-116       | 1  |          | 12/08/15 13:56 | 1868-53-7 |      |
| <b>Percent Moisture</b> Analytical Method: ASTM D2974-87  |         |       |              |    |          |                |           |      |
| Percent Moisture  | 3.9     | %     | 0.10         | 1  |          | 12/07/15 06:52 |           |      |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50133797

QC Batch: GCSV/17764

Analysis Method: EPA 8082

QC Batch Method: EPA 3580

Analysis Description: 8082 GCS PCB Oil

Associated Lab Samples: 50133797001

METHOD BLANK: 1439953

Matrix: Non Aqueous Liquid

Associated Lab Samples: 50133797001

| Parameter                | Units | Blank Result | Reporting Limit | Analyzed       | Qualifiers |
|--------------------------|-------|--------------|-----------------|----------------|------------|
| PCB-1016 (Aroclor 1016)  | mg/kg | ND           | 1.0             | 12/08/15 13:50 |            |
| PCB-1221 (Aroclor 1221)  | mg/kg | ND           | 1.0             | 12/08/15 13:50 |            |
| PCB-1232 (Aroclor 1232)  | mg/kg | ND           | 1.0             | 12/08/15 13:50 |            |
| PCB-1242 (Aroclor 1242)  | mg/kg | ND           | 1.0             | 12/08/15 13:50 |            |
| PCB-1248 (Aroclor 1248)  | mg/kg | ND           | 1.0             | 12/08/15 13:50 |            |
| PCB-1254 (Aroclor 1254)  | mg/kg | ND           | 1.0             | 12/08/15 13:50 |            |
| PCB-1260 (Aroclor 1260)  | mg/kg | ND           | 1.0             | 12/08/15 13:50 |            |
| Tetrachloro-m-xylene (S) | %.    | 58           | 31-138          | 12/08/15 13:50 |            |

LABORATORY CONTROL SAMPLE: 1439954

| Parameter                | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|--------------------------|-------|-------------|------------|-----------|--------------|------------|
| PCB-1016 (Aroclor 1016)  | mg/kg | 50          | 25.3       | 51        | 36-105       |            |
| PCB-1260 (Aroclor 1260)  | mg/kg | 50          | 24.6       | 49        | 32-120       |            |
| Tetrachloro-m-xylene (S) | %.    |             |            | 60        | 31-138       |            |

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50133797

QC Batch: MERP/7208

Analysis Method: EPA 7470

QC Batch Method: EPA 7470

Analysis Description: 7470 Mercury TCLP

Associated Lab Samples: 50133797002

METHOD BLANK: 1439687

Matrix: Water

Associated Lab Samples: 50133797002

| Parameter | Units | Blank Result | Reporting Limit | Analyzed       | Qualifiers |
|-----------|-------|--------------|-----------------|----------------|------------|
| Mercury   | mg/L  | ND           | 0.0020          | 12/08/15 18:43 |            |

LABORATORY CONTROL SAMPLE: 1439688

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Mercury   | mg/L  | .015        | 0.014      | 96        | 80-120       |            |

MATRIX SPIKE SAMPLE: 1439689

| Parameter | Units | 50133797002 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Mercury   | mg/L  | ND                 | .015        | 0.014     | 96       | 75-125       |            |

MATRIX SPIKE SAMPLE: 1439690

| Parameter | Units | 50133740003 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Mercury   | mg/L  | ND                 | .015        | 0.014     | 93       | 75-125       |            |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50133797

QC Batch: MPRP/19015

Analysis Method: EPA 6010

QC Batch Method: EPA 3010

Analysis Description: 6010 MET TCLP

Associated Lab Samples: 50133797002

METHOD BLANK: 1439713

Matrix: Water

Associated Lab Samples: 50133797002

| Parameter | Units | Blank Result | Reporting Limit | Analyzed       | Qualifiers |
|-----------|-------|--------------|-----------------|----------------|------------|
| Arsenic   | mg/L  | ND           | 0.10            | 12/08/15 02:11 |            |
| Barium    | mg/L  | ND           | 5.0             | 12/08/15 02:11 |            |
| Cadmium   | mg/L  | ND           | 0.050           | 12/08/15 02:11 |            |
| Chromium  | mg/L  | ND           | 0.10            | 12/08/15 02:11 |            |
| Lead      | mg/L  | ND           | 0.10            | 12/08/15 02:11 |            |
| Selenium  | mg/L  | ND           | 0.10            | 12/08/15 02:11 |            |
| Silver    | mg/L  | ND           | 0.10            | 12/08/15 02:11 |            |

LABORATORY CONTROL SAMPLE: 1439714

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Arsenic   | mg/L  | 10          | 10.3       | 103       | 80-120       |            |
| Barium    | mg/L  | 10          | 10.2       | 102       | 80-120       |            |
| Cadmium   | mg/L  | 10          | 10.0       | 100       | 80-120       |            |
| Chromium  | mg/L  | 10          | 10.1       | 101       | 80-120       |            |
| Lead      | mg/L  | 10          | 9.7        | 97        | 80-120       |            |
| Selenium  | mg/L  | 10          | 10.3       | 103       | 80-120       |            |
| Silver    | mg/L  | 5           | 4.8        | 96        | 80-120       |            |

MATRIX SPIKE SAMPLE: 1439715

| Parameter | Units | 50133797002 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Arsenic   | mg/L  | 0.27               | 10          | 10.9      | 106      | 50-150       |            |
| Barium    | mg/L  | ND                 | 10          | 10.5      | 102      | 50-150       |            |
| Cadmium   | mg/L  | ND                 | 10          | 10.2      | 102      | 50-150       |            |
| Chromium  | mg/L  | 30.8               | 10          | 40.8      | 100      | 50-150       |            |
| Lead      | mg/L  | ND                 | 10          | 9.4       | 94       | 50-150       |            |
| Selenium  | mg/L  | ND                 | 10          | 10.5      | 105      | 50-150       |            |
| Silver    | mg/L  | ND                 | 5           | 4.8       | 97       | 50-150       |            |

MATRIX SPIKE SAMPLE: 1439716

| Parameter | Units | 50133740003 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Arsenic   | mg/L  | ND                 | 10          | 10.7      | 107      | 50-150       |            |
| Barium    | mg/L  | ND                 | 10          | 10.8      | 102      | 50-150       |            |
| Cadmium   | mg/L  | ND                 | 10          | 10.2      | 102      | 50-150       |            |
| Chromium  | mg/L  | ND                 | 10          | 10.1      | 101      | 50-150       |            |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50133797

|                      |       |             |       |        |       |        |            |
|----------------------|-------|-------------|-------|--------|-------|--------|------------|
| MATRIX SPIKE SAMPLE: |       | 1439716     |       |        |       |        |            |
|                      |       | 50133740003 | Spike | MS     | MS    | % Rec  |            |
| Parameter            | Units | Result      | Conc. | Result | % Rec | Limits | Qualifiers |
| Lead                 | mg/L  | ND          | 10    | 9.4    | 94    | 50-150 |            |
| Selenium             | mg/L  | ND          | 10    | 10.6   | 106   | 50-150 |            |
| Silver               | mg/L  | ND          | 5     | 4.8    | 96    | 50-150 |            |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50133797

QC Batch: MSV/84567

Analysis Method: EPA 8260

QC Batch Method: EPA 8260

Analysis Description: 8260 MSV 5030 Low

Associated Lab Samples: 50133797002

METHOD BLANK: 1439611

Matrix: Solid

Associated Lab Samples: 50133797002

| Parameter                   | Units | Blank Result | Reporting Limit | Analyzed       | Qualifiers |
|-----------------------------|-------|--------------|-----------------|----------------|------------|
| 1,1,1,2-Tetrachloroethane   | ug/kg | ND           | 5.0             | 12/08/15 01:01 |            |
| 1,1,1-Trichloroethane       | ug/kg | ND           | 5.0             | 12/08/15 01:01 |            |
| 1,1,2,2-Tetrachloroethane   | ug/kg | ND           | 5.0             | 12/08/15 01:01 |            |
| 1,1,2-Trichloroethane       | ug/kg | ND           | 5.0             | 12/08/15 01:01 |            |
| 1,1-Dichloroethane          | ug/kg | ND           | 5.0             | 12/08/15 01:01 |            |
| 1,1-Dichloroethene          | ug/kg | ND           | 5.0             | 12/08/15 01:01 |            |
| 1,1-Dichloropropene         | ug/kg | ND           | 5.0             | 12/08/15 01:01 |            |
| 1,2,3-Trichlorobenzene      | ug/kg | ND           | 5.0             | 12/08/15 01:01 |            |
| 1,2,3-Trichloropropane      | ug/kg | ND           | 5.0             | 12/08/15 01:01 |            |
| 1,2,4-Trichlorobenzene      | ug/kg | ND           | 5.0             | 12/08/15 01:01 |            |
| 1,2,4-Trimethylbenzene      | ug/kg | ND           | 5.0             | 12/08/15 01:01 |            |
| 1,2-Dibromoethane (EDB)     | ug/kg | ND           | 5.0             | 12/08/15 01:01 |            |
| 1,2-Dichlorobenzene         | ug/kg | ND           | 5.0             | 12/08/15 01:01 |            |
| 1,2-Dichloroethane          | ug/kg | ND           | 5.0             | 12/08/15 01:01 |            |
| 1,2-Dichloropropane         | ug/kg | ND           | 5.0             | 12/08/15 01:01 |            |
| 1,3,5-Trimethylbenzene      | ug/kg | ND           | 5.0             | 12/08/15 01:01 |            |
| 1,3-Dichlorobenzene         | ug/kg | ND           | 5.0             | 12/08/15 01:01 |            |
| 1,3-Dichloropropane         | ug/kg | ND           | 5.0             | 12/08/15 01:01 |            |
| 1,4-Dichlorobenzene         | ug/kg | ND           | 5.0             | 12/08/15 01:01 |            |
| 2,2-Dichloropropane         | ug/kg | ND           | 5.0             | 12/08/15 01:01 |            |
| 2-Butanone (MEK)            | ug/kg | ND           | 25.0            | 12/08/15 01:01 |            |
| 2-Chlorotoluene             | ug/kg | ND           | 5.0             | 12/08/15 01:01 |            |
| 2-Hexanone                  | ug/kg | ND           | 100             | 12/08/15 01:01 |            |
| 4-Chlorotoluene             | ug/kg | ND           | 5.0             | 12/08/15 01:01 |            |
| 4-Methyl-2-pentanone (MIBK) | ug/kg | ND           | 25.0            | 12/08/15 01:01 |            |
| Acetone                     | ug/kg | ND           | 100             | 12/08/15 01:01 |            |
| Acrolein                    | ug/kg | ND           | 100             | 12/08/15 01:01 |            |
| Acrylonitrile               | ug/kg | ND           | 100             | 12/08/15 01:01 |            |
| Benzene                     | ug/kg | ND           | 5.0             | 12/08/15 01:01 |            |
| Bromobenzene                | ug/kg | ND           | 5.0             | 12/08/15 01:01 |            |
| Bromochloromethane          | ug/kg | ND           | 5.0             | 12/08/15 01:01 |            |
| Bromodichloromethane        | ug/kg | ND           | 5.0             | 12/08/15 01:01 |            |
| Bromoform                   | ug/kg | ND           | 5.0             | 12/08/15 01:01 |            |
| Bromomethane                | ug/kg | ND           | 5.0             | 12/08/15 01:01 |            |
| Carbon disulfide            | ug/kg | ND           | 10.0            | 12/08/15 01:01 |            |
| Carbon tetrachloride        | ug/kg | ND           | 5.0             | 12/08/15 01:01 |            |
| Chlorobenzene               | ug/kg | ND           | 5.0             | 12/08/15 01:01 |            |
| Chloroethane                | ug/kg | ND           | 5.0             | 12/08/15 01:01 |            |
| Chloroform                  | ug/kg | ND           | 5.0             | 12/08/15 01:01 |            |
| Chloromethane               | ug/kg | ND           | 5.0             | 12/08/15 01:01 |            |
| cis-1,2-Dichloroethene      | ug/kg | ND           | 5.0             | 12/08/15 01:01 |            |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50133797

METHOD BLANK: 1439611

Matrix: Solid

Associated Lab Samples: 50133797002

| Parameter                   | Units | Blank Result | Reporting Limit | Analyzed       | Qualifiers |
|-----------------------------|-------|--------------|-----------------|----------------|------------|
| cis-1,3-Dichloropropene     | ug/kg | ND           | 5.0             | 12/08/15 01:01 |            |
| Dibromochloromethane        | ug/kg | ND           | 5.0             | 12/08/15 01:01 |            |
| Dibromomethane              | ug/kg | ND           | 5.0             | 12/08/15 01:01 |            |
| Dichlorodifluoromethane     | ug/kg | ND           | 5.0             | 12/08/15 01:01 |            |
| Ethyl methacrylate          | ug/kg | ND           | 100             | 12/08/15 01:01 |            |
| Ethylbenzene                | ug/kg | ND           | 5.0             | 12/08/15 01:01 |            |
| Hexachloro-1,3-butadiene    | ug/kg | ND           | 5.0             | 12/08/15 01:01 |            |
| Iodomethane                 | ug/kg | ND           | 100             | 12/08/15 01:01 |            |
| Isopropylbenzene (Cumene)   | ug/kg | ND           | 5.0             | 12/08/15 01:01 |            |
| Methyl-tert-butyl ether     | ug/kg | ND           | 5.0             | 12/08/15 01:01 |            |
| Methylene Chloride          | ug/kg | ND           | 20.0            | 12/08/15 01:01 |            |
| n-Butylbenzene              | ug/kg | ND           | 5.0             | 12/08/15 01:01 |            |
| n-Hexane                    | ug/kg | ND           | 5.0             | 12/08/15 01:01 |            |
| n-Propylbenzene             | ug/kg | ND           | 5.0             | 12/08/15 01:01 |            |
| Naphthalene                 | ug/kg | ND           | 5.0             | 12/08/15 01:01 |            |
| p-Isopropyltoluene          | ug/kg | ND           | 5.0             | 12/08/15 01:01 |            |
| sec-Butylbenzene            | ug/kg | ND           | 5.0             | 12/08/15 01:01 |            |
| Styrene                     | ug/kg | ND           | 5.0             | 12/08/15 01:01 |            |
| tert-Butylbenzene           | ug/kg | ND           | 5.0             | 12/08/15 01:01 |            |
| Tetrachloroethene           | ug/kg | ND           | 5.0             | 12/08/15 01:01 |            |
| Toluene                     | ug/kg | ND           | 5.0             | 12/08/15 01:01 |            |
| trans-1,2-Dichloroethene    | ug/kg | ND           | 5.0             | 12/08/15 01:01 |            |
| trans-1,3-Dichloropropene   | ug/kg | ND           | 5.0             | 12/08/15 01:01 |            |
| trans-1,4-Dichloro-2-butene | ug/kg | ND           | 100             | 12/08/15 01:01 |            |
| Trichloroethene             | ug/kg | ND           | 5.0             | 12/08/15 01:01 |            |
| Trichlorofluoromethane      | ug/kg | ND           | 5.0             | 12/08/15 01:01 |            |
| Vinyl acetate               | ug/kg | ND           | 100             | 12/08/15 01:01 |            |
| Vinyl chloride              | ug/kg | ND           | 5.0             | 12/08/15 01:01 |            |
| Xylene (Total)              | ug/kg | ND           | 10.0            | 12/08/15 01:01 |            |
| 4-Bromofluorobenzene (S)    | %     | 97           | 56-144          | 12/08/15 01:01 |            |
| Dibromofluoromethane (S)    | %     | 102          | 85-118          | 12/08/15 01:01 |            |
| Toluene-d8 (S)              | %     | 100          | 71-128          | 12/08/15 01:01 |            |

LABORATORY CONTROL SAMPLE: 1439612

| Parameter                 | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---------------------------|-------|-------------|------------|-----------|--------------|------------|
| 1,1,1-Trichloroethane     | ug/kg | 50          | 54.7       | 109       | 70-123       |            |
| 1,1,2,2-Tetrachloroethane | ug/kg | 50          | 51.4       | 103       | 65-124       |            |
| 1,1-Dichloroethene        | ug/kg | 50          | 60.9       | 122       | 66-126       |            |
| 1,2,4-Trimethylbenzene    | ug/kg | 50          | 45.3       | 91        | 67-126       |            |
| 1,2-Dichloropropane       | ug/kg | 50          | 53.5       | 107       | 75-118       |            |
| Benzene                   | ug/kg | 50          | 50.7       | 101       | 74-119       |            |
| Chlorobenzene             | ug/kg | 50          | 47.7       | 95        | 77-122       |            |
| Chloroform                | ug/kg | 50          | 50.8       | 102       | 75-124       |            |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50133797

LABORATORY CONTROL SAMPLE: 1439612

| Parameter                 | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---------------------------|-------|-------------|------------|-----------|--------------|------------|
| cis-1,2-Dichloroethene    | ug/kg | 50          | 50.4       | 101       | 72-122       |            |
| Ethylbenzene              | ug/kg | 50          | 48.5       | 97        | 72-123       |            |
| Isopropylbenzene (Cumene) | ug/kg | 50          | 50.1       | 100       | 65-123       |            |
| Methyl-tert-butyl ether   | ug/kg | 50          | 51.0       | 102       | 68-120       |            |
| Naphthalene               | ug/kg | 50          | 46.4       | 93        | 67-131       |            |
| Tetrachloroethene         | ug/kg | 50          | 47.5       | 95        | 72-126       |            |
| Toluene                   | ug/kg | 50          | 48.4       | 97        | 71-121       |            |
| trans-1,2-Dichloroethene  | ug/kg | 50          | 52.4       | 105       | 69-123       |            |
| Trichloroethene           | ug/kg | 50          | 55.0       | 110       | 74-123       |            |
| Vinyl chloride            | ug/kg | 50          | 65.3       | 131       | 55-128 L3    |            |
| Xylene (Total)            | ug/kg | 150         | 151        | 101       | 66-124       |            |
| 4-Bromofluorobenzene (S)  | %.    |             |            | 105       | 56-144       |            |
| Dibromofluoromethane (S)  | %.    |             |            | 103       | 85-118       |            |
| Toluene-d8 (S)            | %.    |             |            | 103       | 71-128       |            |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1439613 1439614

| Parameter                 | Units | 50133391001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---------------------------|-------|--------------------|----------------|-----------------|-----------|------------|----------|-----------|--------------|-----|---------|------|
| 1,1,1-Trichloroethane     | ug/kg | ND                 | 56.9           | 56.9            | 59.3      | 64.2       | 104      | 113       | 26-143       | 8   | 20      |      |
| 1,1,2,2-Tetrachloroethane | ug/kg | ND                 | 56.9           | 56.9            | 53.4      | 53.9       | 94       | 95        | 10-156       | 1   | 20      |      |
| 1,1-Dichloroethene        | ug/kg | ND                 | 56.9           | 56.9            | 68.7      | 75.2       | 121      | 132       | 31-146       | 9   | 20      |      |
| 1,2,4-Trimethylbenzene    | ug/kg | ND                 | 56.9           | 56.9            | 49.2      | 51.3       | 86       | 90        | 10-139       | 4   | 20      |      |
| 1,2-Dichloropropane       | ug/kg | ND                 | 56.9           | 56.9            | 56.3      | 60.1       | 99       | 106       | 29-135       | 7   | 20      |      |
| Benzene                   | ug/kg | ND                 | 56.9           | 56.9            | 55.5      | 56.5       | 98       | 99        | 27-140       | 2   | 20      |      |
| Chlorobenzene             | ug/kg | ND                 | 56.9           | 56.9            | 51.2      | 52.4       | 90       | 92        | 10-136       | 2   | 20      |      |
| Chloroform                | ug/kg | ND                 | 56.9           | 56.9            | 56.1      | 59.2       | 98       | 104       | 36-138       | 5   | 20      |      |
| cis-1,2-Dichloroethene    | ug/kg | ND                 | 56.9           | 56.9            | 57.2      | 62.6       | 100      | 110       | 29-136       | 9   | 20      |      |
| Ethylbenzene              | ug/kg | ND                 | 56.9           | 56.9            | 54.2      | 55.8       | 95       | 98        | 10-144       | 3   | 20      |      |
| Isopropylbenzene (Cumene) | ug/kg | ND                 | 56.9           | 56.9            | 53.8      | 56.6       | 94       | 99        | 10-134       | 5   | 20      |      |
| Methyl-tert-butyl ether   | ug/kg | ND                 | 56.9           | 56.9            | 58.7      | 59.5       | 103      | 105       | 30-147       | 1   | 20      |      |
| Naphthalene               | ug/kg | ND                 | 56.9           | 56.9            | 33.5      | 34.1       | 59       | 60        | 10-130       | 2   | 20      |      |
| Tetrachloroethene         | ug/kg | ND                 | 56.9           | 56.9            | 56.2      | 59.4       | 99       | 104       | 10-153       | 5   | 20      |      |
| Toluene                   | ug/kg | ND                 | 56.9           | 56.9            | 55.3      | 58.2       | 97       | 102       | 10-140       | 5   | 20      |      |
| trans-1,2-Dichloroethene  | ug/kg | ND                 | 56.9           | 56.9            | 60.9      | 65.2       | 107      | 114       | 28-139       | 7   | 20      |      |
| Trichloroethene           | ug/kg | ND                 | 56.9           | 56.9            | 63.1      | 67.2       | 111      | 118       | 17-148       | 6   | 20      |      |
| Vinyl chloride            | ug/kg | ND                 | 56.9           | 56.9            | 73.3      | 80.3       | 129      | 141       | 30-145       | 9   | 20      |      |
| Xylene (Total)            | ug/kg | ND                 | 171            | 171             | 162       | 167        | 95       | 98        | 10-143       | 3   | 20      |      |
| 4-Bromofluorobenzene (S)  | %.    |                    |                |                 |           |            | 98       | 97        | 56-144       |     |         |      |
| Dibromofluoromethane (S)  | %.    |                    |                |                 |           |            | 98       | 102       | 85-118       |     |         |      |
| Toluene-d8 (S)            | %.    |                    |                |                 |           |            | 103      | 103       | 71-128       |     |         |      |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50133797

QC Batch: MSV/84637

Analysis Method: EPA 8260

QC Batch Method: EPA 8260

Analysis Description: 8260 MSV TCLP

Associated Lab Samples: 50133797002

METHOD BLANK: 1440422

Matrix: Water

Associated Lab Samples: 50133797002

| Parameter                | Units | Blank Result | Reporting Limit | Analyzed       | Qualifiers |
|--------------------------|-------|--------------|-----------------|----------------|------------|
| 1,1-Dichloroethene       | ug/L  | ND           | 50.0            | 12/08/15 13:24 |            |
| 1,2-Dichloroethane       | ug/L  | ND           | 50.0            | 12/08/15 13:24 |            |
| 2-Butanone (MEK)         | ug/L  | ND           | 1000            | 12/08/15 13:24 |            |
| Benzene                  | ug/L  | ND           | 50.0            | 12/08/15 13:24 |            |
| Carbon tetrachloride     | ug/L  | ND           | 50.0            | 12/08/15 13:24 |            |
| Chlorobenzene            | ug/L  | ND           | 50.0            | 12/08/15 13:24 |            |
| Chloroform               | ug/L  | ND           | 50.0            | 12/08/15 13:24 |            |
| Tetrachloroethene        | ug/L  | ND           | 50.0            | 12/08/15 13:24 |            |
| Trichloroethene          | ug/L  | ND           | 50.0            | 12/08/15 13:24 |            |
| Vinyl chloride           | ug/L  | ND           | 20.0            | 12/08/15 13:24 |            |
| 4-Bromofluorobenzene (S) | %     | 92           | 80-114          | 12/08/15 13:24 |            |
| Dibromofluoromethane (S) | %     | 99           | 79-116          | 12/08/15 13:24 |            |
| Toluene-d8 (S)           | %     | 100          | 81-110          | 12/08/15 13:24 |            |

LABORATORY CONTROL SAMPLE: 1440423

| Parameter                | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|--------------------------|-------|-------------|------------|-----------|--------------|------------|
| 1,1-Dichloroethene       | ug/L  | 500         | 452        | 90        | 68-127       |            |
| 1,2-Dichloroethane       | ug/L  | 500         | 464        | 93        | 75-128       |            |
| 2-Butanone (MEK)         | ug/L  | 2500        | 2440       | 97        | 58-139       |            |
| Benzene                  | ug/L  | 500         | 480        | 96        | 74-122       |            |
| Carbon tetrachloride     | ug/L  | 500         | 458        | 92        | 56-137       |            |
| Chlorobenzene            | ug/L  | 500         | 497        | 99        | 78-123       |            |
| Chloroform               | ug/L  | 500         | 466        | 93        | 78-126       |            |
| Tetrachloroethene        | ug/L  | 500         | 468        | 94        | 69-130       |            |
| Trichloroethene          | ug/L  | 500         | 494        | 99        | 76-126       |            |
| Vinyl chloride           | ug/L  | 500         | 422        | 84        | 59-126       |            |
| 4-Bromofluorobenzene (S) | %     |             |            | 97        | 80-114       |            |
| Dibromofluoromethane (S) | %     |             |            | 99        | 79-116       |            |
| Toluene-d8 (S)           | %     |             |            | 101       | 81-110       |            |

MATRIX SPIKE SAMPLE: 1440424

| Parameter          | Units | 50133797002 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|--------------------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| 1,1-Dichloroethene | ug/L  | ND                 | 500         | 412       | 82       | 55-145       |            |
| 1,2-Dichloroethane | ug/L  | ND                 | 500         | 432       | 86       | 62-138       |            |
| 2-Butanone (MEK)   | ug/L  | ND                 | 2500        | 2680      | 107      | 37-156       |            |
| Benzene            | ug/L  | ND                 | 500         | 442       | 88       | 62-129       |            |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50133797

| MATRIX SPIKE SAMPLE:     |       | 1440424               |                |              |             |                 |            |
|--------------------------|-------|-----------------------|----------------|--------------|-------------|-----------------|------------|
| Parameter                | Units | 50133797002<br>Result | Spike<br>Conc. | MS<br>Result | MS<br>% Rec | % Rec<br>Limits | Qualifiers |
| Carbon tetrachloride     | ug/L  | ND                    | 500            | 413          | 83          | 46-142          |            |
| Chlorobenzene            | ug/L  | ND                    | 500            | 466          | 93          | 49-136          |            |
| Chloroform               | ug/L  | ND                    | 500            | 421          | 84          | 54-150          |            |
| Tetrachloroethene        | ug/L  | ND                    | 500            | 421          | 84          | 33-151          |            |
| Trichloroethene          | ug/L  | ND                    | 500            | 448          | 90          | 50-143          |            |
| Vinyl chloride           | ug/L  | ND                    | 500            | 404          | 81          | 44-145          |            |
| 4-Bromofluorobenzene (S) | %.    |                       |                |              | 99          | 80-114          |            |
| Dibromofluoromethane (S) | %.    |                       |                |              | 101         | 79-116          |            |
| Toluene-d8 (S)           | %.    |                       |                |              | 103         | 81-110          |            |

| MATRIX SPIKE SAMPLE:     |       | 1440425               |                |              |             |                 |            |
|--------------------------|-------|-----------------------|----------------|--------------|-------------|-----------------|------------|
| Parameter                | Units | 50133778001<br>Result | Spike<br>Conc. | MS<br>Result | MS<br>% Rec | % Rec<br>Limits | Qualifiers |
| 1,1-Dichloroethene       | ug/L  | ND                    | 500            | 461          | 92          | 55-145          |            |
| 1,2-Dichloroethane       | ug/L  | ND                    | 500            | 474          | 95          | 62-138          |            |
| 2-Butanone (MEK)         | ug/L  | ND                    | 2500           | 2460         | 99          | 37-156          |            |
| Benzene                  | ug/L  | ND                    | 500            | 487          | 97          | 62-129          |            |
| Carbon tetrachloride     | ug/L  | ND                    | 500            | 458          | 92          | 46-142          |            |
| Chlorobenzene            | ug/L  | ND                    | 500            | 510          | 102         | 49-136          |            |
| Chloroform               | ug/L  | ND                    | 500            | 465          | 93          | 54-150          |            |
| Tetrachloroethene        | ug/L  | ND                    | 500            | 459          | 92          | 33-151          |            |
| Trichloroethene          | ug/L  | ND                    | 500            | 499          | 100         | 50-143          |            |
| Vinyl chloride           | ug/L  | ND                    | 500            | 444          | 89          | 44-145          |            |
| 4-Bromofluorobenzene (S) | %.    |                       |                |              | 99          | 80-114          |            |
| Dibromofluoromethane (S) | %.    |                       |                |              | 99          | 79-116          |            |
| Toluene-d8 (S)           | %.    |                       |                |              | 101         | 81-110          |            |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50133797

QC Batch: OEXT/41747

Analysis Method: EPA 8270

QC Batch Method: EPA 3546

Analysis Description: 8270 Solid MSSV Microwave Short Spike

Associated Lab Samples: 50133797002

METHOD BLANK: 1439169

Matrix: Solid

Associated Lab Samples: 50133797002

| Parameter                       | Units | Blank Result | Reporting Limit | Analyzed       | Qualifiers |
|---------------------------------|-------|--------------|-----------------|----------------|------------|
| 2,4,5-Trichlorophenol           | ug/kg | ND           | 326             | 12/08/15 11:03 |            |
| 2,4,6-Trichlorophenol           | ug/kg | ND           | 326             | 12/08/15 11:03 |            |
| 2,4-Dichlorophenol              | ug/kg | ND           | 326             | 12/08/15 11:03 |            |
| 2,4-Dimethylphenol              | ug/kg | ND           | 326             | 12/08/15 11:03 |            |
| 2,4-Dinitrophenol               | ug/kg | ND           | 1580            | 12/08/15 11:03 |            |
| 2,4-Dinitrotoluene              | ug/kg | ND           | 326             | 12/08/15 11:03 |            |
| 2,6-Dinitrotoluene              | ug/kg | ND           | 326             | 12/08/15 11:03 |            |
| 2-Chloronaphthalene             | ug/kg | ND           | 326             | 12/08/15 11:03 |            |
| 2-Chlorophenol                  | ug/kg | ND           | 326             | 12/08/15 11:03 |            |
| 2-Methylnaphthalene             | ug/kg | ND           | 326             | 12/08/15 11:03 |            |
| 2-Methylphenol(o-Cresol)        | ug/kg | ND           | 326             | 12/08/15 11:03 |            |
| 2-Nitroaniline                  | ug/kg | ND           | 1580            | 12/08/15 11:03 |            |
| 2-Nitrophenol                   | ug/kg | ND           | 326             | 12/08/15 11:03 |            |
| 3&4-Methylphenol(m&p Cresol)    | ug/kg | ND           | 651             | 12/08/15 11:03 |            |
| 3,3'-Dichlorobenzidine          | ug/kg | ND           | 651             | 12/08/15 11:03 |            |
| 3-Nitroaniline                  | ug/kg | ND           | 1580            | 12/08/15 11:03 |            |
| 4,6-Dinitro-2-methylphenol      | ug/kg | ND           | 1580            | 12/08/15 11:03 |            |
| 4-Bromophenylphenyl ether       | ug/kg | ND           | 326             | 12/08/15 11:03 |            |
| 4-Chloro-3-methylphenol         | ug/kg | ND           | 651             | 12/08/15 11:03 |            |
| 4-Chloroaniline                 | ug/kg | ND           | 651             | 12/08/15 11:03 |            |
| 4-Chlorophenylphenyl ether      | ug/kg | ND           | 326             | 12/08/15 11:03 |            |
| 4-Nitroaniline                  | ug/kg | ND           | 1580            | 12/08/15 11:03 |            |
| 4-Nitrophenol                   | ug/kg | ND           | 1580            | 12/08/15 11:03 |            |
| Acenaphthene                    | ug/kg | ND           | 326             | 12/08/15 11:03 |            |
| Acenaphthylene                  | ug/kg | ND           | 326             | 12/08/15 11:03 |            |
| Anthracene                      | ug/kg | ND           | 326             | 12/08/15 11:03 |            |
| Benzo(a)anthracene              | ug/kg | ND           | 326             | 12/08/15 11:03 |            |
| Benzo(a)pyrene                  | ug/kg | ND           | 168             | 12/08/15 11:03 |            |
| Benzo(b)fluoranthene            | ug/kg | ND           | 326             | 12/08/15 11:03 |            |
| Benzo(g,h,i)perylene            | ug/kg | ND           | 326             | 12/08/15 11:03 |            |
| Benzo(k)fluoranthene            | ug/kg | ND           | 326             | 12/08/15 11:03 |            |
| Benzyl alcohol                  | ug/kg | ND           | 651             | 12/08/15 11:03 |            |
| bis(2-Chloroethoxy)methane      | ug/kg | ND           | 326             | 12/08/15 11:03 |            |
| bis(2-Chloroethyl) ether        | ug/kg | ND           | 326             | 12/08/15 11:03 |            |
| bis(2-Ethylhexyl)phthalate      | ug/kg | ND           | 326             | 12/08/15 11:03 |            |
| bis(2chloro1 methylethyl) ether | ug/kg | ND           | 326             | 12/08/15 11:03 |            |
| Butylbenzylphthalate            | ug/kg | ND           | 326             | 12/08/15 11:03 |            |
| Chrysene                        | ug/kg | ND           | 326             | 12/08/15 11:03 |            |
| Di-n-butylphthalate             | ug/kg | ND           | 326             | 12/08/15 11:03 |            |
| Di-n-octylphthalate             | ug/kg | ND           | 326             | 12/08/15 11:03 |            |
| Dibenz(a,h)anthracene           | ug/kg | ND           | 168             | 12/08/15 11:03 |            |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50133797

METHOD BLANK: 1439169

Matrix: Solid

Associated Lab Samples: 50133797002

| Parameter                  | Units | Blank Result | Reporting Limit | Analyzed       | Qualifiers |
|----------------------------|-------|--------------|-----------------|----------------|------------|
| Dibenzofuran               | ug/kg | ND           | 326             | 12/08/15 11:03 |            |
| Diethylphthalate           | ug/kg | ND           | 326             | 12/08/15 11:03 |            |
| Dimethylphthalate          | ug/kg | ND           | 326             | 12/08/15 11:03 |            |
| Fluoranthene               | ug/kg | ND           | 326             | 12/08/15 11:03 |            |
| Fluorene                   | ug/kg | ND           | 326             | 12/08/15 11:03 |            |
| Hexachloro-1,3-butadiene   | ug/kg | ND           | 326             | 12/08/15 11:03 |            |
| Hexachlorobenzene          | ug/kg | ND           | 326             | 12/08/15 11:03 |            |
| Hexachlorocyclopentadiene  | ug/kg | ND           | 326             | 12/08/15 11:03 |            |
| Hexachloroethane           | ug/kg | ND           | 326             | 12/08/15 11:03 |            |
| Indeno(1,2,3-cd)pyrene     | ug/kg | ND           | 326             | 12/08/15 11:03 |            |
| Isophorone                 | ug/kg | ND           | 326             | 12/08/15 11:03 |            |
| N-Nitroso-di-n-propylamine | ug/kg | ND           | 326             | 12/08/15 11:03 |            |
| N-Nitrosodiphenylamine     | ug/kg | ND           | 326             | 12/08/15 11:03 |            |
| Naphthalene                | ug/kg | ND           | 326             | 12/08/15 11:03 |            |
| Nitrobenzene               | ug/kg | ND           | 326             | 12/08/15 11:03 |            |
| Pentachlorophenol          | ug/kg | ND           | 1580            | 12/08/15 11:03 |            |
| Phenanthrene               | ug/kg | ND           | 326             | 12/08/15 11:03 |            |
| Phenol                     | ug/kg | ND           | 326             | 12/08/15 11:03 |            |
| Pyrene                     | ug/kg | ND           | 326             | 12/08/15 11:03 |            |
| 2,4,6-Tribromophenol (S)   | %     | 61           | 16-122          | 12/08/15 11:03 |            |
| 2-Fluorobiphenyl (S)       | %     | 65           | 31-94           | 12/08/15 11:03 |            |
| 2-Fluorophenol (S)         | %     | 68           | 24-104          | 12/08/15 11:03 |            |
| Nitrobenzene-d5 (S)        | %     | 69           | 28-101          | 12/08/15 11:03 |            |
| p-Terphenyl-d14 (S)        | %     | 82           | 26-110          | 12/08/15 11:03 |            |
| Phenol-d5 (S)              | %     | 67           | 28-101          | 12/08/15 11:03 |            |

LABORATORY CONTROL SAMPLE: 1439170

| Parameter               | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-------------------------|-------|-------------|------------|-----------|--------------|------------|
| 2,4-Dinitrotoluene      | ug/kg | 3310        | 2270       | 69        | 39-103       |            |
| 2-Chlorophenol          | ug/kg | 3310        | 2100       | 63        | 38-96        |            |
| 2-Methylnaphthalene     | ug/kg | 3310        | 2140       | 65        | 36-94        |            |
| 4-Chloro-3-methylphenol | ug/kg | 3310        | 2100       | 63        | 38-104       |            |
| 4-Nitrophenol           | ug/kg | 3310        | 2050       | 62        | 34-104       |            |
| Acenaphthene            | ug/kg | 3310        | 2200       | 66        | 43-99        |            |
| Acenaphthylene          | ug/kg | 3310        | 2160       | 65        | 42-101       |            |
| Anthracene              | ug/kg | 3310        | 2370       | 71        | 46-107       |            |
| Benzo(a)anthracene      | ug/kg | 3310        | 2380       | 72        | 45-108       |            |
| Benzo(a)pyrene          | ug/kg | 3310        | 2550       | 77        | 47-113       |            |
| Benzo(b)fluoranthene    | ug/kg | 3310        | 2460       | 74        | 41-110       |            |
| Benzo(g,h,i)perylene    | ug/kg | 3310        | 2430       | 73        | 42-112       |            |
| Benzo(k)fluoranthene    | ug/kg | 3310        | 2620       | 79        | 44-107       |            |
| Chrysene                | ug/kg | 3310        | 2360       | 71        | 43-103       |            |
| Dibenz(a,h)anthracene   | ug/kg | 3310        | 2420       | 73        | 43-110       |            |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50133797

LABORATORY CONTROL SAMPLE: 1439170

| Parameter                  | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|----------------------------|-------|-------------|------------|-----------|--------------|------------|
| Fluoranthene               | ug/kg | 3310        | 2350       | 71        | 45-105       |            |
| Fluorene                   | ug/kg | 3310        | 2280       | 69        | 42-103       |            |
| Indeno(1,2,3-cd)pyrene     | ug/kg | 3310        | 2450       | 74        | 43-111       |            |
| N-Nitroso-di-n-propylamine | ug/kg | 3310        | 2040       | 62        | 37-96        |            |
| Naphthalene                | ug/kg | 3310        | 1970       | 59        | 44-100       |            |
| Pentachlorophenol          | ug/kg | 3310        | 1990       | 60        | 21-103       |            |
| Phenanthrene               | ug/kg | 3310        | 2440       | 74        | 44-104       |            |
| Phenol                     | ug/kg | 3310        | 2200       | 66        | 37-101       |            |
| Pyrene                     | ug/kg | 3310        | 2340       | 71        | 44-105       |            |
| 2,4,6-Tribromophenol (S)   | %     |             |            | 68        | 16-122       |            |
| 2-Fluorobiphenyl (S)       | %     |             |            | 59        | 31-94        |            |
| 2-Fluorophenol (S)         | %     |             |            | 68        | 24-104       |            |
| Nitrobenzene-d5 (S)        | %     |             |            | 58        | 28-101       |            |
| p-Terphenyl-d14 (S)        | %     |             |            | 76        | 26-110       |            |
| Phenol-d5 (S)              | %     |             |            | 67        | 28-101       |            |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1439178 1439179

| Parameter                  | Units | 50133834001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|----------------------------|-------|--------------------|----------------|-----------------|-----------|------------|----------|-----------|--------------|-----|---------|------|
| 2,4-Dinitrotoluene         | ug/kg | ND                 | 3990           | 3990            | 1850      | 1700       | 46       | 43        | 15-102       | 8   | 20      |      |
| 2-Chlorophenol             | ug/kg | ND                 | 3990           | 3990            | 2400      | 2260       | 60       | 56        | 22-96        | 6   | 20      |      |
| 2-Methylnaphthalene        | ug/kg | ND                 | 3990           | 3990            | 2620      | 2480       | 59       | 55        | 14-107       | 5   | 20      |      |
| 4-Chloro-3-methylphenol    | ug/kg | ND                 | 3990           | 3990            | 2490      | 2380       | 62       | 60        | 21-105       | 5   | 20      |      |
| 4-Nitrophenol              | ug/kg | ND                 | 3990           | 3990            | 2260      | 2390       | 57       | 60        | 12-107       | 5   | 20      |      |
| Acenaphthene               | ug/kg | ND                 | 3990           | 3990            | 2530      | 2430       | 63       | 61        | 19-110       | 4   | 20      |      |
| Acenaphthylene             | ug/kg | ND                 | 3990           | 3990            | 2430      | 2370       | 61       | 59        | 21-106       | 2   | 20      |      |
| Anthracene                 | ug/kg | ND                 | 3990           | 3990            | 2590      | 2460       | 65       | 62        | 22-112       | 5   | 20      |      |
| Benzo(a)anthracene         | ug/kg | ND                 | 3990           | 3990            | 2530      | 2440       | 60       | 58        | 13-116       | 4   | 20      |      |
| Benzo(a)pyrene             | ug/kg | ND                 | 3990           | 3990            | 2740      | 2530       | 65       | 60        | 11-119       | 8   | 20      |      |
| Benzo(b)fluoranthene       | ug/kg | ND                 | 3990           | 3990            | 2630      | 2470       | 61       | 57        | 10-126       | 6   | 20      |      |
| Benzo(g,h,i)perylene       | ug/kg | ND                 | 3990           | 3990            | 2510      | 2330       | 60       | 55        | 10-114       | 7   | 20      |      |
| Benzo(k)fluoranthene       | ug/kg | ND                 | 3990           | 3990            | 3090      | 2730       | 73       | 64        | 10-117       | 12  | 20      |      |
| Chrysene                   | ug/kg | ND                 | 3990           | 3990            | 2600      | 2510       | 61       | 58        | 14-107       | 4   | 20      |      |
| Dibenz(a,h)anthracene      | ug/kg | ND                 | 3990           | 3990            | 2530      | 2380       | 63       | 60        | 10-119       | 6   | 20      |      |
| Fluoranthene               | ug/kg | ND                 | 3990           | 3990            | 2870      | 2620       | 64       | 58        | 17-110       | 9   | 20      |      |
| Fluorene                   | ug/kg | ND                 | 3990           | 3990            | 2640      | 2570       | 66       | 64        | 17-115       | 3   | 20      |      |
| Indeno(1,2,3-cd)pyrene     | ug/kg | ND                 | 3990           | 3990            | 2620      | 2390       | 63       | 57        | 11-111       | 9   | 20      |      |
| N-Nitroso-di-n-propylamine | ug/kg | ND                 | 3990           | 3990            | 2340      | 2130       | 59       | 53        | 18-103       | 9   | 20      |      |
| Naphthalene                | ug/kg | ND                 | 3990           | 3990            | 2150      | 2060       | 52       | 49        | 16-102       | 4   | 20      |      |
| Pentachlorophenol          | ug/kg | ND                 | 3990           | 3990            | 2160      | 2070       | 54       | 52        | 10-100       | 4   | 20      |      |
| Phenanthrene               | ug/kg | ND                 | 3990           | 3990            | 2880      | 2570       | 68       | 60        | 10-128       | 11  | 20      |      |
| Phenol                     | ug/kg | 467                | 3990           | 3990            | 2980      | 2890       | 63       | 61        | 22-97        | 3   | 20      |      |
| Pyrene                     | ug/kg | ND                 | 3990           | 3990            | 2960      | 2770       | 68       | 63        | 10-123       | 7   | 20      |      |
| 2,4,6-Tribromophenol (S)   | %     |                    |                |                 |           |            | 63       | 59        | 16-122       |     |         |      |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50133797

| MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1439178 1439179 |       |                       |                      |                       |              |               |             |              |                 |            |      |
|--|-------|-----------------------|----------------------|-----------------------|--------------|---------------|-------------|--------------|-----------------|------------|------|
| Parameter  | Units | 50133834001<br>Result | MS<br>Spike<br>Conc. | MSD<br>Spike<br>Conc. | MS<br>Result | MSD<br>Result | MS<br>% Rec | MSD<br>% Rec | % Rec<br>Limits | Max<br>RPD | Qual |
| 2-Fluorobiphenyl (S)                                   | %.    |                       |                      |                       |              |               | 54          | 52           | 31-94           |            |      |
| 2-Fluorophenol (S)                                     | %.    |                       |                      |                       |              |               | 62          | 57           | 24-104          |            |      |
| Nitrobenzene-d5 (S)                                    | %.    |                       |                      |                       |              |               | 49          | 45           | 26-98           |            |      |
| p-Terphenyl-d14 (S)                                    | %.    |                       |                      |                       |              |               | 68          | 67           | 26-110          |            |      |
| Phenol-d5 (S)  | %.    |                       |                      |                       |              |               | 66          | 63           | 28-101          |            |      |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50133797

QC Batch: OEXT/41762

Analysis Method: EPA 8270

QC Batch Method: EPA 3510

Analysis Description: 8270 TCLP MSSV

Associated Lab Samples: 50133797002

METHOD BLANK: 1440019

Matrix: Water

Associated Lab Samples: 50133797002

| Parameter                    | Units | Blank Result | Reporting Limit | Analyzed       | Qualifiers |
|------------------------------|-------|--------------|-----------------|----------------|------------|
| 1,4-Dichlorobenzene          | ug/L  | ND           | 100             | 12/09/15 10:38 |            |
| 2,4,5-Trichlorophenol        | ug/L  | ND           | 500             | 12/09/15 10:38 |            |
| 2,4,6-Trichlorophenol        | ug/L  | ND           | 100             | 12/09/15 10:38 |            |
| 2,4-Dinitrotoluene           | ug/L  | ND           | 100             | 12/09/15 10:38 |            |
| 2-Methylphenol(o-Cresol)     | ug/L  | ND           | 100             | 12/09/15 10:38 |            |
| 3&4-Methylphenol(m&p Cresol) | ug/L  | ND           | 200             | 12/09/15 10:38 |            |
| Hexachloro-1,3-butadiene     | ug/L  | ND           | 100             | 12/09/15 10:38 |            |
| Hexachlorobenzene            | ug/L  | ND           | 100             | 12/09/15 10:38 |            |
| Hexachloroethane             | ug/L  | ND           | 100             | 12/09/15 10:38 |            |
| Nitrobenzene                 | ug/L  | ND           | 100             | 12/09/15 10:38 |            |
| Pentachlorophenol            | ug/L  | ND           | 500             | 12/09/15 10:38 |            |
| Pyridine                     | ug/L  | ND           | 100             | 12/09/15 10:38 |            |
| 2,4,6-Tribromophenol (S)     | %     | 56           | 31-161          | 12/09/15 10:38 |            |
| 2-Fluorobiphenyl (S)         | %     | 52           | 31-118          | 12/09/15 10:38 |            |
| 2-Fluorophenol (S)           | %     | 19           | 10-67           | 12/09/15 10:38 |            |
| Nitrobenzene-d5 (S)          | %     | 56           | 29-126          | 12/09/15 10:38 |            |
| p-Terphenyl-d14 (S)          | %     | 71           | 28-129          | 12/09/15 10:38 |            |
| Phenol-d5 (S)                | %     | 10           | 10-47           | 12/09/15 10:38 |            |

LABORATORY CONTROL SAMPLE: 1440020

| Parameter                    | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|------------------------------|-------|-------------|------------|-----------|--------------|------------|
| 1,4-Dichlorobenzene          | ug/L  | 1000        | 505        | 51        | 29-102       |            |
| 2,4,5-Trichlorophenol        | ug/L  | 1000        | 572        | 57        | 42-125       |            |
| 2,4,6-Trichlorophenol        | ug/L  | 1000        | 620        | 62        | 44-122       |            |
| 2,4-Dinitrotoluene           | ug/L  | 1000        | 622        | 62        | 36-126       |            |
| 2-Methylphenol(o-Cresol)     | ug/L  | 1000        | 296        | 30        | 30-85        |            |
| 3&4-Methylphenol(m&p Cresol) | ug/L  | 2000        | 550        | 27        | 22-76        |            |
| Hexachloro-1,3-butadiene     | ug/L  | 1000        | 440        | 44        | 26-102       |            |
| Hexachlorobenzene            | ug/L  | 1000        | 444        | 44        | 36-115       |            |
| Hexachloroethane             | ug/L  | 1000        | 450        | 45        | 24-101       |            |
| Nitrobenzene                 | ug/L  | 1000        | 597        | 60        | 36-114       |            |
| Pentachlorophenol            | ug/L  | 1000        | 518        | 52        | 31-125       |            |
| Pyridine                     | ug/L  | 1000        | 190        | 19        | 10-41        |            |
| 2,4,6-Tribromophenol (S)     | %     |             |            | 64        | 31-161       |            |
| 2-Fluorobiphenyl (S)         | %     |             |            | 57        | 31-118       |            |
| 2-Fluorophenol (S)           | %     |             |            | 20        | 10-67        |            |
| Nitrobenzene-d5 (S)          | %     |             |            | 61        | 29-126       |            |
| p-Terphenyl-d14 (S)          | %     |             |            | 59        | 28-129       |            |
| Phenol-d5 (S)                | %     |             |            | 12        | 10-47        |            |

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50133797

| MATRIX SPIKE SAMPLE:         | 1440021 | 50133797002 | Spike | MS     | MS    | % Rec  |            |
|------------------------------|---------|-------------|-------|--------|-------|--------|------------|
| Parameter                    | Units   | Result      | Conc. | Result | % Rec | Limits | Qualifiers |
| 1,4-Dichlorobenzene          | ug/L    | ND          | 1000  | 540    | 54    | 39-91  |            |
| 2,4,5-Trichlorophenol        | ug/L    | ND          | 1000  | 616    | 62    | 41-125 |            |
| 2,4,6-Trichlorophenol        | ug/L    | ND          | 1000  | 663    | 66    | 42-120 |            |
| 2,4-Dinitrotoluene           | ug/L    | ND          | 1000  | 684    | 68    | 34-124 |            |
| 2-Methylphenol(o-Cresol)     | ug/L    | ND          | 1000  | 353    | 35    | 21-101 |            |
| 3&4-Methylphenol(m&p Cresol) | ug/L    | ND          | 2000  | 633    | 32    | 10-104 |            |
| Hexachloro-1,3-butadiene     | ug/L    | ND          | 1000  | 534    | 53    | 36-97  |            |
| Hexachlorobenzene            | ug/L    | ND          | 1000  | 472    | 47    | 37-115 |            |
| Hexachloroethane             | ug/L    | ND          | 1000  | 487    | 49    | 31-93  |            |
| Nitrobenzene                 | ug/L    | ND          | 1000  | 686    | 69    | 42-114 |            |
| Pentachlorophenol            | ug/L    | ND          | 1000  | 858    | 73    | 30-128 |            |
| Pyridine                     | ug/L    | ND          | 1000  | 272    | 27    | 10-46  |            |
| 2,4,6-Tribromophenol (S)     | %.      |             |       |        | 70    | 31-161 |            |
| 2-Fluorobiphenyl (S)         | %.      |             |       |        | 63    | 31-118 |            |
| 2-Fluorophenol (S)           | %.      |             |       |        | 23    | 10-67  |            |
| Nitrobenzene-d5 (S)          | %.      |             |       |        | 69    | 29-126 |            |
| p-Terphenyl-d14 (S)          | %.      |             |       |        | 69    | 28-129 |            |
| Phenol-d5 (S)                | %.      |             |       |        | 13    | 10-47  |            |

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50133797

QC Batch: PMST/11450

Analysis Method: ASTM D2974-87

QC Batch Method: ASTM D2974-87

Analysis Description: Dry Weight/Percent Moisture

Associated Lab Samples: 50133797002

SAMPLE DUPLICATE: 1439116

| Parameter        | Units | 50133222001<br>Result | Dup<br>Result | RPD | Max<br>RPD | Qualifiers |
|------------------|-------|-----------------------|---------------|-----|------------|------------|
| Percent Moisture | %     | 17.1                  | 18.1          | 6   | 5          | R1         |

SAMPLE DUPLICATE: 1439117

| Parameter        | Units | 50133222004<br>Result | Dup<br>Result | RPD | Max<br>RPD | Qualifiers |
|------------------|-------|-----------------------|---------------|-----|------------|------------|
| Percent Moisture | %     | 19.3                  | 18.9          | 2   | 5          |            |

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## REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: Hoosier Wood Preservers

Pace Project No.: 50133797

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### ANALYTE QUALIFIERS

- |    |   |
|----|---|
| L3 | Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias. |
| R1 | RPD value was outside control limits.   |
| S2 | Surrogate recovery outside laboratory control limits due to matrix interferences (confirmed by similar results from sample re-analysis).                                    |
| S5 | Surrogate recovery outside control limits due to matrix interferences (not confirmed by re-analysis).   |

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Hoosier Wood Preservers

Pace Project No.: 50133797

| Lab ID      | Sample ID           | QC Batch Method | QC Batch   | Analytical Method | Analytical Batch |
|-------------|---------------------|-----------------|------------|-------------------|------------------|
| 50133797001 | HWP-FTBvault-151203 | EPA 3580        | GCSV/17764 | EPA 8082          | GCSV/17773       |
| 50133797002 | HWP-FTBCONC-151204  | EPA 3010        | MPRP/19015 | EPA 6010          | ICP/23075        |
| 50133797002 | HWP-FTBCONC-151204  | EPA 7470        | MERP/7208  | EPA 7470          | MERC/8510        |
| 50133797002 | HWP-FTBCONC-151204  | EPA 3546        | OEXT/41747 | EPA 8270          | MSSV/19734       |
| 50133797002 | HWP-FTBCONC-151204  | EPA 3510        | OEXT/41762 | EPA 8270          | MSSV/19755       |
| 50133797002 | HWP-FTBCONC-151204  | EPA 8260        | MSV/84567  |                   |                  |
| 50133797002 | HWP-FTBCONC-151204  | EPA 8260        | MSV/84637  |                   |                  |
| 50133797002 | HWP-FTBCONC-151204  | ASTM D2974-87   | PMST/11450 |                   |                  |

## REPORT OF LABORATORY ANALYSIS

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# Sample Condition Upon Receipt

Pace Analytical

Client Name: ELS

Project # 50133797

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☒ Client ☐ Commercial ☐ Pace Other \_\_\_\_\_

Tracking #: \_\_\_\_\_

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☒ no

Date/Time 5035A kits placed in freezer

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ None ☐ Other \_\_\_\_\_

Thermometer 1 2 3 4 5 6 A B C D E F

Type of Ice: ☒ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temperature (Initial/Corrected) 0.4/0.4

Ice Visible in Sample Containers: ☐ yes ☒ no

Temp should be above freezing to 6°C

Comments:

Date and initials of person examining contents: BRD: 2/4/15

|   |  |                                       |
|---|--|---------------------------------------|
| Are samples from West Virginia?   | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                              | 1.                                    |
| Document any containers out of temp.  |  |                                       |
| Chain of Custody Present:   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 2.                                    |
| Chain of Custody Filled Out:  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 3.                                    |
| Chain of Custody Relinquished:  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 4.                                    |
| Sampler Name & Signature on COC:  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 5.                                    |
| Short Hold Time Analysis (<72hr):   | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | 6.                                    |
| Rush Turn Around Time Requested:  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 7.                                    |
| Containers Intact:  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 8.                                    |
| Sample Labels match COC:  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 9.                                    |
| -Includes date/time/ID/Analysis   |  |                                       |
| All containers needing acid/base pres. have been checked?   | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | 10 (Circle) HNO3 H2SO4 NaOH NaOH/ZnAc |
| exceptions: VOA, coliform, TOC, O&G   |  |                                       |
| All containers needing preservation are found to be in compliance with EPA recommendation (<2, >9, >12) unless otherwise noted. |  |                                       |
| Residual Chlorine Check (SVOC 625 Pest/PCB 608)   |  | 11. Present Absent                    |
| Residual Chlorine Check (Total/Amenable/Free Cyanide)   |  | 12. Present Absent                    |
| Headspace in VOA Vials (>6mm):  | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | 13                                    |
| Headspace Wisconsin Sulfide   | <input type="checkbox"/> Yes <input type="checkbox"/> No   | 14                                    |
| Trip Blank Present:   | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | 15                                    |
| Trip Blank Custody Seals Present  | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | 16                                    |
| Project Manager Review  |  |                                       |
| Samples Arrived within Hold Time:   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 15.                                   |
| Sufficient Volume:  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 16.                                   |
| Correct Containers Used:  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 17.                                   |

Client Notification/ Resolution:

Field Data Required? Y / N

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments/ Resolution:

Project Manager Review:

Date: 12/4/15



# Sample Container Count

CLIENT: SES

COC PAGE    of   

COC ID#                     

Project # 50133797

| Sample Line Item | DG9H | AG1U | WGFU | AG0U | R | 4/6 | BP2N | BP2U | BP2S | BP3N | BP3U | BP3S | AG3S | AG1H | BP3C | BP1U | SP5T | AG2U | pH <2 | pH >9 | pH >12 |
|------------------|------|------|------|------|---|-----|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|--------|
| 1                |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 2                |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 3                |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 4                |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 5                |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 6                |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 7                |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 8                |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 9                |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 10               |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 11               |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 12               |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |

## Container Codes

|      |                                |      |                                    |      |                              |      |                               |
|------|--------------------------------|------|------------------------------------|------|------------------------------|------|-------------------------------|
| DG9H | 40mL HCL amber vial            | AG0U | 100mL unpreserved amber glass      | BP1N | 1 liter HNO3 plastic         | DG9P | 40mL TSP amber vial           |
| AG1U | 1liter unpreserved amber glass | AG1H | 1 liter HCL amber glass            | BP1S | 1 liter H2SO4 plastic        | DG9S | 40mL H2SO4 amber vial         |
| WGFU | 4oz clear soil jar             | AG1S | 1 liter H2SO4 amber glass          | BP1U | 1 liter unpreserved plastic  | DG9T | 40mL Na Thio amber vial       |
| R    | terra core kit                 | AG1T | 1 liter Na Thiosulfate amber glass | BP1Z | 1 liter NaOH, Zn, Ac         | DG9U | 40mL unpreserved amber vial   |
| BP2N | 500mL HNO3 plastic             | AG2N | 500mL HNO3 amber glass             | BP2A | 500mL NaOH, Asc Acid plastic | SP5T | 120mL Coliform Na Thiosulfate |
| BP2U | 500mL unpreserved plastic      | AG2S | 500mL H2SO4 amber glass            | BP2O | 500mL NaOH plastic           | JGFU | 4oz unpreserved amber wide    |
| BP2S | 500mL H2SO4 plastic            | AG2U | 500mL unpreserved amber glass      | BP2Z | 500mL NaOH, Zn Ac            | U    | Summa Can                     |
| BP3N | 250mL HNO3 plastic             | AG3U | 250mL unpreserved amber glass      | AF   | Air Filter                   | VG9H | 40mL HCL clear vial           |
| BP3U | 250mL unpreserved plastic      | BG1H | 1 liter HCL clear glass            | BP3C | 250mL NaOH plastic           | VG9T | 40mL Na Thio. clear vial      |
| BP3S | 250mL H2SO4 plastic            | BG1S | 1 liter H2SO4 clear glass          | BP3Z | 250mL NaOH, Zn Ac plastic    | VG9U | 40mL unpreserved clear vial   |
| AG3S | 250mL H2SO4 glass amber        | BG1T | 1 liter Na Thiosulfate clear glass | C    | Air Cassettes                | VSG  | Headspace septa vial & HCL    |
| AG1S | 1 liter H2SO4 amber glass      | BG1U | 1 liter unpreserved glass          | DG9B | 40mL Na Bisulfate amber vial | WGFU | 4oz wide jar w/hexane wipe    |
| BP1U | 1 liter unpreserved plastic    | BP1A | 1 liter NaOH, Asc Acid plastic     | DG9M | 40mL MeOH clear vial         | ZPLC | Ziploc Bag                    |

December 07, 2015

Mr. John Behrens  
Environmental Restoration  
1666 Fabick Drive  
Fenton, MO 63026

RE: Project: Hoosier Wood Preservers  
Pace Project No.: 50133561

Dear Mr. Behrens:

Enclosed are the analytical results for sample(s) received by the laboratory on December 02, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Kenneth Hunt  
kenneth.hunt@pacelabs.com  
Project Manager

Enclosures



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Hoosier Wood Preservers

Pace Project No.: 50133561

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### Indiana Certification IDs

7726 Moller Road, Indianapolis, IN 46268

Illinois Certification #: 200074

Indiana Certification #: C-49-06

Kansas Certification #: E-10177

Kentucky UST Certification #: 0042

Kentucky WW Certification #: 98019

Louisiana Certification #: 04076

Ohio VAP Certification #: CL-0065

Oklahoma Certification #: 2014-148

Texas Certification #: T104704355-15-9

West Virginia Certification #: 330

Wisconsin Certification #: 999788130

USDA Soil Permit #: P330-10-00128

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Hoosier Wood Preservers

Pace Project No.: 50133561

| Lab ID      | Sample ID           | Matrix | Date Collected | Date Received  |
|-------------|---------------------|--------|----------------|----------------|
| 50133561001 | HWP-FillSoil-151202 | Solid  | 12/02/15 14:00 | 12/02/15 14:35 |

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## SAMPLE ANALYTE COUNT

Project: Hoosier Wood Preservers

Pace Project No.: 50133561

| Lab ID      | Sample ID           | Method        | Analysts | Analytes Reported |
|-------------|---------------------|---------------|----------|-------------------|
| 50133561001 | HWP-FillSoil-151202 | EPA 6010      | MJC      | 7                 |
|             |                     | EPA 7471      | JGJ      | 1                 |
|             |                     | EPA 8270      | TBP      | 66                |
|             |                     | EPA 8260      | TMW      | 73                |
|             |                     | ASTM D2974-87 | MLS      | 1                 |

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Hoosier Wood Preservers

Pace Project No.: 50133561

Sample: HWP-FillSoil-151202 Lab ID: 50133561001 Collected: 12/02/15 14:00 Received: 12/02/15 14:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

| Parameters   | Results | Units | Report Limit | DF | Prepared       | Analyzed       | CAS No.   | Qual |
|--|---------|-------|--------------|----|----------------|----------------|-----------|------|
| <b>6010 MET ICP</b> Analytical Method: EPA 6010 Preparation Method: EPA 3050                   |         |       |              |    |                |                |           |      |
| Arsenic  | 8.1     | mg/kg | 0.93         | 1  | 12/03/15 13:58 | 12/04/15 11:34 | 7440-38-2 |      |
| Barium   | 12.2    | mg/kg | 0.93         | 1  | 12/03/15 13:58 | 12/04/15 11:34 | 7440-39-3 |      |
| Cadmium  | ND      | mg/kg | 0.46         | 1  | 12/03/15 13:58 | 12/04/15 11:34 | 7440-43-9 |      |
| Chromium   | 6.1     | mg/kg | 0.93         | 1  | 12/03/15 13:58 | 12/04/15 11:34 | 7440-47-3 |      |
| Lead   | 3.2     | mg/kg | 0.93         | 1  | 12/03/15 13:58 | 12/04/15 11:34 | 7439-92-1 |      |
| Selenium   | ND      | mg/kg | 0.93         | 1  | 12/03/15 13:58 | 12/04/15 11:34 | 7782-49-2 |      |
| Silver   | ND      | mg/kg | 0.46         | 1  | 12/03/15 13:58 | 12/04/15 11:34 | 7440-22-4 |      |
| <b>7471 Mercury</b> Analytical Method: EPA 7471 Preparation Method: EPA 7471                   |         |       |              |    |                |                |           |      |
| Mercury  | ND      | mg/kg | 0.19         | 1  | 12/04/15 20:19 | 12/04/15 23:09 | 7439-97-6 |      |
| <b>8270 MSSV SHORT LIST MICROWAVE</b> Analytical Method: EPA 8270 Preparation Method: EPA 3546 |         |       |              |    |                |                |           |      |
| Acenaphthene   | ND      | ug/kg | 338          | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 83-32-9   |      |
| Acenaphthylene   | ND      | ug/kg | 338          | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 208-96-8  |      |
| Anthracene   | ND      | ug/kg | 338          | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 120-12-7  |      |
| Benzo(a)anthracene   | ND      | ug/kg | 338          | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 56-55-3   |      |
| Benzo(a)pyrene   | ND      | ug/kg | 174          | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 50-32-8   |      |
| Benzo(b)fluoranthene   | ND      | ug/kg | 338          | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 205-99-2  |      |
| Benzo(g,h,i)perylene   | ND      | ug/kg | 338          | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 191-24-2  |      |
| Benzo(k)fluoranthene   | ND      | ug/kg | 338          | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 207-08-9  |      |
| Benzyl alcohol   | ND      | ug/kg | 677          | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 100-51-6  |      |
| 4-Bromophenylphenyl ether  | ND      | ug/kg | 338          | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 101-55-3  |      |
| Butylbenzylphthalate   | ND      | ug/kg | 338          | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 85-68-7   |      |
| 4-Chloro-3-methylphenol  | ND      | ug/kg | 677          | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 59-50-7   |      |
| 4-Chloroaniline  | ND      | ug/kg | 677          | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 106-47-8  |      |
| bis(2-Chloroethoxy)methane   | ND      | ug/kg | 338          | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 111-91-1  |      |
| bis(2-Chloroethyl) ether   | ND      | ug/kg | 338          | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 111-44-4  |      |
| bis(2chloro1methylethyl) ether   | ND      | ug/kg | 338          | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 108-60-1  |      |
| 2-Chloronaphthalene  | ND      | ug/kg | 338          | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 91-58-7   |      |
| 2-Chlorophenol   | ND      | ug/kg | 338          | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 95-57-8   |      |
| 4-Chlorophenylphenyl ether   | ND      | ug/kg | 338          | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 7005-72-3 |      |
| Chrysene   | ND      | ug/kg | 338          | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 218-01-9  |      |
| Dibenz(a,h)anthracene  | ND      | ug/kg | 174          | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 53-70-3   |      |
| Dibenzofuran   | ND      | ug/kg | 338          | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 132-64-9  |      |
| 3,3'-Dichlorobenzidine   | ND      | ug/kg | 677          | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 91-94-1   |      |
| 2,4-Dichlorophenol   | ND      | ug/kg | 338          | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 120-83-2  |      |
| Diethylphthalate   | ND      | ug/kg | 338          | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 84-66-2   |      |
| 2,4-Dimethylphenol   | ND      | ug/kg | 338          | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 105-67-9  |      |
| Dimethylphthalate  | ND      | ug/kg | 338          | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 131-11-3  |      |
| Di-n-butylphthalate  | ND      | ug/kg | 338          | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 84-74-2   |      |
| 4,6-Dinitro-2-methylphenol   | ND      | ug/kg | 1640         | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 534-52-1  |      |
| 2,4-Dinitrophenol  | ND      | ug/kg | 1640         | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 51-28-5   |      |
| 2,4-Dinitrotoluene   | ND      | ug/kg | 338          | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 121-14-2  |      |
| 2,6-Dinitrotoluene   | ND      | ug/kg | 338          | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 606-20-2  |      |
| Di-n-octylphthalate  | ND      | ug/kg | 338          | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 117-84-0  |      |

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Hoosier Wood Preservers

Pace Project No.: 50133561

Sample: HWP-FillSoil-151202 Lab ID: 50133561001 Collected: 12/02/15 14:00 Received: 12/02/15 14:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

| Parameters   | Results | Units | Report Limit | DF | Prepared       | Analyzed       | CAS No.   | Qual |
|--|---------|-------|--------------|----|----------------|----------------|-----------|------|
| <b>8270 MSSV SHORT LIST MICROWAVE</b> Analytical Method: EPA 8270 Preparation Method: EPA 3546 |         |       |              |    |                |                |           |      |
| bis(2-Ethylhexyl)phthalate   | ND      | ug/kg | 338          | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 117-81-7  |      |
| Fluoranthene   | ND      | ug/kg | 338          | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 206-44-0  |      |
| Fluorene   | ND      | ug/kg | 338          | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 86-73-7   |      |
| Hexachloro-1,3-butadiene   | ND      | ug/kg | 338          | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 87-68-3   |      |
| Hexachlorobenzene  | ND      | ug/kg | 338          | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 118-74-1  |      |
| Hexachlorocyclopentadiene  | ND      | ug/kg | 338          | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 77-47-4   |      |
| Hexachloroethane   | ND      | ug/kg | 338          | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 67-72-1   |      |
| Indeno(1,2,3-cd)pyrene   | ND      | ug/kg | 338          | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 193-39-5  |      |
| Isophorone   | ND      | ug/kg | 338          | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 78-59-1   |      |
| 2-Methylnaphthalene  | ND      | ug/kg | 338          | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 91-57-6   |      |
| 2-Methylphenol(o-Cresol)   | ND      | ug/kg | 338          | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 95-48-7   |      |
| 3&4-Methylphenol(m&p Cresol)   | ND      | ug/kg | 677          | 1  | 12/03/15 12:20 | 12/03/15 16:28 |           |      |
| Naphthalene  | ND      | ug/kg | 338          | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 91-20-3   |      |
| 2-Nitroaniline   | ND      | ug/kg | 1640         | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 88-74-4   |      |
| 3-Nitroaniline   | ND      | ug/kg | 1640         | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 99-09-2   |      |
| 4-Nitroaniline   | ND      | ug/kg | 1640         | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 100-01-6  |      |
| Nitrobenzene   | ND      | ug/kg | 338          | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 98-95-3   |      |
| 2-Nitrophenol  | ND      | ug/kg | 338          | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 88-75-5   |      |
| 4-Nitrophenol  | ND      | ug/kg | 1640         | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 100-02-7  |      |
| N-Nitroso-di-n-propylamine   | ND      | ug/kg | 338          | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 621-64-7  |      |
| N-Nitrosodiphenylamine   | ND      | ug/kg | 338          | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 86-30-6   |      |
| Pentachlorophenol  | ND      | ug/kg | 1640         | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 87-86-5   |      |
| Phenanthrene   | ND      | ug/kg | 338          | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 85-01-8   |      |
| Phenol   | ND      | ug/kg | 338          | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 108-95-2  |      |
| Pyrene   | ND      | ug/kg | 338          | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 129-00-0  |      |
| 2,4,5-Trichlorophenol  | ND      | ug/kg | 338          | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 95-95-4   |      |
| 2,4,6-Trichlorophenol  | ND      | ug/kg | 338          | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 88-06-2   |      |
| <b>Surrogates</b>  |         |       |              |    |                |                |           |      |
| Nitrobenzene-d5 (S)  | 72      | %.    | 28-101       | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 4165-60-0 |      |
| Phenol-d5 (S)  | 76      | %.    | 28-101       | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 4165-62-2 |      |
| 2-Fluorophenol (S)   | 79      | %.    | 24-104       | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 367-12-4  |      |
| 2,4,6-Tribromophenol (S)   | 70      | %.    | 16-122       | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 118-79-6  |      |
| 2-Fluorobiphenyl (S)   | 68      | %.    | 31-94        | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 321-60-8  |      |
| p-Terphenyl-d14 (S)  | 75      | %.    | 26-110       | 1  | 12/03/15 12:20 | 12/03/15 16:28 | 1718-51-0 |      |

### 8260 MSV 5030 Low Level

Analytical Method: EPA 8260

|                      |    |       |      |   |                |          |
|----------------------|----|-------|------|---|----------------|----------|
| Acetone              | ND | ug/kg | 104  | 1 | 12/05/15 00:30 | 67-64-1  |
| Acrolein             | ND | ug/kg | 104  | 1 | 12/05/15 00:30 | 107-02-8 |
| Acrylonitrile        | ND | ug/kg | 104  | 1 | 12/05/15 00:30 | 107-13-1 |
| Benzene              | ND | ug/kg | 5.2  | 1 | 12/05/15 00:30 | 71-43-2  |
| Bromobenzene         | ND | ug/kg | 5.2  | 1 | 12/05/15 00:30 | 108-86-1 |
| Bromochloromethane   | ND | ug/kg | 5.2  | 1 | 12/05/15 00:30 | 74-97-5  |
| Bromodichloromethane | ND | ug/kg | 5.2  | 1 | 12/05/15 00:30 | 75-27-4  |
| Bromoform            | ND | ug/kg | 5.2  | 1 | 12/05/15 00:30 | 75-25-2  |
| Bromomethane         | ND | ug/kg | 5.2  | 1 | 12/05/15 00:30 | 74-83-9  |
| 2-Butanone (MEK)     | ND | ug/kg | 25.9 | 1 | 12/05/15 00:30 | 78-93-3  |

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Hoosier Wood Preservers

Pace Project No.: 50133561

Sample: HWP-FillSoil-151202 Lab ID: 50133561001 Collected: 12/02/15 14:00 Received: 12/02/15 14:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

| Parameters                     | Results | Units                       | Report Limit | DF | Prepared | Analyzed       | CAS No.    | Qual |
|--------------------------------|---------|-----------------------------|--------------|----|----------|----------------|------------|------|
| <b>8260 MSV 5030 Low Level</b> |         | Analytical Method: EPA 8260 |              |    |          |                |            |      |
| n-Butylbenzene                 | ND      | ug/kg                       | 5.2          | 1  |          | 12/05/15 00:30 | 104-51-8   |      |
| sec-Butylbenzene               | ND      | ug/kg                       | 5.2          | 1  |          | 12/05/15 00:30 | 135-98-8   |      |
| tert-Butylbenzene              | ND      | ug/kg                       | 5.2          | 1  |          | 12/05/15 00:30 | 98-06-6    |      |
| Carbon disulfide               | ND      | ug/kg                       | 10.4         | 1  |          | 12/05/15 00:30 | 75-15-0    |      |
| Carbon tetrachloride           | ND      | ug/kg                       | 5.2          | 1  |          | 12/05/15 00:30 | 56-23-5    |      |
| Chlorobenzene                  | ND      | ug/kg                       | 5.2          | 1  |          | 12/05/15 00:30 | 108-90-7   |      |
| Chloroethane                   | ND      | ug/kg                       | 5.2          | 1  |          | 12/05/15 00:30 | 75-00-3    |      |
| Chloroform                     | ND      | ug/kg                       | 5.2          | 1  |          | 12/05/15 00:30 | 67-66-3    |      |
| Chloromethane                  | ND      | ug/kg                       | 5.2          | 1  |          | 12/05/15 00:30 | 74-87-3    |      |
| 2-Chlorotoluene                | ND      | ug/kg                       | 5.2          | 1  |          | 12/05/15 00:30 | 95-49-8    |      |
| 4-Chlorotoluene                | ND      | ug/kg                       | 5.2          | 1  |          | 12/05/15 00:30 | 106-43-4   |      |
| Dibromochloromethane           | ND      | ug/kg                       | 5.2          | 1  |          | 12/05/15 00:30 | 124-48-1   |      |
| 1,2-Dibromoethane (EDB)        | ND      | ug/kg                       | 5.2          | 1  |          | 12/05/15 00:30 | 106-93-4   |      |
| Dibromomethane                 | ND      | ug/kg                       | 5.2          | 1  |          | 12/05/15 00:30 | 74-95-3    |      |
| 1,2-Dichlorobenzene            | ND      | ug/kg                       | 5.2          | 1  |          | 12/05/15 00:30 | 95-50-1    |      |
| 1,3-Dichlorobenzene            | ND      | ug/kg                       | 5.2          | 1  |          | 12/05/15 00:30 | 541-73-1   |      |
| 1,4-Dichlorobenzene            | ND      | ug/kg                       | 5.2          | 1  |          | 12/05/15 00:30 | 106-46-7   |      |
| trans-1,4-Dichloro-2-butene    | ND      | ug/kg                       | 104          | 1  |          | 12/05/15 00:30 | 110-57-6   |      |
| Dichlorodifluoromethane        | ND      | ug/kg                       | 5.2          | 1  |          | 12/05/15 00:30 | 75-71-8    |      |
| 1,1-Dichloroethane             | ND      | ug/kg                       | 5.2          | 1  |          | 12/05/15 00:30 | 75-34-3    |      |
| 1,2-Dichloroethane             | ND      | ug/kg                       | 5.2          | 1  |          | 12/05/15 00:30 | 107-06-2   |      |
| 1,1-Dichloroethene             | ND      | ug/kg                       | 5.2          | 1  |          | 12/05/15 00:30 | 75-35-4    |      |
| cis-1,2-Dichloroethene         | ND      | ug/kg                       | 5.2          | 1  |          | 12/05/15 00:30 | 156-59-2   |      |
| trans-1,2-Dichloroethene       | ND      | ug/kg                       | 5.2          | 1  |          | 12/05/15 00:30 | 156-60-5   |      |
| 1,2-Dichloropropane            | ND      | ug/kg                       | 5.2          | 1  |          | 12/05/15 00:30 | 78-87-5    |      |
| 1,3-Dichloropropane            | ND      | ug/kg                       | 5.2          | 1  |          | 12/05/15 00:30 | 142-28-9   |      |
| 2,2-Dichloropropane            | ND      | ug/kg                       | 5.2          | 1  |          | 12/05/15 00:30 | 594-20-7   |      |
| 1,1-Dichloropropene            | ND      | ug/kg                       | 5.2          | 1  |          | 12/05/15 00:30 | 563-58-6   |      |
| cis-1,3-Dichloropropene        | ND      | ug/kg                       | 5.2          | 1  |          | 12/05/15 00:30 | 10061-01-5 |      |
| trans-1,3-Dichloropropene      | ND      | ug/kg                       | 5.2          | 1  |          | 12/05/15 00:30 | 10061-02-6 |      |
| Ethylbenzene                   | 12.5    | ug/kg                       | 5.2          | 1  |          | 12/05/15 00:30 | 100-41-4   |      |
| Ethyl methacrylate             | ND      | ug/kg                       | 104          | 1  |          | 12/05/15 00:30 | 97-63-2    |      |
| Hexachloro-1,3-butadiene       | ND      | ug/kg                       | 5.2          | 1  |          | 12/05/15 00:30 | 87-68-3    |      |
| n-Hexane                       | ND      | ug/kg                       | 5.2          | 1  |          | 12/05/15 00:30 | 110-54-3   |      |
| 2-Hexanone                     | ND      | ug/kg                       | 104          | 1  |          | 12/05/15 00:30 | 591-78-6   |      |
| Iodomethane                    | ND      | ug/kg                       | 104          | 1  |          | 12/05/15 00:30 | 74-88-4    |      |
| Isopropylbenzene (Cumene)      | ND      | ug/kg                       | 5.2          | 1  |          | 12/05/15 00:30 | 98-82-8    |      |
| p-Isopropyltoluene             | ND      | ug/kg                       | 5.2          | 1  |          | 12/05/15 00:30 | 99-87-6    |      |
| Methylene Chloride             | ND      | ug/kg                       | 20.7         | 1  |          | 12/05/15 00:30 | 75-09-2    |      |
| 4-Methyl-2-pentanone (MIBK)    | ND      | ug/kg                       | 25.9         | 1  |          | 12/05/15 00:30 | 108-10-1   |      |
| Methyl-tert-butyl ether        | ND      | ug/kg                       | 5.2          | 1  |          | 12/05/15 00:30 | 1634-04-4  |      |
| Naphthalene                    | ND      | ug/kg                       | 5.2          | 1  |          | 12/05/15 00:30 | 91-20-3    |      |
| n-Propylbenzene                | ND      | ug/kg                       | 5.2          | 1  |          | 12/05/15 00:30 | 103-65-1   |      |
| Styrene                        | ND      | ug/kg                       | 5.2          | 1  |          | 12/05/15 00:30 | 100-42-5   |      |
| 1,1,1,2-Tetrachloroethane      | ND      | ug/kg                       | 5.2          | 1  |          | 12/05/15 00:30 | 630-20-6   |      |
| 1,1,2,2-Tetrachloroethane      | ND      | ug/kg                       | 5.2          | 1  |          | 12/05/15 00:30 | 79-34-5    |      |

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## ANALYTICAL RESULTS

Project: Hoosier Wood Preservers

Pace Project No.: 50133561

Sample: HWP-FillSoil-151202 Lab ID: 50133561001 Collected: 12/02/15 14:00 Received: 12/02/15 14:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

| Parameters                     | Results     | Units                            | Report Limit | DF | Prepared | Analyzed       | CAS No.   | Qual |
|--------------------------------|-------------|----------------------------------|--------------|----|----------|----------------|-----------|------|
| <b>8260 MSV 5030 Low Level</b> |             | Analytical Method: EPA 8260      |              |    |          |                |           |      |
| Tetrachloroethene              | ND          | ug/kg                            | 5.2          | 1  |          | 12/05/15 00:30 | 127-18-4  |      |
| Toluene                        | ND          | ug/kg                            | 5.2          | 1  |          | 12/05/15 00:30 | 108-88-3  |      |
| 1,2,3-Trichlorobenzene         | ND          | ug/kg                            | 5.2          | 1  |          | 12/05/15 00:30 | 87-61-6   |      |
| 1,2,4-Trichlorobenzene         | ND          | ug/kg                            | 5.2          | 1  |          | 12/05/15 00:30 | 120-82-1  |      |
| 1,1,1-Trichloroethane          | ND          | ug/kg                            | 5.2          | 1  |          | 12/05/15 00:30 | 71-55-6   |      |
| 1,1,2-Trichloroethane          | ND          | ug/kg                            | 5.2          | 1  |          | 12/05/15 00:30 | 79-00-5   |      |
| Trichloroethene                | ND          | ug/kg                            | 5.2          | 1  |          | 12/05/15 00:30 | 79-01-6   |      |
| Trichlorofluoromethane         | ND          | ug/kg                            | 5.2          | 1  |          | 12/05/15 00:30 | 75-69-4   |      |
| 1,2,3-Trichloropropane         | ND          | ug/kg                            | 5.2          | 1  |          | 12/05/15 00:30 | 96-18-4   |      |
| 1,2,4-Trimethylbenzene         | ND          | ug/kg                            | 5.2          | 1  |          | 12/05/15 00:30 | 95-63-6   |      |
| 1,3,5-Trimethylbenzene         | ND          | ug/kg                            | 5.2          | 1  |          | 12/05/15 00:30 | 108-67-8  |      |
| Vinyl acetate                  | ND          | ug/kg                            | 104          | 1  |          | 12/05/15 00:30 | 108-05-4  |      |
| Vinyl chloride                 | ND          | ug/kg                            | 5.2          | 1  |          | 12/05/15 00:30 | 75-01-4   |      |
| Xylene (Total)                 | <b>78.1</b> | ug/kg                            | 10.4         | 1  |          | 12/05/15 00:30 | 1330-20-7 |      |
| <b>Surrogates</b>              |             |                                  |              |    |          |                |           |      |
| Dibromofluoromethane (S)       | 101         | %                                | 85-118       | 1  |          | 12/05/15 00:30 | 1868-53-7 |      |
| Toluene-d8 (S)                 | 101         | %                                | 71-128       | 1  |          | 12/05/15 00:30 | 2037-26-5 |      |
| 4-Bromofluorobenzene (S)       | 100         | %                                | 56-144       | 1  |          | 12/05/15 00:30 | 460-00-4  |      |
| <b>Percent Moisture</b>        |             | Analytical Method: ASTM D2974-87 |              |    |          |                |           |      |
| Percent Moisture               | <b>3.4</b>  | %                                | 0.10         | 1  |          | 12/03/15 08:00 |           |      |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50133561

QC Batch: MERP/7196

Analysis Method: EPA 7471

QC Batch Method: EPA 7471

Analysis Description: 7471 Mercury

Associated Lab Samples: 50133561001

METHOD BLANK: 1437977

Matrix: Solid

Associated Lab Samples: 50133561001

| Parameter | Units | Blank Result | Reporting Limit | Analyzed       | Qualifiers |
|-----------|-------|--------------|-----------------|----------------|------------|
| Mercury   | mg/kg | ND           | 0.20            | 12/04/15 21:19 |            |

LABORATORY CONTROL SAMPLE: 1437978

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Mercury   | mg/kg | .48         | 0.54       | 112       | 80-120       |            |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1437979 1437980

| Parameter | Units | 50133370001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|-----------|-------|--------------------|----------------|-----------------|-----------|------------|----------|-----------|--------------|-----|---------|------|
| Mercury   | mg/kg | ND                 | .6             | .6              | 0.80      | 0.79       | 112      | 112       | 75-125       | 0   | 20      |      |

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50133561

QC Batch: MPRP/18962

Analysis Method: EPA 6010

QC Batch Method: EPA 3050

Analysis Description: 6010 MET

Associated Lab Samples: 50133561001

METHOD BLANK: 1436759

Matrix: Solid

Associated Lab Samples: 50133561001

| Parameter | Units | Blank Result | Reporting Limit | Analyzed       | Qualifiers |
|-----------|-------|--------------|-----------------|----------------|------------|
| Arsenic   | mg/kg | ND           | 1.0             | 12/04/15 11:21 |            |
| Barium    | mg/kg | ND           | 1.0             | 12/04/15 11:21 |            |
| Cadmium   | mg/kg | ND           | 0.50            | 12/04/15 11:21 |            |
| Chromium  | mg/kg | ND           | 1.0             | 12/04/15 11:21 |            |
| Lead      | mg/kg | ND           | 1.0             | 12/04/15 11:21 |            |
| Selenium  | mg/kg | ND           | 1.0             | 12/04/15 11:21 |            |
| Silver    | mg/kg | ND           | 0.50            | 12/04/15 11:21 |            |

LABORATORY CONTROL SAMPLE: 1436760

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Arsenic   | mg/kg | 50          | 50.0       | 100       | 80-120       |            |
| Barium    | mg/kg | 50          | 49.6       | 99        | 80-120       |            |
| Cadmium   | mg/kg | 50          | 47.6       | 95        | 80-120       |            |
| Chromium  | mg/kg | 50          | 50.0       | 100       | 80-120       |            |
| Lead      | mg/kg | 50          | 46.6       | 93        | 80-120       |            |
| Selenium  | mg/kg | 50          | 50.2       | 100       | 80-120       |            |
| Silver    | mg/kg | 25          | 23.4       | 93        | 80-120       |            |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1436761 1436762

| Parameter | Units | 50133306003 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual  |
|-----------|-------|--------------------|----------------|-----------------|-----------|------------|----------|-----------|--------------|-----|---------|-------|
| Arsenic   | mg/kg | 8.6                | 49.2           | 43.7            | 58.2      | 49.0       | 101      | 92        | 75-125       | 17  | 20      |       |
| Barium    | mg/kg | 81.2               | 49.2           | 43.7            | 170       | 127        | 181      | 105       | 75-125       | 29  | 20      | 1d,M0 |
| Cadmium   | mg/kg | ND                 | 49.2           | 43.7            | 43.2      | 37.8       | 87       | 86        | 75-125       | 13  | 20      |       |
| Chromium  | mg/kg | 12.9               | 49.2           | 43.7            | 56.7      | 52.2       | 89       | 90        | 75-125       | 8   | 20      |       |
| Lead      | mg/kg | 9.4                | 49.2           | 43.7            | 53.8      | 42.5       | 90       | 76        | 75-125       | 24  | 20      | 1d    |
| Selenium  | mg/kg | ND                 | 49.2           | 43.7            | 44.1      | 38.3       | 89       | 87        | 75-125       | 14  | 20      |       |
| Silver    | mg/kg | ND                 | 24.6           | 21.9            | 20.1      | 17.3       | 82       | 79        | 75-125       | 15  | 20      |       |

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50133561

QC Batch: MSV/84521

Analysis Method: EPA 8260

QC Batch Method: EPA 8260

Analysis Description: 8260 MSV 5030 Low

Associated Lab Samples: 50133561001

METHOD BLANK: 1438641

Matrix: Solid

Associated Lab Samples: 50133561001

| Parameter                   | Units | Blank Result | Reporting Limit | Analyzed       | Qualifiers |
|-----------------------------|-------|--------------|-----------------|----------------|------------|
| 1,1,1,2-Tetrachloroethane   | ug/kg | ND           | 5.0             | 12/04/15 17:08 |            |
| 1,1,1-Trichloroethane       | ug/kg | ND           | 5.0             | 12/04/15 17:08 |            |
| 1,1,2,2-Tetrachloroethane   | ug/kg | ND           | 5.0             | 12/04/15 17:08 |            |
| 1,1,2-Trichloroethane       | ug/kg | ND           | 5.0             | 12/04/15 17:08 |            |
| 1,1-Dichloroethane          | ug/kg | ND           | 5.0             | 12/04/15 17:08 |            |
| 1,1-Dichloroethene          | ug/kg | ND           | 5.0             | 12/04/15 17:08 |            |
| 1,1-Dichloropropene         | ug/kg | ND           | 5.0             | 12/04/15 17:08 |            |
| 1,2,3-Trichlorobenzene      | ug/kg | ND           | 5.0             | 12/04/15 17:08 |            |
| 1,2,3-Trichloropropane      | ug/kg | ND           | 5.0             | 12/04/15 17:08 |            |
| 1,2,4-Trichlorobenzene      | ug/kg | ND           | 5.0             | 12/04/15 17:08 |            |
| 1,2,4-Trimethylbenzene      | ug/kg | ND           | 5.0             | 12/04/15 17:08 |            |
| 1,2-Dibromoethane (EDB)     | ug/kg | ND           | 5.0             | 12/04/15 17:08 |            |
| 1,2-Dichlorobenzene         | ug/kg | ND           | 5.0             | 12/04/15 17:08 |            |
| 1,2-Dichloroethane          | ug/kg | ND           | 5.0             | 12/04/15 17:08 |            |
| 1,2-Dichloropropane         | ug/kg | ND           | 5.0             | 12/04/15 17:08 |            |
| 1,3,5-Trimethylbenzene      | ug/kg | ND           | 5.0             | 12/04/15 17:08 |            |
| 1,3-Dichlorobenzene         | ug/kg | ND           | 5.0             | 12/04/15 17:08 |            |
| 1,3-Dichloropropane         | ug/kg | ND           | 5.0             | 12/04/15 17:08 |            |
| 1,4-Dichlorobenzene         | ug/kg | ND           | 5.0             | 12/04/15 17:08 |            |
| 2,2-Dichloropropane         | ug/kg | ND           | 5.0             | 12/04/15 17:08 |            |
| 2-Butanone (MEK)            | ug/kg | ND           | 25.0            | 12/04/15 17:08 |            |
| 2-Chlorotoluene             | ug/kg | ND           | 5.0             | 12/04/15 17:08 |            |
| 2-Hexanone                  | ug/kg | ND           | 100             | 12/04/15 17:08 |            |
| 4-Chlorotoluene             | ug/kg | ND           | 5.0             | 12/04/15 17:08 |            |
| 4-Methyl-2-pentanone (MIBK) | ug/kg | ND           | 25.0            | 12/04/15 17:08 |            |
| Acetone                     | ug/kg | ND           | 100             | 12/04/15 17:08 |            |
| Acrolein                    | ug/kg | ND           | 100             | 12/04/15 17:08 |            |
| Acrylonitrile               | ug/kg | ND           | 100             | 12/04/15 17:08 |            |
| Benzene                     | ug/kg | ND           | 5.0             | 12/04/15 17:08 |            |
| Bromobenzene                | ug/kg | ND           | 5.0             | 12/04/15 17:08 |            |
| Bromochloromethane          | ug/kg | ND           | 5.0             | 12/04/15 17:08 |            |
| Bromodichloromethane        | ug/kg | ND           | 5.0             | 12/04/15 17:08 |            |
| Bromoform                   | ug/kg | ND           | 5.0             | 12/04/15 17:08 |            |
| Bromomethane                | ug/kg | ND           | 5.0             | 12/04/15 17:08 |            |
| Carbon disulfide            | ug/kg | ND           | 10.0            | 12/04/15 17:08 |            |
| Carbon tetrachloride        | ug/kg | ND           | 5.0             | 12/04/15 17:08 |            |
| Chlorobenzene               | ug/kg | ND           | 5.0             | 12/04/15 17:08 |            |
| Chloroethane                | ug/kg | ND           | 5.0             | 12/04/15 17:08 |            |
| Chloroform                  | ug/kg | ND           | 5.0             | 12/04/15 17:08 |            |
| Chloromethane               | ug/kg | ND           | 5.0             | 12/04/15 17:08 |            |
| cis-1,2-Dichloroethene      | ug/kg | ND           | 5.0             | 12/04/15 17:08 |            |

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50133561

METHOD BLANK: 1438641

Matrix: Solid

Associated Lab Samples: 50133561001

| Parameter                   | Units | Blank Result | Reporting Limit | Analyzed       | Qualifiers |
|-----------------------------|-------|--------------|-----------------|----------------|------------|
| cis-1,3-Dichloropropene     | ug/kg | ND           | 5.0             | 12/04/15 17:08 |            |
| Dibromochloromethane        | ug/kg | ND           | 5.0             | 12/04/15 17:08 |            |
| Dibromomethane              | ug/kg | ND           | 5.0             | 12/04/15 17:08 |            |
| Dichlorodifluoromethane     | ug/kg | ND           | 5.0             | 12/04/15 17:08 |            |
| Ethyl methacrylate          | ug/kg | ND           | 100             | 12/04/15 17:08 |            |
| Ethylbenzene                | ug/kg | ND           | 5.0             | 12/04/15 17:08 |            |
| Hexachloro-1,3-butadiene    | ug/kg | ND           | 5.0             | 12/04/15 17:08 |            |
| Iodomethane                 | ug/kg | ND           | 100             | 12/04/15 17:08 |            |
| Isopropylbenzene (Cumene)   | ug/kg | ND           | 5.0             | 12/04/15 17:08 |            |
| Methyl-tert-butyl ether     | ug/kg | ND           | 5.0             | 12/04/15 17:08 |            |
| Methylene Chloride          | ug/kg | ND           | 20.0            | 12/04/15 17:08 |            |
| n-Butylbenzene              | ug/kg | ND           | 5.0             | 12/04/15 17:08 |            |
| n-Hexane                    | ug/kg | ND           | 5.0             | 12/04/15 17:08 |            |
| n-Propylbenzene             | ug/kg | ND           | 5.0             | 12/04/15 17:08 |            |
| Naphthalene                 | ug/kg | ND           | 5.0             | 12/04/15 17:08 |            |
| p-Isopropyltoluene          | ug/kg | ND           | 5.0             | 12/04/15 17:08 |            |
| sec-Butylbenzene            | ug/kg | ND           | 5.0             | 12/04/15 17:08 |            |
| Styrene                     | ug/kg | ND           | 5.0             | 12/04/15 17:08 |            |
| tert-Butylbenzene           | ug/kg | ND           | 5.0             | 12/04/15 17:08 |            |
| Tetrachloroethene           | ug/kg | ND           | 5.0             | 12/04/15 17:08 |            |
| Toluene                     | ug/kg | ND           | 5.0             | 12/04/15 17:08 |            |
| trans-1,2-Dichloroethene    | ug/kg | ND           | 5.0             | 12/04/15 17:08 |            |
| trans-1,3-Dichloropropene   | ug/kg | ND           | 5.0             | 12/04/15 17:08 |            |
| trans-1,4-Dichloro-2-butene | ug/kg | ND           | 100             | 12/04/15 17:08 |            |
| Trichloroethene             | ug/kg | ND           | 5.0             | 12/04/15 17:08 |            |
| Trichlorofluoromethane      | ug/kg | ND           | 5.0             | 12/04/15 17:08 |            |
| Vinyl acetate               | ug/kg | ND           | 100             | 12/04/15 17:08 |            |
| Vinyl chloride              | ug/kg | ND           | 5.0             | 12/04/15 17:08 |            |
| Xylene (Total)              | ug/kg | ND           | 10.0            | 12/04/15 17:08 |            |
| 4-Bromofluorobenzene (S)    | %     | 102          | 56-144          | 12/04/15 17:08 |            |
| Dibromofluoromethane (S)    | %     | 101          | 85-118          | 12/04/15 17:08 |            |
| Toluene-d8 (S)              | %     | 100          | 71-128          | 12/04/15 17:08 |            |

LABORATORY CONTROL SAMPLE: 1438642

| Parameter                 | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---------------------------|-------|-------------|------------|-----------|--------------|------------|
| 1,1,1-Trichloroethane     | ug/kg | 50          | 45.3       | 91        | 70-123       |            |
| 1,1,2,2-Tetrachloroethane | ug/kg | 50          | 46.7       | 93        | 65-124       |            |
| 1,1-Dichloroethene        | ug/kg | 50          | 51.5       | 103       | 66-126       |            |
| 1,2,4-Trimethylbenzene    | ug/kg | 50          | 42.5       | 85        | 67-126       |            |
| 1,2-Dichloropropane       | ug/kg | 50          | 43.2       | 86        | 75-118       |            |
| Benzene                   | ug/kg | 50          | 44.8       | 90        | 74-119       |            |
| Chlorobenzene             | ug/kg | 50          | 42.1       | 84        | 77-122       |            |
| Chloroform                | ug/kg | 50          | 43.4       | 87        | 75-124       |            |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50133561

LABORATORY CONTROL SAMPLE: 1438642

| Parameter                 | Units | Spike<br>Conc. | LCS<br>Result | LCS<br>% Rec | % Rec<br>Limits | Qualifiers |
|---------------------------|-------|----------------|---------------|--------------|-----------------|------------|
| cis-1,2-Dichloroethene    | ug/kg | 50             | 46.7          | 93           | 72-122          |            |
| Ethylbenzene              | ug/kg | 50             | 45.0          | 90           | 72-123          |            |
| Isopropylbenzene (Cumene) | ug/kg | 50             | 45.5          | 91           | 65-123          |            |
| Methyl-tert-butyl ether   | ug/kg | 50             | 42.7          | 85           | 68-120          |            |
| Naphthalene               | ug/kg | 50             | 41.8          | 84           | 67-131          |            |
| Tetrachloroethene         | ug/kg | 50             | 43.9          | 88           | 72-126          |            |
| Toluene                   | ug/kg | 50             | 46.1          | 92           | 71-121          |            |
| trans-1,2-Dichloroethene  | ug/kg | 50             | 46.8          | 94           | 69-123          |            |
| Trichloroethene           | ug/kg | 50             | 47.3          | 95           | 74-123          |            |
| Vinyl chloride            | ug/kg | 50             | 61.2          | 122          | 55-128          |            |
| Xylene (Total)            | ug/kg | 150            | 131           | 88           | 66-124          |            |
| 4-Bromofluorobenzene (S)  | %.    |                |               | 102          | 56-144          |            |
| Dibromofluoromethane (S)  | %.    |                |               | 97           | 85-118          |            |
| Toluene-d8 (S)            | %.    |                |               | 101          | 71-128          |            |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50133561

QC Batch: OEXT/41703

Analysis Method: EPA 8270

QC Batch Method: EPA 3546

Analysis Description: 8270 Solid MSSV Microwave Short Spike

Associated Lab Samples: 50133561001

METHOD BLANK: 1436702

Matrix: Solid

Associated Lab Samples: 50133561001

| Parameter                       | Units | Blank Result | Reporting Limit | Analyzed       | Qualifiers |
|---------------------------------|-------|--------------|-----------------|----------------|------------|
| 2,4,5-Trichlorophenol           | ug/kg | ND           | 326             | 12/03/15 14:36 |            |
| 2,4,6-Trichlorophenol           | ug/kg | ND           | 326             | 12/03/15 14:36 |            |
| 2,4-Dichlorophenol              | ug/kg | ND           | 326             | 12/03/15 14:36 |            |
| 2,4-Dimethylphenol              | ug/kg | ND           | 326             | 12/03/15 14:36 |            |
| 2,4-Dinitrophenol               | ug/kg | ND           | 1580            | 12/03/15 14:36 |            |
| 2,4-Dinitrotoluene              | ug/kg | ND           | 326             | 12/03/15 14:36 |            |
| 2,6-Dinitrotoluene              | ug/kg | ND           | 326             | 12/03/15 14:36 |            |
| 2-Chloronaphthalene             | ug/kg | ND           | 326             | 12/03/15 14:36 |            |
| 2-Chlorophenol                  | ug/kg | ND           | 326             | 12/03/15 14:36 |            |
| 2-Methylnaphthalene             | ug/kg | ND           | 326             | 12/03/15 14:36 |            |
| 2-Methylphenol(o-Cresol)        | ug/kg | ND           | 326             | 12/03/15 14:36 |            |
| 2-Nitroaniline                  | ug/kg | ND           | 1580            | 12/03/15 14:36 |            |
| 2-Nitrophenol                   | ug/kg | ND           | 326             | 12/03/15 14:36 |            |
| 3&4-Methylphenol(m&p Cresol)    | ug/kg | ND           | 651             | 12/03/15 14:36 |            |
| 3,3'-Dichlorobenzidine          | ug/kg | ND           | 651             | 12/03/15 14:36 |            |
| 3-Nitroaniline                  | ug/kg | ND           | 1580            | 12/03/15 14:36 |            |
| 4,6-Dinitro-2-methylphenol      | ug/kg | ND           | 1580            | 12/03/15 14:36 |            |
| 4-Bromophenylphenyl ether       | ug/kg | ND           | 326             | 12/03/15 14:36 |            |
| 4-Chloro-3-methylphenol         | ug/kg | ND           | 651             | 12/03/15 14:36 |            |
| 4-Chloroaniline                 | ug/kg | ND           | 651             | 12/03/15 14:36 |            |
| 4-Chlorophenylphenyl ether      | ug/kg | ND           | 326             | 12/03/15 14:36 |            |
| 4-Nitroaniline                  | ug/kg | ND           | 1580            | 12/03/15 14:36 |            |
| 4-Nitrophenol                   | ug/kg | ND           | 1580            | 12/03/15 14:36 |            |
| Acenaphthene                    | ug/kg | ND           | 326             | 12/03/15 14:36 |            |
| Acenaphthylene                  | ug/kg | ND           | 326             | 12/03/15 14:36 |            |
| Anthracene                      | ug/kg | ND           | 326             | 12/03/15 14:36 |            |
| Benzo(a)anthracene              | ug/kg | ND           | 326             | 12/03/15 14:36 |            |
| Benzo(a)pyrene                  | ug/kg | ND           | 168             | 12/03/15 14:36 |            |
| Benzo(b)fluoranthene            | ug/kg | ND           | 326             | 12/03/15 14:36 |            |
| Benzo(g,h,i)perylene            | ug/kg | ND           | 326             | 12/03/15 14:36 |            |
| Benzo(k)fluoranthene            | ug/kg | ND           | 326             | 12/03/15 14:36 |            |
| Benzyl alcohol                  | ug/kg | ND           | 651             | 12/03/15 14:36 |            |
| bis(2-Chloroethoxy)methane      | ug/kg | ND           | 326             | 12/03/15 14:36 |            |
| bis(2-Chloroethyl) ether        | ug/kg | ND           | 326             | 12/03/15 14:36 |            |
| bis(2-Ethylhexyl)phthalate      | ug/kg | ND           | 326             | 12/03/15 14:36 |            |
| bis(2chloro1 methylethyl) ether | ug/kg | ND           | 326             | 12/03/15 14:36 |            |
| Butylbenzylphthalate            | ug/kg | ND           | 326             | 12/03/15 14:36 |            |
| Chrysene                        | ug/kg | ND           | 326             | 12/03/15 14:36 |            |
| Di-n-butylphthalate             | ug/kg | ND           | 326             | 12/03/15 14:36 |            |
| Di-n-octylphthalate             | ug/kg | ND           | 326             | 12/03/15 14:36 |            |
| Dibenz(a,h)anthracene           | ug/kg | ND           | 168             | 12/03/15 14:36 |            |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50133561

METHOD BLANK: 1436702

Matrix: Solid

Associated Lab Samples: 50133561001

| Parameter                  | Units | Blank Result | Reporting Limit | Analyzed       | Qualifiers |
|----------------------------|-------|--------------|-----------------|----------------|------------|
| Dibenzofuran               | ug/kg | ND           | 326             | 12/03/15 14:36 |            |
| Diethylphthalate           | ug/kg | ND           | 326             | 12/03/15 14:36 |            |
| Dimethylphthalate          | ug/kg | ND           | 326             | 12/03/15 14:36 |            |
| Fluoranthene               | ug/kg | ND           | 326             | 12/03/15 14:36 |            |
| Fluorene                   | ug/kg | ND           | 326             | 12/03/15 14:36 |            |
| Hexachloro-1,3-butadiene   | ug/kg | ND           | 326             | 12/03/15 14:36 |            |
| Hexachlorobenzene          | ug/kg | ND           | 326             | 12/03/15 14:36 |            |
| Hexachlorocyclopentadiene  | ug/kg | ND           | 326             | 12/03/15 14:36 |            |
| Hexachloroethane           | ug/kg | ND           | 326             | 12/03/15 14:36 |            |
| Indeno(1,2,3-cd)pyrene     | ug/kg | ND           | 326             | 12/03/15 14:36 |            |
| Isophorone                 | ug/kg | ND           | 326             | 12/03/15 14:36 |            |
| N-Nitroso-di-n-propylamine | ug/kg | ND           | 326             | 12/03/15 14:36 |            |
| N-Nitrosodiphenylamine     | ug/kg | ND           | 326             | 12/03/15 14:36 |            |
| Naphthalene                | ug/kg | ND           | 326             | 12/03/15 14:36 |            |
| Nitrobenzene               | ug/kg | ND           | 326             | 12/03/15 14:36 |            |
| Pentachlorophenol          | ug/kg | ND           | 1580            | 12/03/15 14:36 |            |
| Phenanthrene               | ug/kg | ND           | 326             | 12/03/15 14:36 |            |
| Phenol                     | ug/kg | ND           | 326             | 12/03/15 14:36 |            |
| Pyrene                     | ug/kg | ND           | 326             | 12/03/15 14:36 |            |
| 2,4,6-Tribromophenol (S)   | %     | 79           | 16-122          | 12/03/15 14:36 |            |
| 2-Fluorobiphenyl (S)       | %     | 82           | 31-94           | 12/03/15 14:36 |            |
| 2-Fluorophenol (S)         | %     | 86           | 24-104          | 12/03/15 14:36 |            |
| Nitrobenzene-d5 (S)        | %     | 81           | 28-101          | 12/03/15 14:36 |            |
| p-Terphenyl-d14 (S)        | %     | 95           | 26-110          | 12/03/15 14:36 |            |
| Phenol-d5 (S)              | %     | 88           | 28-101          | 12/03/15 14:36 |            |

LABORATORY CONTROL SAMPLE: 1436703

| Parameter               | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-------------------------|-------|-------------|------------|-----------|--------------|------------|
| 2,4-Dinitrotoluene      | ug/kg | 3300        | 2420       | 73        | 39-103       |            |
| 2-Chlorophenol          | ug/kg | 3300        | 2410       | 73        | 38-96        |            |
| 2-Methylnaphthalene     | ug/kg | 3300        | 2630       | 80        | 36-94        |            |
| 4-Chloro-3-methylphenol | ug/kg | 3300        | 2700       | 82        | 38-104       |            |
| 4-Nitrophenol           | ug/kg | 3300        | 2240       | 68        | 34-104       |            |
| Acenaphthene            | ug/kg | 3300        | 2610       | 79        | 43-99        |            |
| Acenaphthylene          | ug/kg | 3300        | 2560       | 77        | 42-101       |            |
| Anthracene              | ug/kg | 3300        | 2550       | 77        | 46-107       |            |
| Benzo(a)anthracene      | ug/kg | 3300        | 2590       | 78        | 45-108       |            |
| Benzo(a)pyrene          | ug/kg | 3300        | 2490       | 76        | 47-113       |            |
| Benzo(b)fluoranthene    | ug/kg | 3300        | 2540       | 77        | 41-110       |            |
| Benzo(g,h,i)perylene    | ug/kg | 3300        | 2420       | 73        | 42-112       |            |
| Benzo(k)fluoranthene    | ug/kg | 3300        | 2490       | 76        | 44-107       |            |
| Chrysene                | ug/kg | 3300        | 2570       | 78        | 43-103       |            |
| Dibenz(a,h)anthracene   | ug/kg | 3300        | 2410       | 73        | 43-110       |            |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50133561

LABORATORY CONTROL SAMPLE: 1436703

| Parameter                  | Units | Spike<br>Conc. | LCS<br>Result | LCS<br>% Rec | % Rec<br>Limits | Qualifiers |
|----------------------------|-------|----------------|---------------|--------------|-----------------|------------|
| Fluoranthene               | ug/kg | 3300           | 2550          | 77           | 45-105          |            |
| Fluorene                   | ug/kg | 3300           | 2540          | 77           | 42-103          |            |
| Indeno(1,2,3-cd)pyrene     | ug/kg | 3300           | 2410          | 73           | 43-111          |            |
| N-Nitroso-di-n-propylamine | ug/kg | 3300           | 2420          | 73           | 37-96           |            |
| Naphthalene                | ug/kg | 3300           | 2440          | 74           | 44-100          |            |
| Pentachlorophenol          | ug/kg | 3300           | 2340          | 71           | 21-103          |            |
| Phenanthrene               | ug/kg | 3300           | 2580          | 78           | 44-104          |            |
| Phenol                     | ug/kg | 3300           | 2700          | 82           | 37-101          |            |
| Pyrene                     | ug/kg | 3300           | 2590          | 78           | 44-105          |            |
| 2,4,6-Tribromophenol (S)   | %.    |                |               | 75           | 16-122          |            |
| 2-Fluorobiphenyl (S)       | %.    |                |               | 75           | 31-94           |            |
| 2-Fluorophenol (S)         | %.    |                |               | 84           | 24-104          |            |
| Nitrobenzene-d5 (S)        | %.    |                |               | 71           | 28-101          |            |
| p-Terphenyl-d14 (S)        | %.    |                |               | 83           | 26-110          |            |
| Phenol-d5 (S)              | %.    |                |               | 83           | 28-101          |            |

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50133561

QC Batch: PMST/11438

Analysis Method: ASTM D2974-87

QC Batch Method: ASTM D2974-87

Analysis Description: Dry Weight/Percent Moisture

Associated Lab Samples: 50133561001

SAMPLE DUPLICATE: 1436636

| Parameter        | Units | 50133478010<br>Result | Dup<br>Result | RPD | Max<br>RPD | Qualifiers |
|------------------|-------|-----------------------|---------------|-----|------------|------------|
| Percent Moisture | %     | 8.1                   | 7.9           | 3   | 5          |            |

SAMPLE DUPLICATE: 1436637

| Parameter        | Units | 50133534011<br>Result | Dup<br>Result | RPD | Max<br>RPD | Qualifiers |
|------------------|-------|-----------------------|---------------|-----|------------|------------|
| Percent Moisture | %     | 12.1                  | 12.1          | 0   | 5          |            |

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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## QUALIFIERS

Project: Hoosier Wood Preservers

Pace Project No.: 50133561

---

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### ANALYTE QUALIFIERS

1d RPD is outside method control limit due to sample non-homogeneity. MJC 12-07-15

M0 Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Hoosier Wood Preservers

Pace Project No.: 50133561

| Lab ID      | Sample ID           | QC Batch Method | QC Batch   | Analytical Method | Analytical Batch |
|-------------|---------------------|-----------------|------------|-------------------|------------------|
| 50133561001 | HWP-FillSoil-151202 | EPA 3050        | MPRP/18962 | EPA 6010          | ICP/23020        |
| 50133561001 | HWP-FillSoil-151202 | EPA 7471        | MERP/7196  | EPA 7471          | MERC/8488        |
| 50133561001 | HWP-FillSoil-151202 | EPA 3546        | OEXT/41703 | EPA 8270          | MSSV/19697       |
| 50133561001 | HWP-FillSoil-151202 | EPA 8260        | MSV/84521  |                   |                  |
| 50133561001 | HWP-FillSoil-151202 | ASTM D2974-87   | PMST/11438 |                   |                  |

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## CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

|   |                                       |  |   |                                   |         |
|---|---------------------------------------|--|---|-----------------------------------|---------|
| Section A<br>Required Client Information: |                                       | Section B<br>Required Project Information: |   | Section C<br>Invoice Information: |         |
| Company:<br>Environmental Restoration     | Report To:                            | Attention:                                 | Page: _____ of _____  |                                   | 1957919 |
| Address: 1666 Fabick Dr                   | Copy To: hstamp@gepi.com              | Company Name:                              | REGULATORY AGENCY   |                                   |         |
| Fenton, MO 63026                          |                                       | Address:                                   | <input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER<br><input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER _____ |                                   |         |
| Email To: J.Behrers@ERAC.com              | Purchase Order No.:                   | Pace Quote Reference:                      | Site Location   |                                   | IN      |
| Phone: 788-473-7124                       | Project Name: Hoosier Wood Preservers | Pace Project Manager: Kenneth Hunt         | STATE:  |                                   |         |
| Requested Due Date/TAT: 3 days            | Project Number:                       | Pace Profile #:                            |   |                                   |         |

[illegible][illegible]

**Sample Condition Upon Receipt**

*Pace Analytical*

Client Name: Env. Restoration

Project # 50133561

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☒ Client ☐ Commercial ☐ Pace Other \_\_\_\_\_

Tracking #: \_\_\_\_\_

Custody Seal on Cooler/Box Present: ☐ yes ☒ no      Seals intact: ☐ yes ☐ no

Date/Time 5035A kits placed in freezer

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☒ Other ziplock

Thermometer 1 2 3 4 5 6 A B C D E F

Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 0.3°C / 0.3°C  
(Initial/Corrected)

Ice Visible in Sample Containers: ☐ yes ☒ no

Temp should be above freezing to 6°C

Comments:

Date and initials of person examining contents: Kee 12-2-15

|   |  |  |
|---|--|--|
| Are samples from West Virginia?   | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                              | 1.                                     |
| Document any containers out of temp.  |  |  |
| Chain of Custody Present:   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 2.                                     |
| Chain of Custody Filled Out:  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 3.                                     |
| Chain of Custody Relinquished:  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 4.                                     |
| Sampler Name & Signature on COC:  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 5.                                     |
| Short Hold Time Analysis (<72hr):   | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | 6.                                     |
| Rush Turn Around Time Requested:  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 7. <u>3-day TAT</u>                    |
| Containers Intact:  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 8.                                     |
| Sample Labels match COC:<br>-Includes date/time/ID/Analysis   | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | 9. <u>No sample time on containers</u> |
| All containers needing acid/base pres. have been checked?<br>exceptions: VOA, coliform, TOC, O&G                                | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | 10 (Circle) HNO3 H2SO4 NaOH NaOH/ZnAc  |
| All containers needing preservation are found to be in compliance with EPA recommendation (<2, >9, >12) unless otherwise noted. |  |  |
| Residual Chlorine Check (SVOC 625 Pest/PCB 608)   |  | 11. Present Absent                     |
| Residual Chlorine Check (Total/Amenable/Free Cyanide)   |  | 12. Present Absent                     |
| Headspace in VOA Vials (>6mm):  | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | 13                                     |
| Headspace Wisconsin Sulfide   | <input type="checkbox"/> Yes <input type="checkbox"/> No   | 14                                     |
| Trip Blank Present:   | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | 15                                     |
| Trip Blank Custody Seals Present  | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A |  |
| <b>Project Manager Review</b>   |  |  |
| Samples Arrived within Hold Time:   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 15.                                    |
| Sufficient Volume:  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 16.                                    |
| Correct Containers Used:  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 17.                                    |

Client Notification/ Resolution:

Field Data Required? Y / N.

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments/ Resolution:

Project Manager Review:

*[Signature]*

Date: 12/2/15

# Sample Container Count

CLIENT: Env. Restoration

COC PAGE 1 of 1957919  
COC ID# 1957919

Project # 50133561

| Sample Line Item | DG9H | AG1U | WG9U | AG0U | R | 4/6 | BP2N | BP2U | BP2S | BP3N | BP3U | BP3S | AG3S | AG1H | BP3C | BP1U | SP5T | AG2U | pH <2 | pH >9 | pH >12 |
|------------------|------|------|------|------|---|-----|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|--------|
| 1                |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 2                |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 3                |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 4                |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 5                |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 6                |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 7                |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 8                |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 9                |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 10               |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 11               |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 12               |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |

## Container Codes

|      |                                |      |                                    |      |                              |      |                               |
|------|--------------------------------|------|------------------------------------|------|------------------------------|------|-------------------------------|
| DG9H | 40mL HCL amber vial            | AG0U | 100mL unpreserved amber glass      | BP1N | 1 liter HNO3 plastic         | DG9P | 40mL TSP amber vial           |
| AG1U | 1liter unpreserved amber glass | AG1H | 1 liter HCL amber glass            | BP1S | 1 liter H2SO4 plastic        | DG9S | 40mL H2SO4 amber vial         |
| WG9U | 4oz clear soil jar             | AG1S | 1 liter H2SO4 amber glass          | BP1U | 1 liter unpreserved plastic  | DG9T | 40mL Na Thio amber vial       |
| R    | terra core kit                 | AG1T | 1 liter Na Thiosulfate amber glass | BP1Z | 1 liter NaOH, Zn, Ac         | DG9U | 40mL unpreserved amber vial   |
| BP2N | 500mL HNO3 plastic             | AG2N | 500mL HNO3 amber glass             | BP2A | 500mL NaOH, Asc Acid plastic | SP5T | 120mL Coliform Na Thiosulfate |
| BP2U | 500mL unpreserved plastic      | AG2S | 500mL H2SO4 amber glass            | BP2Q | 500mL NaOH plastic           | JGFU | 4oz unpreserved amber wide    |
| BP2S | 500mL H2SO4 plastic            | AG2U | 500mL unpreserved amber glass      | BP2Z | 500mL NaOH, Zn Ac            | U    | Summa Can                     |
| BP3N | 250mL HNO3 plastic             | AG3U | 250mL unpreserved amber glass      | AF   | Air Filter                   | VG9H | 40mL HCL clear vial           |
| BP3U | 250mL unpreserved plastic      | BG1H | 1 liter HCL clear glass            | BP3C | 250mL NaOH plastic           | VG9T | 40mL Na Thio. clear vial      |
| BP3S | 250mL H2SO4 plastic            | BG1S | 1 liter H2SO4 clear glass          | BP3Z | 250mL NaOH, Zn Ac plastic    | VG9U | 40mL unpreserved clear vial   |
| AG3S | 250mL H2SO4 glass amber        | BG1T | 1 liter Na Thiosulfate clear glass | C    | Air Cassettes                | VSG  | Headspace septa vial & HCL    |
| AG1S | 1 liter H2SO4 amber glass      | BG1U | 1 liter unpreserved glass          | DG9B | 40mL Na Bisulfate amber vial | WGFX | 4oz wide jar w/hexane wipe    |
| BP1U | 1 liter unpreserved plastic    | BP1A | 1 liter NaOH, Asc Acid plastic     | DG9M | 40mL MeOH clear vial         | ZPLC | Ziploc Bag                    |

December 09, 2015

Mr. John Behrens  
Environmental Restoration  
1666 Fabick Drive  
Fenton, MO 63026

RE: Project: Hoosier Wood Preservers  
Pace Project No.: 50133497

Dear Mr. Behrens:

Enclosed are the analytical results for sample(s) received by the laboratory on December 01, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Kenneth Hunt  
kenneth.hunt@pacelabs.com  
Project Manager

Enclosures



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Hoosier Wood Preservers

Pace Project No.: 50133497

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### Indiana Certification IDs

7726 Moller Road, Indianapolis, IN 46268

Illinois Certification #: 200074

Indiana Certification #: C-49-06

Kansas Certification #: E-10177

Kentucky UST Certification #: 0042

Kentucky WW Certification #: 98019

Louisiana Certification #: 04076

Ohio VAP Certification #: CL-0065

Oklahoma Certification #: 2014-148

Texas Certification #: T104704355-15-9

West Virginia Certification #: 330

Wisconsin Certification #: 999788130

USDA Soil Permit #: P330-10-00128

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Hoosier Wood Preservers

Pace Project No.: 50133497

| Lab ID      | Sample ID         | Matrix | Date Collected | Date Received  |
|-------------|-------------------|--------|----------------|----------------|
| 50133497001 | HWP-SBsoil-151201 | Solid  | 12/01/15 14:35 | 12/01/15 17:48 |

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## SAMPLE ANALYTE COUNT

Project: Hoosier Wood Preservers

Pace Project No.: 50133497

| Lab ID      | Sample ID         | Method        | Analysts | Analytes Reported |
|-------------|-------------------|---------------|----------|-------------------|
| 50133497001 | HWP-SBsoil-151201 | EPA 6010      | MJC      | 7                 |
|             |                   | EPA 7471      | JGJ      | 1                 |
|             |                   | ASTM D2974-87 | MLS      | 1                 |

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## ANALYTICAL RESULTS

Project: Hoosier Wood Preservers

Pace Project No.: 50133497

**Sample:** HWP-SBsoil-151201 **Lab ID:** 50133497001 **Collected:** 12/01/15 14:35 **Received:** 12/01/15 17:48 **Matrix:** Solid

*Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.*

| Parameters   | Results | Units | Report Limit | DF | Prepared       | Analyzed       | CAS No.   | Qual |
|--|---------|-------|--------------|----|----------------|----------------|-----------|------|
| <b>6010 MET ICP</b> Analytical Method: EPA 6010 Preparation Method: EPA 3050 |         |       |              |    |                |                |           |      |
| Arsenic  | 15.7    | mg/kg | 1.0          | 1  | 12/03/15 13:58 | 12/04/15 12:15 | 7440-38-2 |      |
| Barium   | 118     | mg/kg | 1.0          | 1  | 12/03/15 13:58 | 12/04/15 12:15 | 7440-39-3 |      |
| Cadmium  | 0.91    | mg/kg | 0.50         | 1  | 12/03/15 13:58 | 12/04/15 12:15 | 7440-43-9 |      |
| Chromium   | 64.1    | mg/kg | 1.0          | 1  | 12/03/15 13:58 | 12/04/15 12:15 | 7440-47-3 |      |
| Lead   | 50.3    | mg/kg | 1.0          | 1  | 12/03/15 13:58 | 12/04/15 12:15 | 7439-92-1 |      |
| Selenium   | ND      | mg/kg | 1.0          | 1  | 12/03/15 13:58 | 12/04/15 12:15 | 7782-49-2 |      |
| Silver   | ND      | mg/kg | 0.50         | 1  | 12/03/15 13:58 | 12/04/15 12:15 | 7440-22-4 |      |
| <b>7471 Mercury</b> Analytical Method: EPA 7471 Preparation Method: EPA 7471 |         |       |              |    |                |                |           |      |
| Mercury  | 14.4    | mg/kg | 2.2          | 10 | 12/04/15 15:59 | 12/04/15 23:13 | 7439-97-6 |      |
| <b>Percent Moisture</b> Analytical Method: ASTM D2974-87                     |         |       |              |    |                |                |           |      |
| Percent Moisture   | 5.0     | %     | 0.10         | 1  |                | 12/03/15 08:00 |           |      |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50133497

QC Batch: MERP/7198

Analysis Method: EPA 7471

QC Batch Method: EPA 7471

Analysis Description: 7471 Mercury

Associated Lab Samples: 50133497001

METHOD BLANK: 1437985

Matrix: Solid

Associated Lab Samples: 50133497001

| Parameter | Units | Blank Result | Reporting Limit | Analyzed       | Qualifiers |
|-----------|-------|--------------|-----------------|----------------|------------|
| Mercury   | mg/kg | ND           | 0.20            | 12/04/15 19:26 |            |

LABORATORY CONTROL SAMPLE: 1437986

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Mercury   | mg/kg | .49         | 0.49       | 101       | 80-120       |            |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1437987 1437988

| Parameter | Units | 50133528004 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|-----------|-------|--------------------|----------------|-----------------|-----------|------------|----------|-----------|--------------|-----|---------|------|
| Mercury   | mg/kg | 0.019J             | .54            | .53             | 0.58      | 0.58       | 104      | 106       | 75-125       | 1   | 20      |      |

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50133497

QC Batch: MPRP/18962

Analysis Method: EPA 6010

QC Batch Method: EPA 3050

Analysis Description: 6010 MET

Associated Lab Samples: 50133497001

METHOD BLANK: 1436759

Matrix: Solid

Associated Lab Samples: 50133497001

| Parameter | Units | Blank Result | Reporting Limit | Analyzed       | Qualifiers |
|-----------|-------|--------------|-----------------|----------------|------------|
| Arsenic   | mg/kg | ND           | 1.0             | 12/04/15 11:21 |            |
| Barium    | mg/kg | ND           | 1.0             | 12/04/15 11:21 |            |
| Cadmium   | mg/kg | ND           | 0.50            | 12/04/15 11:21 |            |
| Chromium  | mg/kg | ND           | 1.0             | 12/04/15 11:21 |            |
| Lead      | mg/kg | ND           | 1.0             | 12/04/15 11:21 |            |
| Selenium  | mg/kg | ND           | 1.0             | 12/04/15 11:21 |            |
| Silver    | mg/kg | ND           | 0.50            | 12/04/15 11:21 |            |

LABORATORY CONTROL SAMPLE: 1436760

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Arsenic   | mg/kg | 50          | 50.0       | 100       | 80-120       |            |
| Barium    | mg/kg | 50          | 49.6       | 99        | 80-120       |            |
| Cadmium   | mg/kg | 50          | 47.6       | 95        | 80-120       |            |
| Chromium  | mg/kg | 50          | 50.0       | 100       | 80-120       |            |
| Lead      | mg/kg | 50          | 46.6       | 93        | 80-120       |            |
| Selenium  | mg/kg | 50          | 50.2       | 100       | 80-120       |            |
| Silver    | mg/kg | 25          | 23.4       | 93        | 80-120       |            |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1436761 1436762

| Parameter | Units | 50133306003 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual  |
|-----------|-------|--------------------|----------------|-----------------|-----------|------------|----------|-----------|--------------|-----|---------|-------|
| Arsenic   | mg/kg | 10.4               | 59.5           | 52.8            | 70.3      | 59.2       | 101      | 92        | 75-125       | 17  | 20      |       |
| Barium    | mg/kg | 98.2               | 59.5           | 52.8            | 206       | 154        | 181      | 105       | 75-125       | 29  | 20      | 1d,M0 |
| Cadmium   | mg/kg | ND                 | 59.5           | 52.8            | 52.2      | 45.6       | 87       | 86        | 75-125       | 13  | 20      |       |
| Chromium  | mg/kg | 15.6               | 59.5           | 52.8            | 68.6      | 63.1       | 89       | 90        | 75-125       | 8   | 20      |       |
| Lead      | mg/kg | 11.4               | 59.5           | 52.8            | 65.0      | 51.3       | 90       | 76        | 75-125       | 24  | 20      | 1d    |
| Selenium  | mg/kg | ND                 | 59.5           | 52.8            | 53.3      | 46.3       | 89       | 87        | 75-125       | 14  | 20      |       |
| Silver    | mg/kg | ND                 | 29.7           | 26.5            | 24.3      | 20.9       | 82       | 79        | 75-125       | 15  | 20      |       |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50133497

QC Batch: PMST/11438

Analysis Method: ASTM D2974-87

QC Batch Method: ASTM D2974-87

Analysis Description: Dry Weight/Percent Moisture

Associated Lab Samples: 50133497001

SAMPLE DUPLICATE: 1436636

| Parameter        | Units | 50133478010<br>Result | Dup<br>Result | RPD | Max<br>RPD | Qualifiers |
|------------------|-------|-----------------------|---------------|-----|------------|------------|
| Percent Moisture | %     | 8.1                   | 7.9           | 3   | 5          |            |

SAMPLE DUPLICATE: 1436637

| Parameter        | Units | 50133534011<br>Result | Dup<br>Result | RPD | Max<br>RPD | Qualifiers |
|------------------|-------|-----------------------|---------------|-----|------------|------------|
| Percent Moisture | %     | 12.1                  | 12.1          | 0   | 5          |            |

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## QUALIFIERS

Project: Hoosier Wood Preservers

Pace Project No.: 50133497

---

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### ANALYTE QUALIFIERS

1d RPD is outside method control limit due to sample non-homogeneity. MJC 12-07-15

M0 Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Hoosier Wood Preservers

Pace Project No.: 50133497

| Lab ID      | Sample ID         | QC Batch Method | QC Batch   | Analytical Method | Analytical Batch |
|-------------|-------------------|-----------------|------------|-------------------|------------------|
| 50133497001 | HWP-SBsoil-151201 | EPA 3050        | MPRP/18962 | EPA 6010          | ICP/23020        |
| 50133497001 | HWP-SBsoil-151201 | EPA 7471        | MERP/7198  | EPA 7471          | MERC/8487        |
| 50133497001 | HWP-SBsoil-151201 | ASTM D2974-87   | PMST/11438 |                   |                  |

## REPORT OF LABORATORY ANALYSIS

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**The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.**

|   |  |  |  |                                   |  |
|---|--|--|--|-----------------------------------|--|
| Section A<br>Required Client Information: |  | Section B<br>Required Project Information: |  | Section C<br>Invoice Information: |  |
| Company: Environmental Restoration        |  | Report To:                                 |  | Attention:                        |  |
| Address: 1666 Fabick Dr                   |  | Copy To:                                   |  | Company Name:                     |  |
| Fenton, MO 63026                          |  |  |  | Address:                          |  |
| Email To: J.Behrens@ERHC.com              |  | Purchase Order No.:                        |  | Pace Quote<br>Reference:          |  |
| Phone: 788-473-7114                       |  | Project Name: Hoosier Wood Preservers      |  | Pace Project<br>Manager:          |  |
| Requested Due Date/TAT: 5TD               |  | Project Number:                            |  | Pace Profile #:                   |  |

11/11

Page: \_\_\_\_\_ of \_\_\_\_\_

1955249

REGULATORY AGENCY  
☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER  
☐ UST ☐ RCRA ☐ OTHER \_\_\_\_\_

Site Location  
 STATE: IN

[illegible][illegible]

Pace Analytical

Client Name: Env. Restoration

Project # 50133497

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☒ Client ☐ Commercial ☐ Pace Other

Tracking #: \_\_\_\_\_

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals Intact: ☐ yes ☒ no

Date/Time 5035A kits placed in freezer

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☒ Other Ziploc

Thermometer 1 2 3 4 5 6 A B C D E F

Type of Ice: Wet Blue None

☒ Samples on ice cooling process has begun

Cooler Temperature 2.2°C / 2.2°C  
(Initial/Corrected)

Ice Visible in Sample Containers: ☐ yes ☒ no

Temp should be above freezing to 6°C

Comments:

Date and initials of person examining contents: MB

|   |  |     |                                    |
|---|--|-----|------------------------------------|
| Are samples from West Virginia?   | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                              | 1.  |                                    |
| Document any containers out of temp.  |  |     |                                    |
| Chain of Custody Present:   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 2.  |                                    |
| Chain of Custody Filled Out:  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 3.  |                                    |
| Chain of Custody Relinquished:  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 4.  |                                    |
| Sampler Name & Signature on COC:  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 5.  |                                    |
| Short Hold Time Analysis (<72hr):   | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | 6.  |                                    |
| Rush Turn Around Time Requested:  | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | 7.  |                                    |
| Containers Intact:  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 8.  |                                    |
| Sample Labels match COC:<br>-Includes date/time/ID/Analysis   | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | 9.  | no collection time on jars MB      |
| All containers needing acid/base pres. have been checked?<br>exceptions: VOA, coliform, TOC, O&G                                | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | 10. | (Circle) HNO3 H2SO4 NaOH NaOH/ZnAc |
| All containers needing preservation are found to be in compliance with EPA recommendation (<2, >9, >12) unless otherwise noted. |  |     |                                    |
| Residual Chlorine Check (SVOC 625 Pest/PCB 608)   | <u>NA</u>  | 11. | Present Absent                     |
| Residual Chlorine Check (Total/Amenable/Free Cyanide)   | <u>NA</u>  | 12. | Present Absent                     |
| Headspace in VOA Vials (>6mm):  | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | 13. |                                    |
| Headspace Wisconsin Sulfide   | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | 14. |                                    |
| Trip Blank Present:   | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | 15. |                                    |
| Trip Blank Custody Seals Present  | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A |     |                                    |
| <b>Project Manager Review</b>   |  |     |                                    |
| Samples Arrived within Hold Time:   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 15. |                                    |
| Sufficient Volume:  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 16. |                                    |
| Correct Containers Used:  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 17. |                                    |

Client Notification/ Resolution:

Field Data Required? Y / N

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments/ Resolution:

Project Manager Review:

*[Signature]*

Date:

12/2/15

# Sample Container Count

CLIENT: Env. Restoration

COC PAGE 1955249 of 50133497

COC ID# 1955249

Project # 50133497

Sample Line

| Item | DG9H | AG1U | WG9H | AG0U | R | 4/6 | BP2N | BP2U | BP2S | BP3N | BP3U | BP3S | AG3S | AG1H | BP3C | BP1U | SP5T | AG2U | pH <2 | pH >9 | pH >12 |
|------|------|------|------|------|---|-----|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|--------|
| 1    |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 2    |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 3    |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 4    |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 5    |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 6    |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 7    |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 8    |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 9    |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 10   |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 11   |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 12   |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |

## Container Codes

|      |                                 |      |                                    |      |                              |      |                               |
|------|---------------------------------|------|------------------------------------|------|------------------------------|------|-------------------------------|
| DG9H | 40mL HCL amber vial             | AG0U | 100mL unpreserved amber glass      | BP1N | 1 liter HNO3 plastic         | DG9P | 40mL TSP amber vial           |
| AG1U | 1 liter unpreserved amber glass | AG1H | 1 liter HCL amber glass            | BP1S | 1 liter H2SO4 plastic        | DG9S | 40mL H2SO4 amber vial         |
| WG9H | 4oz clear soil jar              | AG1S | 1 liter H2SO4 amber glass          | BP1U | 1 liter unpreserved plastic  | DG9T | 40mL Na Thio amber vial       |
| R    | terra core kit                  | AG1T | 1 liter Na Thiosulfate amber glass | BP1Z | 1 liter NaOH, Zn, Ac         | DG9U | 40mL unpreserved amber vial   |
| BP2N | 500mL HNO3 plastic              | AG2N | 500mL HNO3 amber glass             | BP2A | 500mL NaOH, Asc Acid plastic | SP5T | 120mL Coliform Na Thiosulfate |
| BP2U | 500mL unpreserved plastic       | AG2S | 500mL H2SO4 amber glass            | BP2O | 500mL NaOH plastic           | JGFU | 4oz unpreserved amber wide    |
| BP2S | 500mL H2SO4 plastic             | AG2U | 500mL unpreserved amber glass      | BP2Z | 500mL NaOH, Zn Ac            | U    | Summa Can                     |
| BP3N | 250mL HNO3 plastic              | AG3U | 250mL unpreserved amber glass      | AF   | Air Filter                   | VG9H | 40mL HCL clear vial           |
| BP3U | 250mL unpreserved plastic       | BG1H | 1 liter HCL clear glass            | BP3C | 250mL NaOH plastic           | VG9T | 40mL Na Thio. clear vial      |
| BP3S | 250mL H2SO4 plastic             | BG1S | 1 liter H2SO4 clear glass          | BP3Z | 250mL NaOH, Zn Ac plastic    | VG9U | 40mL unpreserved clear vial   |
| AG3S | 250mL H2SO4 glass amber         | BG1T | 1 liter Na Thiosulfate clear glass | C    | Air Cassettes                | VSG  | Headspace septa vial & HCL    |
| AG1S | 1 liter H2SO4 amber glass       | BG1U | 1 liter unpreserved glass          | DG9B | 40mL Na Bisulfate amber vial | WGFX | 4oz wide jar w/hexane wipe    |
| BP1U | 1 liter unpreserved plastic     | BP1A | 1 liter NaOH, Asc Acid plastic     | DG9M | 40mL MeOH clear vial         | ZPLC | Ziploc Bag                    |

December 04, 2015

Mr. John Behrens  
Environmental Restoration  
1666 Fabick Drive  
Fenton, MO 63026

RE: Project: Hoosier Wood Preservers  
Pace Project No.: 50133180

Dear Mr. Behrens:

Enclosed are the analytical results for sample(s) received by the laboratory on November 24, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Kenneth Hunt  
kenneth.hunt@pacelabs.com  
Project Manager

Enclosures



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Hoosier Wood Preservers

Pace Project No.: 50133180

---

### Indiana Certification IDs

7726 Moller Road, Indianapolis, IN 46268

Illinois Certification #: 200074

Indiana Certification #: C-49-06

Kansas Certification #: E-10177

Kentucky UST Certification #: 0042

Kentucky WW Certification #: 98019

Louisiana Certification #: 04076

Ohio VAP Certification #: CL-0065

Oklahoma Certification #: 2014-148

Texas Certification #: T104704355-15-9

West Virginia Certification #: 330

Wisconsin Certification #: 999788130

USDA Soil Permit #: P330-10-00128

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Hoosier Wood Preservers

Pace Project No.: 50133180

| Lab ID      | Sample ID            | Matrix | Date Collected | Date Received  |
|-------------|----------------------|--------|----------------|----------------|
| 50133180001 | HWP-SBtreated-151124 | Solid  | 11/24/15 08:35 | 11/24/15 13:50 |

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE ANALYTE COUNT

Project: Hoosier Wood Preservers

Pace Project No.: 50133180

| Lab ID      | Sample ID            | Method        | Analysts | Analytes Reported |
|-------------|----------------------|---------------|----------|-------------------|
| 50133180001 | HWP-SBtreated-151124 | EPA 6010      | FRW      | 7                 |
|             |                      | EPA 7470      | ILP      | 1                 |
|             |                      | EPA 8270      | TBP      | 66                |
|             |                      | EPA 8260      | JLZ      | 73                |
|             |                      | ASTM D2974-87 | SCM      | 1                 |

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Hoosier Wood Preservers

Pace Project No.: 50133180

Sample: HWP-SBtreated-151124 Lab ID: 50133180001 Collected: 11/24/15 08:35 Received: 11/24/15 13:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

| Parameters   | Results | Units | Report Limit | DF | Prepared       | Analyzed       | CAS No.   | Qual |
|--|---------|-------|--------------|----|----------------|----------------|-----------|------|
| <b>6010 MET ICP, TCLP</b>                                |         |       |              |    |                |                |           |      |
| Analytical Method: EPA 6010 Preparation Method: EPA 3010 |         |       |              |    |                |                |           |      |
| Leachate Method/Date: EPA 1311; 11/24/15 15:30           |         |       |              |    |                |                |           |      |
| Arsenic  | ND      | mg/L  | 0.10         | 1  | 11/25/15 17:23 | 11/29/15 20:15 | 7440-38-2 |      |
| Barium   | ND      | mg/L  | 5.0          | 1  | 11/25/15 17:23 | 11/29/15 20:15 | 7440-39-3 |      |
| Cadmium  | ND      | mg/L  | 0.050        | 1  | 11/25/15 17:23 | 11/29/15 20:15 | 7440-43-9 |      |
| Chromium   | ND      | mg/L  | 0.10         | 1  | 11/25/15 17:23 | 11/29/15 20:15 | 7440-47-3 |      |
| Lead   | ND      | mg/L  | 0.10         | 1  | 11/25/15 17:23 | 11/29/15 20:15 | 7439-92-1 |      |
| Selenium   | ND      | mg/L  | 0.10         | 1  | 11/25/15 17:23 | 11/29/15 20:15 | 7782-49-2 |      |
| Silver   | ND      | mg/L  | 0.10         | 1  | 11/25/15 17:23 | 11/29/15 20:15 | 7440-22-4 |      |

### 7470 Mercury, TCLP

Analytical Method: EPA 7470 Preparation Method: EPA 7470

Leachate Method/Date: EPA 1311; 11/24/15 15:30

|         |    |      |        |   |                |                |           |  |
|---------|----|------|--------|---|----------------|----------------|-----------|--|
| Mercury | ND | mg/L | 0.0020 | 1 | 12/03/15 09:28 | 12/03/15 13:31 | 7439-97-6 |  |
|---------|----|------|--------|---|----------------|----------------|-----------|--|

### 8270 MSSV SHORT LIST MICROWAVE

Analytical Method: EPA 8270 Preparation Method: EPA 3546

|                                |    |       |      |   |                |                |           |  |
|--------------------------------|----|-------|------|---|----------------|----------------|-----------|--|
| Acenaphthene                   | ND | ug/kg | 1040 | 1 | 11/25/15 10:15 | 11/30/15 14:20 | 83-32-9   |  |
| Acenaphthylene                 | ND | ug/kg | 1040 | 1 | 11/25/15 10:15 | 11/30/15 14:20 | 208-96-8  |  |
| Anthracene                     | ND | ug/kg | 1040 | 1 | 11/25/15 10:15 | 11/30/15 14:20 | 120-12-7  |  |
| Benzo(a)anthracene             | ND | ug/kg | 1040 | 1 | 11/25/15 10:15 | 11/30/15 14:20 | 56-55-3   |  |
| Benzo(a)pyrene                 | ND | ug/kg | 537  | 1 | 11/25/15 10:15 | 11/30/15 14:20 | 50-32-8   |  |
| Benzo(b)fluoranthene           | ND | ug/kg | 1040 | 1 | 11/25/15 10:15 | 11/30/15 14:20 | 205-99-2  |  |
| Benzo(g,h,i)perylene           | ND | ug/kg | 1040 | 1 | 11/25/15 10:15 | 11/30/15 14:20 | 191-24-2  |  |
| Benzo(k)fluoranthene           | ND | ug/kg | 1040 | 1 | 11/25/15 10:15 | 11/30/15 14:20 | 207-08-9  |  |
| Benzyl alcohol                 | ND | ug/kg | 2090 | 1 | 11/25/15 10:15 | 11/30/15 14:20 | 100-51-6  |  |
| 4-Bromophenylphenyl ether      | ND | ug/kg | 1040 | 1 | 11/25/15 10:15 | 11/30/15 14:20 | 101-55-3  |  |
| Butylbenzylphthalate           | ND | ug/kg | 1040 | 1 | 11/25/15 10:15 | 11/30/15 14:20 | 85-68-7   |  |
| 4-Chloro-3-methylphenol        | ND | ug/kg | 2090 | 1 | 11/25/15 10:15 | 11/30/15 14:20 | 59-50-7   |  |
| 4-Chloroaniline                | ND | ug/kg | 2090 | 1 | 11/25/15 10:15 | 11/30/15 14:20 | 106-47-8  |  |
| bis(2-Chloroethoxy)methane     | ND | ug/kg | 1040 | 1 | 11/25/15 10:15 | 11/30/15 14:20 | 111-91-1  |  |
| bis(2-Chloroethyl) ether       | ND | ug/kg | 1040 | 1 | 11/25/15 10:15 | 11/30/15 14:20 | 111-44-4  |  |
| bis(2chloro1methylethyl) ether | ND | ug/kg | 1040 | 1 | 11/25/15 10:15 | 11/30/15 14:20 | 108-60-1  |  |
| 2-Chloronaphthalene            | ND | ug/kg | 1040 | 1 | 11/25/15 10:15 | 11/30/15 14:20 | 91-58-7   |  |
| 2-Chlorophenol                 | ND | ug/kg | 1040 | 1 | 11/25/15 10:15 | 11/30/15 14:20 | 95-57-8   |  |
| 4-Chlorophenylphenyl ether     | ND | ug/kg | 1040 | 1 | 11/25/15 10:15 | 11/30/15 14:20 | 7005-72-3 |  |
| Chrysene                       | ND | ug/kg | 1040 | 1 | 11/25/15 10:15 | 11/30/15 14:20 | 218-01-9  |  |
| Dibenz(a,h)anthracene          | ND | ug/kg | 537  | 1 | 11/25/15 10:15 | 11/30/15 14:20 | 53-70-3   |  |
| Dibenzofuran                   | ND | ug/kg | 1040 | 1 | 11/25/15 10:15 | 11/30/15 14:20 | 132-64-9  |  |
| 3,3'-Dichlorobenzidine         | ND | ug/kg | 2090 | 1 | 11/25/15 10:15 | 11/30/15 14:20 | 91-94-1   |  |
| 2,4-Dichlorophenol             | ND | ug/kg | 1040 | 1 | 11/25/15 10:15 | 11/30/15 14:20 | 120-83-2  |  |
| Diethylphthalate               | ND | ug/kg | 1040 | 1 | 11/25/15 10:15 | 11/30/15 14:20 | 84-66-2   |  |
| 2,4-Dimethylphenol             | ND | ug/kg | 1040 | 1 | 11/25/15 10:15 | 11/30/15 14:20 | 105-67-9  |  |
| Dimethylphthalate              | ND | ug/kg | 1040 | 1 | 11/25/15 10:15 | 11/30/15 14:20 | 131-11-3  |  |
| Di-n-butylphthalate            | ND | ug/kg | 1040 | 1 | 11/25/15 10:15 | 11/30/15 14:20 | 84-74-2   |  |
| 4,6-Dinitro-2-methylphenol     | ND | ug/kg | 5050 | 1 | 11/25/15 10:15 | 11/30/15 14:20 | 534-52-1  |  |
| 2,4-Dinitrophenol              | ND | ug/kg | 5050 | 1 | 11/25/15 10:15 | 11/30/15 14:20 | 51-28-5   |  |
| 2,4-Dinitrotoluene             | ND | ug/kg | 1040 | 1 | 11/25/15 10:15 | 11/30/15 14:20 | 121-14-2  |  |
| 2,6-Dinitrotoluene             | ND | ug/kg | 1040 | 1 | 11/25/15 10:15 | 11/30/15 14:20 | 606-20-2  |  |

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Hoosier Wood Preservers

Pace Project No.: 50133180

Sample: HWP-SBtreated-151124 Lab ID: 50133180001 Collected: 11/24/15 08:35 Received: 11/24/15 13:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

| Parameters   | Results | Units | Report Limit | DF | Prepared       | Analyzed       | CAS No.   | Qual |
|--|---------|-------|--------------|----|----------------|----------------|-----------|------|
| <b>8270 MSSV SHORT LIST MICROWAVE</b> Analytical Method: EPA 8270 Preparation Method: EPA 3546 |         |       |              |    |                |                |           |      |
| Di-n-octylphthalate  | ND      | ug/kg | 1040         | 1  | 11/25/15 10:15 | 11/30/15 14:20 | 117-84-0  |      |
| bis(2-Ethylhexyl)phthalate   | ND      | ug/kg | 1040         | 1  | 11/25/15 10:15 | 11/30/15 14:20 | 117-81-7  |      |
| Fluoranthene   | ND      | ug/kg | 1040         | 1  | 11/25/15 10:15 | 11/30/15 14:20 | 206-44-0  |      |
| Fluorene   | ND      | ug/kg | 1040         | 1  | 11/25/15 10:15 | 11/30/15 14:20 | 86-73-7   |      |
| Hexachloro-1,3-butadiene   | ND      | ug/kg | 1040         | 1  | 11/25/15 10:15 | 11/30/15 14:20 | 87-68-3   |      |
| Hexachlorobenzene  | ND      | ug/kg | 1040         | 1  | 11/25/15 10:15 | 11/30/15 14:20 | 118-74-1  |      |
| Hexachlorocyclopentadiene  | ND      | ug/kg | 1040         | 1  | 11/25/15 10:15 | 11/30/15 14:20 | 77-47-4   |      |
| Hexachloroethane   | ND      | ug/kg | 1040         | 1  | 11/25/15 10:15 | 11/30/15 14:20 | 67-72-1   |      |
| Indeno(1,2,3-cd)pyrene   | ND      | ug/kg | 1040         | 1  | 11/25/15 10:15 | 11/30/15 14:20 | 193-39-5  |      |
| Isophorone   | ND      | ug/kg | 1040         | 1  | 11/25/15 10:15 | 11/30/15 14:20 | 78-59-1   |      |
| 2-Methylnaphthalene  | ND      | ug/kg | 1040         | 1  | 11/25/15 10:15 | 11/30/15 14:20 | 91-57-6   |      |
| 2-Methylphenol(o-Cresol)   | ND      | ug/kg | 1040         | 1  | 11/25/15 10:15 | 11/30/15 14:20 | 95-48-7   |      |
| 3&4-Methylphenol(m&p Cresol)   | ND      | ug/kg | 2090         | 1  | 11/25/15 10:15 | 11/30/15 14:20 |           |      |
| Naphthalene  | ND      | ug/kg | 1040         | 1  | 11/25/15 10:15 | 11/30/15 14:20 | 91-20-3   |      |
| 2-Nitroaniline   | ND      | ug/kg | 5050         | 1  | 11/25/15 10:15 | 11/30/15 14:20 | 88-74-4   |      |
| 3-Nitroaniline   | ND      | ug/kg | 5050         | 1  | 11/25/15 10:15 | 11/30/15 14:20 | 99-09-2   |      |
| 4-Nitroaniline   | ND      | ug/kg | 5050         | 1  | 11/25/15 10:15 | 11/30/15 14:20 | 100-01-6  |      |
| Nitrobenzene   | ND      | ug/kg | 1040         | 1  | 11/25/15 10:15 | 11/30/15 14:20 | 98-95-3   |      |
| 2-Nitrophenol  | ND      | ug/kg | 1040         | 1  | 11/25/15 10:15 | 11/30/15 14:20 | 88-75-5   |      |
| 4-Nitrophenol  | ND      | ug/kg | 5050         | 1  | 11/25/15 10:15 | 11/30/15 14:20 | 100-02-7  |      |
| N-Nitroso-di-n-propylamine   | ND      | ug/kg | 1040         | 1  | 11/25/15 10:15 | 11/30/15 14:20 | 621-64-7  |      |
| N-Nitrosodiphenylamine   | ND      | ug/kg | 1040         | 1  | 11/25/15 10:15 | 11/30/15 14:20 | 86-30-6   |      |
| Pentachlorophenol  | ND      | ug/kg | 5050         | 1  | 11/25/15 10:15 | 11/30/15 14:20 | 87-86-5   |      |
| Phenanthrene   | ND      | ug/kg | 1040         | 1  | 11/25/15 10:15 | 11/30/15 14:20 | 85-01-8   |      |
| Phenol   | ND      | ug/kg | 1040         | 1  | 11/25/15 10:15 | 11/30/15 14:20 | 108-95-2  |      |
| Pyrene   | ND      | ug/kg | 1040         | 1  | 11/25/15 10:15 | 11/30/15 14:20 | 129-00-0  |      |
| 2,4,5-Trichlorophenol  | ND      | ug/kg | 1040         | 1  | 11/25/15 10:15 | 11/30/15 14:20 | 95-95-4   |      |
| 2,4,6-Trichlorophenol  | ND      | ug/kg | 1040         | 1  | 11/25/15 10:15 | 11/30/15 14:20 | 88-06-2   |      |
| <b>Surrogates</b>  |         |       |              |    |                |                |           |      |
| Nitrobenzene-d5 (S)  | 73      | %.    | 28-101       | 1  | 11/25/15 10:15 | 11/30/15 14:20 | 4165-60-0 |      |
| 2-Fluorobiphenyl (S)   | 68      | %.    | 31-94        | 1  | 11/25/15 10:15 | 11/30/15 14:20 | 321-60-8  |      |
| p-Terphenyl-d14 (S)  | 90      | %.    | 26-110       | 1  | 11/25/15 10:15 | 11/30/15 14:20 | 1718-51-0 |      |
| Phenol-d5 (S)  | 65      | %.    | 28-101       | 1  | 11/25/15 10:15 | 11/30/15 14:20 | 4165-62-2 |      |
| 2-Fluorophenol (S)   | 66      | %.    | 24-104       | 1  | 11/25/15 10:15 | 11/30/15 14:20 | 367-12-4  |      |
| 2,4,6-Tribromophenol (S)   | 77      | %.    | 16-122       | 1  | 11/25/15 10:15 | 11/30/15 14:20 | 118-79-6  |      |

### 8260 MSV 5030 Low Level

Analytical Method: EPA 8260

|                      |     |       |     |   |                |          |  |
|----------------------|-----|-------|-----|---|----------------|----------|--|
| Acetone              | 202 | ug/kg | 105 | 1 | 12/03/15 13:00 | 67-64-1  |  |
| Acrolein             | ND  | ug/kg | 105 | 1 | 12/03/15 13:00 | 107-02-8 |  |
| Acrylonitrile        | ND  | ug/kg | 105 | 1 | 12/03/15 13:00 | 107-13-1 |  |
| Benzene              | ND  | ug/kg | 5.3 | 1 | 12/03/15 13:00 | 71-43-2  |  |
| Bromobenzene         | ND  | ug/kg | 5.3 | 1 | 12/03/15 13:00 | 108-86-1 |  |
| Bromochloromethane   | ND  | ug/kg | 5.3 | 1 | 12/03/15 13:00 | 74-97-5  |  |
| Bromodichloromethane | ND  | ug/kg | 5.3 | 1 | 12/03/15 13:00 | 75-27-4  |  |
| Bromoform            | ND  | ug/kg | 5.3 | 1 | 12/03/15 13:00 | 75-25-2  |  |
| Bromomethane         | ND  | ug/kg | 5.3 | 1 | 12/03/15 13:00 | 74-83-9  |  |

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Hoosier Wood Preservers

Pace Project No.: 50133180

Sample: HWP-SBtreated-151124 Lab ID: 50133180001 Collected: 11/24/15 08:35 Received: 11/24/15 13:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

| Parameters                     | Results | Units                       | Report Limit | DF | Prepared | Analyzed       | CAS No.    | Qual |
|--------------------------------|---------|-----------------------------|--------------|----|----------|----------------|------------|------|
| <b>8260 MSV 5030 Low Level</b> |         | Analytical Method: EPA 8260 |              |    |          |                |            |      |
| 2-Butanone (MEK)               | ND      | ug/kg                       | 26.3         | 1  |          | 12/03/15 13:00 | 78-93-3    |      |
| n-Butylbenzene                 | ND      | ug/kg                       | 5.3          | 1  |          | 12/03/15 13:00 | 104-51-8   |      |
| sec-Butylbenzene               | ND      | ug/kg                       | 5.3          | 1  |          | 12/03/15 13:00 | 135-98-8   |      |
| tert-Butylbenzene              | ND      | ug/kg                       | 5.3          | 1  |          | 12/03/15 13:00 | 98-06-6    |      |
| Carbon disulfide               | ND      | ug/kg                       | 10.5         | 1  |          | 12/03/15 13:00 | 75-15-0    |      |
| Carbon tetrachloride           | ND      | ug/kg                       | 5.3          | 1  |          | 12/03/15 13:00 | 56-23-5    |      |
| Chlorobenzene                  | ND      | ug/kg                       | 5.3          | 1  |          | 12/03/15 13:00 | 108-90-7   |      |
| Chloroethane                   | ND      | ug/kg                       | 5.3          | 1  |          | 12/03/15 13:00 | 75-00-3    |      |
| Chloroform                     | ND      | ug/kg                       | 5.3          | 1  |          | 12/03/15 13:00 | 67-66-3    |      |
| Chloromethane                  | ND      | ug/kg                       | 5.3          | 1  |          | 12/03/15 13:00 | 74-87-3    |      |
| 2-Chlorotoluene                | ND      | ug/kg                       | 5.3          | 1  |          | 12/03/15 13:00 | 95-49-8    |      |
| 4-Chlorotoluene                | ND      | ug/kg                       | 5.3          | 1  |          | 12/03/15 13:00 | 106-43-4   |      |
| Dibromochloromethane           | ND      | ug/kg                       | 5.3          | 1  |          | 12/03/15 13:00 | 124-48-1   |      |
| 1,2-Dibromoethane (EDB)        | ND      | ug/kg                       | 5.3          | 1  |          | 12/03/15 13:00 | 106-93-4   |      |
| Dibromomethane                 | ND      | ug/kg                       | 5.3          | 1  |          | 12/03/15 13:00 | 74-95-3    |      |
| 1,2-Dichlorobenzene            | ND      | ug/kg                       | 5.3          | 1  |          | 12/03/15 13:00 | 95-50-1    |      |
| 1,3-Dichlorobenzene            | ND      | ug/kg                       | 5.3          | 1  |          | 12/03/15 13:00 | 541-73-1   |      |
| 1,4-Dichlorobenzene            | ND      | ug/kg                       | 5.3          | 1  |          | 12/03/15 13:00 | 106-46-7   |      |
| trans-1,4-Dichloro-2-butene    | ND      | ug/kg                       | 105          | 1  |          | 12/03/15 13:00 | 110-57-6   |      |
| Dichlorodifluoromethane        | ND      | ug/kg                       | 5.3          | 1  |          | 12/03/15 13:00 | 75-71-8    |      |
| 1,1-Dichloroethane             | ND      | ug/kg                       | 5.3          | 1  |          | 12/03/15 13:00 | 75-34-3    |      |
| 1,2-Dichloroethane             | ND      | ug/kg                       | 5.3          | 1  |          | 12/03/15 13:00 | 107-06-2   |      |
| 1,1-Dichloroethene             | ND      | ug/kg                       | 5.3          | 1  |          | 12/03/15 13:00 | 75-35-4    |      |
| cis-1,2-Dichloroethene         | ND      | ug/kg                       | 5.3          | 1  |          | 12/03/15 13:00 | 156-59-2   |      |
| trans-1,2-Dichloroethene       | ND      | ug/kg                       | 5.3          | 1  |          | 12/03/15 13:00 | 156-60-5   |      |
| 1,2-Dichloropropane            | ND      | ug/kg                       | 5.3          | 1  |          | 12/03/15 13:00 | 78-87-5    |      |
| 1,3-Dichloropropane            | ND      | ug/kg                       | 5.3          | 1  |          | 12/03/15 13:00 | 142-28-9   |      |
| 2,2-Dichloropropane            | ND      | ug/kg                       | 5.3          | 1  |          | 12/03/15 13:00 | 594-20-7   |      |
| 1,1-Dichloropropene            | ND      | ug/kg                       | 5.3          | 1  |          | 12/03/15 13:00 | 563-58-6   |      |
| cis-1,3-Dichloropropene        | ND      | ug/kg                       | 5.3          | 1  |          | 12/03/15 13:00 | 10061-01-5 |      |
| trans-1,3-Dichloropropene      | ND      | ug/kg                       | 5.3          | 1  |          | 12/03/15 13:00 | 10061-02-6 |      |
| Ethylbenzene                   | ND      | ug/kg                       | 5.3          | 1  |          | 12/03/15 13:00 | 100-41-4   |      |
| Ethyl methacrylate             | ND      | ug/kg                       | 105          | 1  |          | 12/03/15 13:00 | 97-63-2    |      |
| Hexachloro-1,3-butadiene       | ND      | ug/kg                       | 5.3          | 1  |          | 12/03/15 13:00 | 87-68-3    |      |
| n-Hexane                       | ND      | ug/kg                       | 5.3          | 1  |          | 12/03/15 13:00 | 110-54-3   |      |
| 2-Hexanone                     | ND      | ug/kg                       | 105          | 1  |          | 12/03/15 13:00 | 591-78-6   |      |
| Iodomethane                    | ND      | ug/kg                       | 105          | 1  |          | 12/03/15 13:00 | 74-88-4    |      |
| Isopropylbenzene (Cumene)      | ND      | ug/kg                       | 5.3          | 1  |          | 12/03/15 13:00 | 98-82-8    |      |
| p-Isopropyltoluene             | ND      | ug/kg                       | 5.3          | 1  |          | 12/03/15 13:00 | 99-87-6    |      |
| Methylene Chloride             | ND      | ug/kg                       | 21.1         | 1  |          | 12/03/15 13:00 | 75-09-2    |      |
| 4-Methyl-2-pentanone (MIBK)    | ND      | ug/kg                       | 26.3         | 1  |          | 12/03/15 13:00 | 108-10-1   |      |
| Methyl-tert-butyl ether        | ND      | ug/kg                       | 5.3          | 1  |          | 12/03/15 13:00 | 1634-04-4  |      |
| Naphthalene                    | ND      | ug/kg                       | 5.3          | 1  |          | 12/03/15 13:00 | 91-20-3    |      |
| n-Propylbenzene                | ND      | ug/kg                       | 5.3          | 1  |          | 12/03/15 13:00 | 103-65-1   |      |
| Styrene                        | ND      | ug/kg                       | 5.3          | 1  |          | 12/03/15 13:00 | 100-42-5   |      |
| 1,1,1,2-Tetrachloroethane      | ND      | ug/kg                       | 5.3          | 1  |          | 12/03/15 13:00 | 630-20-6   |      |

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## ANALYTICAL RESULTS

Project: Hoosier Wood Preservers

Pace Project No.: 50133180

Sample: HWP-SBtreated-151124 Lab ID: 50133180001 Collected: 11/24/15 08:35 Received: 11/24/15 13:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

| Parameters                     | Results | Units                       | Report Limit | DF | Prepared | Analyzed       | CAS No.   | Qual |
|--------------------------------|---------|-----------------------------|--------------|----|----------|----------------|-----------|------|
| <b>8260 MSV 5030 Low Level</b> |         | Analytical Method: EPA 8260 |              |    |          |                |           |      |
| 1,1,2,2-Tetrachloroethane      | ND      | ug/kg                       | 5.3          | 1  |          | 12/03/15 13:00 | 79-34-5   |      |
| Tetrachloroethene              | ND      | ug/kg                       | 5.3          | 1  |          | 12/03/15 13:00 | 127-18-4  |      |
| Toluene                        | ND      | ug/kg                       | 5.3          | 1  |          | 12/03/15 13:00 | 108-88-3  |      |
| 1,2,3-Trichlorobenzene         | ND      | ug/kg                       | 5.3          | 1  |          | 12/03/15 13:00 | 87-61-6   |      |
| 1,2,4-Trichlorobenzene         | ND      | ug/kg                       | 5.3          | 1  |          | 12/03/15 13:00 | 120-82-1  |      |
| 1,1,1-Trichloroethane          | ND      | ug/kg                       | 5.3          | 1  |          | 12/03/15 13:00 | 71-55-6   |      |
| 1,1,2-Trichloroethane          | ND      | ug/kg                       | 5.3          | 1  |          | 12/03/15 13:00 | 79-00-5   |      |
| Trichloroethene                | ND      | ug/kg                       | 5.3          | 1  |          | 12/03/15 13:00 | 79-01-6   |      |
| Trichlorofluoromethane         | ND      | ug/kg                       | 5.3          | 1  |          | 12/03/15 13:00 | 75-69-4   |      |
| 1,2,3-Trichloropropane         | ND      | ug/kg                       | 5.3          | 1  |          | 12/03/15 13:00 | 96-18-4   |      |
| 1,2,4-Trimethylbenzene         | ND      | ug/kg                       | 5.3          | 1  |          | 12/03/15 13:00 | 95-63-6   |      |
| 1,3,5-Trimethylbenzene         | ND      | ug/kg                       | 5.3          | 1  |          | 12/03/15 13:00 | 108-67-8  |      |
| Vinyl acetate                  | ND      | ug/kg                       | 105          | 1  |          | 12/03/15 13:00 | 108-05-4  |      |
| Vinyl chloride                 | ND      | ug/kg                       | 5.3          | 1  |          | 12/03/15 13:00 | 75-01-4   |      |
| Xylene (Total)                 | ND      | ug/kg                       | 10.5         | 1  |          | 12/03/15 13:00 | 1330-20-7 |      |
| <b>Surrogates</b>              |         |                             |              |    |          |                |           |      |
| Dibromofluoromethane (S)       | 105     | %.                          | 85-118       | 1  |          | 12/03/15 13:00 | 1868-53-7 |      |
| Toluene-d8 (S)                 | 104     | %.                          | 71-128       | 1  |          | 12/03/15 13:00 | 2037-26-5 |      |
| 4-Bromofluorobenzene (S)       | 92      | %.                          | 56-144       | 1  |          | 12/03/15 13:00 | 460-00-4  |      |

### Percent Moisture

Analytical Method: ASTM D2974-87

|                  |     |   |      |   |  |                |  |  |
|------------------|-----|---|------|---|--|----------------|--|--|
| Percent Moisture | 5.0 | % | 0.10 | 1 |  | 11/25/15 08:09 |  |  |
|------------------|-----|---|------|---|--|----------------|--|--|

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50133180

QC Batch: MERP/7183

Analysis Method: EPA 7470

QC Batch Method: EPA 7470

Analysis Description: 7470 Mercury TCLP

Associated Lab Samples: 50133180001

METHOD BLANK: 1436254

Matrix: Water

Associated Lab Samples: 50133180001

| Parameter | Units | Blank Result | Reporting Limit | Analyzed       | Qualifiers |
|-----------|-------|--------------|-----------------|----------------|------------|
| Mercury   | mg/L  | ND           | 0.0020          | 12/03/15 13:09 |            |

LABORATORY CONTROL SAMPLE: 1436255

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Mercury   | mg/L  | .015        | 0.014      | 94        | 80-120       |            |

MATRIX SPIKE SAMPLE: 1436256

| Parameter | Units | 50132542002 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Mercury   | mg/L  | ND                 | .015        | 0.013     | 86       | 75-125       |            |

MATRIX SPIKE SAMPLE: 1436257

| Parameter | Units | 50132741001 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Mercury   | mg/L  | ND                 | .015        | 0.014     | 91       | 75-125       |            |

MATRIX SPIKE SAMPLE: 1436258

| Parameter | Units | 50133113001 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Mercury   | mg/L  | ND                 | .015        | 0.014     | 90       | 75-125       |            |

MATRIX SPIKE SAMPLE: 1436259

| Parameter | Units | 50133180001 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Mercury   | mg/L  | ND                 | .015        | 0.015     | 95       | 75-125       |            |

MATRIX SPIKE SAMPLE: 1436739

| Parameter | Units | 50133432001 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Mercury   | mg/L  | ND                 | .015        | 0.014     | 91       | 75-125       |            |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50133180

QC Batch: MPRP/18908

Analysis Method: EPA 6010

QC Batch Method: EPA 3010

Analysis Description: 6010 MET TCLP

Associated Lab Samples: 50133180001

METHOD BLANK: 1433869

Matrix: Water

Associated Lab Samples: 50133180001

| Parameter | Units | Blank Result | Reporting Limit | Analyzed       | Qualifiers |
|-----------|-------|--------------|-----------------|----------------|------------|
| Arsenic   | mg/L  | ND           | 0.10            | 11/29/15 19:51 |            |
| Barium    | mg/L  | ND           | 5.0             | 11/29/15 19:51 |            |
| Cadmium   | mg/L  | ND           | 0.050           | 11/29/15 19:51 |            |
| Chromium  | mg/L  | ND           | 0.10            | 11/29/15 19:51 |            |
| Lead      | mg/L  | ND           | 0.10            | 11/29/15 19:51 |            |
| Selenium  | mg/L  | ND           | 0.10            | 11/29/15 19:51 |            |
| Silver    | mg/L  | ND           | 0.10            | 11/29/15 19:51 |            |

LABORATORY CONTROL SAMPLE: 1433870

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Arsenic   | mg/L  | 10          | 10         | 100       | 80-120       |            |
| Barium    | mg/L  | 10          | 9.7        | 97        | 80-120       |            |
| Cadmium   | mg/L  | 10          | 9.9        | 99        | 80-120       |            |
| Chromium  | mg/L  | 10          | 9.9        | 99        | 80-120       |            |
| Lead      | mg/L  | 10          | 9.5        | 95        | 80-120       |            |
| Selenium  | mg/L  | 10          | 10.1       | 101       | 80-120       |            |
| Silver    | mg/L  | 5           | 4.7        | 93        | 80-120       |            |

MATRIX SPIKE SAMPLE: 1433871

| Parameter | Units | 50132443002 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Arsenic   | mg/L  | ND                 | 10          | 10.2      | 102      | 50-150       |            |
| Barium    | mg/L  | ND                 | 10          | 10.2      | 96       | 50-150       |            |
| Cadmium   | mg/L  | ND                 | 10          | 10.0      | 100      | 50-150       |            |
| Chromium  | mg/L  | ND                 | 10          | 9.6       | 96       | 50-150       |            |
| Lead      | mg/L  | ND                 | 10          | 9.1       | 91       | 50-150       |            |
| Selenium  | mg/L  | ND                 | 10          | 10.3      | 102      | 50-150       |            |
| Silver    | mg/L  | ND                 | 5           | 4.7       | 92       | 50-150       |            |

MATRIX SPIKE SAMPLE: 1433872

| Parameter | Units | 50133195001 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Arsenic   | mg/L  | 0.15               | 10          | 10.6      | 104      | 50-150       |            |
| Barium    | mg/L  | ND                 | 10          | 9.9       | 98       | 50-150       |            |
| Cadmium   | mg/L  | 0.68               | 10          | 10.8      | 101      | 50-150       |            |
| Chromium  | mg/L  | ND                 | 10          | 9.8       | 98       | 50-150       |            |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50133180

| MATRIX SPIKE SAMPLE: |       | 1433872               |                |              |             |                 |            |
|----------------------|-------|-----------------------|----------------|--------------|-------------|-----------------|------------|
| Parameter            | Units | 50133195001<br>Result | Spike<br>Conc. | MS<br>Result | MS<br>% Rec | % Rec<br>Limits | Qualifiers |
| Lead                 | mg/L  | 0.81                  | 10             | 10.2         | 94          | 50-150          |            |
| Selenium             | mg/L  | 284 ug/L              | 10             | 10.6         | 103         | 50-150          |            |
| Silver               | mg/L  | ND                    | 5              | 4.7          | 93          | 50-150          |            |

| MATRIX SPIKE SAMPLE: |       | 1433873               |                |              |             |                 |            |
|----------------------|-------|-----------------------|----------------|--------------|-------------|-----------------|------------|
| Parameter            | Units | 50133180001<br>Result | Spike<br>Conc. | MS<br>Result | MS<br>% Rec | % Rec<br>Limits | Qualifiers |
| Arsenic              | mg/L  | ND                    | 10             | 10.3         | 103         | 50-150          |            |
| Barium               | mg/L  | ND                    | 10             | 10.0         | 98          | 50-150          |            |
| Cadmium              | mg/L  | ND                    | 10             | 10.1         | 101         | 50-150          |            |
| Chromium             | mg/L  | ND                    | 10             | 9.8          | 98          | 50-150          |            |
| Lead                 | mg/L  | ND                    | 10             | 9.3          | 92          | 50-150          |            |
| Selenium             | mg/L  | ND                    | 10             | 10.4         | 103         | 50-150          |            |
| Silver               | mg/L  | ND                    | 5              | 4.8          | 96          | 50-150          |            |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50133180

QC Batch: MSV/84431

Analysis Method: EPA 8260

QC Batch Method: EPA 8260

Analysis Description: 8260 MSV 5030 Low

Associated Lab Samples: 50133180001

METHOD BLANK: 1436917

Matrix: Solid

Associated Lab Samples: 50133180001

| Parameter                   | Units | Blank Result | Reporting Limit | Analyzed       | Qualifiers |
|-----------------------------|-------|--------------|-----------------|----------------|------------|
| 1,1,1,2-Tetrachloroethane   | ug/kg | ND           | 5.0             | 12/03/15 09:06 |            |
| 1,1,1-Trichloroethane       | ug/kg | ND           | 5.0             | 12/03/15 09:06 |            |
| 1,1,2,2-Tetrachloroethane   | ug/kg | ND           | 5.0             | 12/03/15 09:06 |            |
| 1,1,2-Trichloroethane       | ug/kg | ND           | 5.0             | 12/03/15 09:06 |            |
| 1,1-Dichloroethane          | ug/kg | ND           | 5.0             | 12/03/15 09:06 |            |
| 1,1-Dichloroethene          | ug/kg | ND           | 5.0             | 12/03/15 09:06 |            |
| 1,1-Dichloropropene         | ug/kg | ND           | 5.0             | 12/03/15 09:06 |            |
| 1,2,3-Trichlorobenzene      | ug/kg | ND           | 5.0             | 12/03/15 09:06 |            |
| 1,2,3-Trichloropropane      | ug/kg | ND           | 5.0             | 12/03/15 09:06 |            |
| 1,2,4-Trichlorobenzene      | ug/kg | ND           | 5.0             | 12/03/15 09:06 |            |
| 1,2,4-Trimethylbenzene      | ug/kg | ND           | 5.0             | 12/03/15 09:06 |            |
| 1,2-Dibromoethane (EDB)     | ug/kg | ND           | 5.0             | 12/03/15 09:06 |            |
| 1,2-Dichlorobenzene         | ug/kg | ND           | 5.0             | 12/03/15 09:06 |            |
| 1,2-Dichloroethane          | ug/kg | ND           | 5.0             | 12/03/15 09:06 |            |
| 1,2-Dichloropropane         | ug/kg | ND           | 5.0             | 12/03/15 09:06 |            |
| 1,3,5-Trimethylbenzene      | ug/kg | ND           | 5.0             | 12/03/15 09:06 |            |
| 1,3-Dichlorobenzene         | ug/kg | ND           | 5.0             | 12/03/15 09:06 |            |
| 1,3-Dichloropropane         | ug/kg | ND           | 5.0             | 12/03/15 09:06 |            |
| 1,4-Dichlorobenzene         | ug/kg | ND           | 5.0             | 12/03/15 09:06 |            |
| 2,2-Dichloropropane         | ug/kg | ND           | 5.0             | 12/03/15 09:06 |            |
| 2-Butanone (MEK)            | ug/kg | ND           | 25.0            | 12/03/15 09:06 |            |
| 2-Chlorotoluene             | ug/kg | ND           | 5.0             | 12/03/15 09:06 |            |
| 2-Hexanone                  | ug/kg | ND           | 100             | 12/03/15 09:06 |            |
| 4-Chlorotoluene             | ug/kg | ND           | 5.0             | 12/03/15 09:06 |            |
| 4-Methyl-2-pentanone (MIBK) | ug/kg | ND           | 25.0            | 12/03/15 09:06 |            |
| Acetone                     | ug/kg | ND           | 100             | 12/03/15 09:06 |            |
| Acrolein                    | ug/kg | ND           | 100             | 12/03/15 09:06 |            |
| Acrylonitrile               | ug/kg | ND           | 100             | 12/03/15 09:06 |            |
| Benzene                     | ug/kg | ND           | 5.0             | 12/03/15 09:06 |            |
| Bromobenzene                | ug/kg | ND           | 5.0             | 12/03/15 09:06 |            |
| Bromochloromethane          | ug/kg | ND           | 5.0             | 12/03/15 09:06 |            |
| Bromodichloromethane        | ug/kg | ND           | 5.0             | 12/03/15 09:06 |            |
| Bromoform                   | ug/kg | ND           | 5.0             | 12/03/15 09:06 |            |
| Bromomethane                | ug/kg | ND           | 5.0             | 12/03/15 09:06 |            |
| Carbon disulfide            | ug/kg | ND           | 10.0            | 12/03/15 09:06 |            |
| Carbon tetrachloride        | ug/kg | ND           | 5.0             | 12/03/15 09:06 |            |
| Chlorobenzene               | ug/kg | ND           | 5.0             | 12/03/15 09:06 |            |
| Chloroethane                | ug/kg | ND           | 5.0             | 12/03/15 09:06 |            |
| Chloroform                  | ug/kg | ND           | 5.0             | 12/03/15 09:06 |            |
| Chloromethane               | ug/kg | ND           | 5.0             | 12/03/15 09:06 |            |
| cis-1,2-Dichloroethene      | ug/kg | ND           | 5.0             | 12/03/15 09:06 |            |

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50133180

METHOD BLANK: 1436917

Matrix: Solid

Associated Lab Samples: 50133180001

| Parameter                   | Units | Blank Result | Reporting Limit | Analyzed       | Qualifiers |
|-----------------------------|-------|--------------|-----------------|----------------|------------|
| cis-1,3-Dichloropropene     | ug/kg | ND           | 5.0             | 12/03/15 09:06 |            |
| Dibromochloromethane        | ug/kg | ND           | 5.0             | 12/03/15 09:06 |            |
| Dibromomethane              | ug/kg | ND           | 5.0             | 12/03/15 09:06 |            |
| Dichlorodifluoromethane     | ug/kg | ND           | 5.0             | 12/03/15 09:06 |            |
| Ethyl methacrylate          | ug/kg | ND           | 100             | 12/03/15 09:06 |            |
| Ethylbenzene                | ug/kg | ND           | 5.0             | 12/03/15 09:06 |            |
| Hexachloro-1,3-butadiene    | ug/kg | ND           | 5.0             | 12/03/15 09:06 |            |
| Iodomethane                 | ug/kg | ND           | 100             | 12/03/15 09:06 |            |
| Isopropylbenzene (Cumene)   | ug/kg | ND           | 5.0             | 12/03/15 09:06 |            |
| Methyl-tert-butyl ether     | ug/kg | ND           | 5.0             | 12/03/15 09:06 |            |
| Methylene Chloride          | ug/kg | ND           | 20.0            | 12/03/15 09:06 |            |
| n-Butylbenzene              | ug/kg | ND           | 5.0             | 12/03/15 09:06 |            |
| n-Hexane                    | ug/kg | ND           | 5.0             | 12/03/15 09:06 |            |
| n-Propylbenzene             | ug/kg | ND           | 5.0             | 12/03/15 09:06 |            |
| Naphthalene                 | ug/kg | ND           | 5.0             | 12/03/15 09:06 |            |
| p-Isopropyltoluene          | ug/kg | ND           | 5.0             | 12/03/15 09:06 |            |
| sec-Butylbenzene            | ug/kg | ND           | 5.0             | 12/03/15 09:06 |            |
| Styrene                     | ug/kg | ND           | 5.0             | 12/03/15 09:06 |            |
| tert-Butylbenzene           | ug/kg | ND           | 5.0             | 12/03/15 09:06 |            |
| Tetrachloroethene           | ug/kg | ND           | 5.0             | 12/03/15 09:06 |            |
| Toluene                     | ug/kg | ND           | 5.0             | 12/03/15 09:06 |            |
| trans-1,2-Dichloroethene    | ug/kg | ND           | 5.0             | 12/03/15 09:06 |            |
| trans-1,3-Dichloropropene   | ug/kg | ND           | 5.0             | 12/03/15 09:06 |            |
| trans-1,4-Dichloro-2-butene | ug/kg | ND           | 100             | 12/03/15 09:06 |            |
| Trichloroethene             | ug/kg | ND           | 5.0             | 12/03/15 09:06 |            |
| Trichlorofluoromethane      | ug/kg | ND           | 5.0             | 12/03/15 09:06 |            |
| Vinyl acetate               | ug/kg | ND           | 100             | 12/03/15 09:06 |            |
| Vinyl chloride              | ug/kg | ND           | 5.0             | 12/03/15 09:06 |            |
| Xylene (Total)              | ug/kg | ND           | 10.0            | 12/03/15 09:06 |            |
| 4-Bromofluorobenzene (S)    | %     | 102          | 56-144          | 12/03/15 09:06 |            |
| Dibromofluoromethane (S)    | %     | 100          | 85-118          | 12/03/15 09:06 |            |
| Toluene-d8 (S)              | %     | 103          | 71-128          | 12/03/15 09:06 |            |

LABORATORY CONTROL SAMPLE: 1436918

| Parameter                 | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---------------------------|-------|-------------|------------|-----------|--------------|------------|
| 1,1,1-Trichloroethane     | ug/kg | 50          | 41.7       | 83        | 70-123       |            |
| 1,1,2,2-Tetrachloroethane | ug/kg | 50          | 49.6       | 99        | 65-124       |            |
| 1,1-Dichloroethene        | ug/kg | 50          | 40.2       | 80        | 66-126       |            |
| 1,2,4-Trimethylbenzene    | ug/kg | 50          | 39.1       | 78        | 67-126       |            |
| 1,2-Dichloropropane       | ug/kg | 50          | 43.1       | 86        | 75-118       |            |
| Benzene                   | ug/kg | 50          | 41.9       | 84        | 74-119       |            |
| Chlorobenzene             | ug/kg | 50          | 42.2       | 84        | 77-122       |            |
| Chloroform                | ug/kg | 50          | 42.7       | 85        | 75-124       |            |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50133180

LABORATORY CONTROL SAMPLE: 1436918

| Parameter                 | Units | Spike<br>Conc. | LCS<br>Result | LCS<br>% Rec | % Rec<br>Limits | Qualifiers |
|---------------------------|-------|----------------|---------------|--------------|-----------------|------------|
| Ethylbenzene              | ug/kg | 50             | 43.4          | 87           | 72-123          |            |
| Isopropylbenzene (Cumene) | ug/kg | 50             | 43.9          | 88           | 65-123          |            |
| Methyl-tert-butyl ether   | ug/kg | 50             | 42.3          | 85           | 68-120          |            |
| Naphthalene               | ug/kg | 50             | 44.3          | 89           | 67-131          |            |
| Tetrachloroethene         | ug/kg | 50             | 37.9          | 76           | 72-126          |            |
| Toluene                   | ug/kg | 50             | 42.5          | 85           | 71-121          |            |
| Trichloroethene           | ug/kg | 50             | 41.9          | 84           | 74-123          |            |
| Vinyl chloride            | ug/kg | 50             | 43.3          | 87           | 55-128          |            |
| Xylene (Total)            | ug/kg | 150            | 129           | 86           | 66-124          |            |
| 4-Bromofluorobenzene (S)  | %.    |                |               | 101          | 56-144          |            |
| Dibromofluoromethane (S)  | %.    |                |               | 100          | 85-118          |            |
| Toluene-d8 (S)            | %.    |                |               | 99           | 71-128          |            |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50133180

QC Batch: OEXT/41634

Analysis Method: EPA 8270

QC Batch Method: EPA 3546

Analysis Description: 8270 Solid MSSV Microwave Short Spike

Associated Lab Samples: 50133180001

METHOD BLANK: 1432777

Matrix: Solid

Associated Lab Samples: 50133180001

| Parameter                       | Units | Blank Result | Reporting Limit | Analyzed       | Qualifiers |
|---------------------------------|-------|--------------|-----------------|----------------|------------|
| 2,4,5-Trichlorophenol           | ug/kg | ND           | 330             | 11/30/15 11:32 |            |
| 2,4,6-Trichlorophenol           | ug/kg | ND           | 330             | 11/30/15 11:32 |            |
| 2,4-Dichlorophenol              | ug/kg | ND           | 330             | 11/30/15 11:32 |            |
| 2,4-Dimethylphenol              | ug/kg | ND           | 330             | 11/30/15 11:32 |            |
| 2,4-Dinitrophenol               | ug/kg | ND           | 1600            | 11/30/15 11:32 |            |
| 2,4-Dinitrotoluene              | ug/kg | ND           | 330             | 11/30/15 11:32 |            |
| 2,6-Dinitrotoluene              | ug/kg | ND           | 330             | 11/30/15 11:32 |            |
| 2-Chloronaphthalene             | ug/kg | ND           | 330             | 11/30/15 11:32 |            |
| 2-Chlorophenol                  | ug/kg | ND           | 330             | 11/30/15 11:32 |            |
| 2-Methylnaphthalene             | ug/kg | ND           | 330             | 11/30/15 11:32 |            |
| 2-Methylphenol(o-Cresol)        | ug/kg | ND           | 330             | 11/30/15 11:32 |            |
| 2-Nitroaniline                  | ug/kg | ND           | 1600            | 11/30/15 11:32 |            |
| 2-Nitrophenol                   | ug/kg | ND           | 330             | 11/30/15 11:32 |            |
| 3&4-Methylphenol(m&p Cresol)    | ug/kg | ND           | 660             | 11/30/15 11:32 |            |
| 3,3'-Dichlorobenzidine          | ug/kg | ND           | 660             | 11/30/15 11:32 |            |
| 3-Nitroaniline                  | ug/kg | ND           | 1600            | 11/30/15 11:32 |            |
| 4,6-Dinitro-2-methylphenol      | ug/kg | ND           | 1600            | 11/30/15 11:32 |            |
| 4-Bromophenylphenyl ether       | ug/kg | ND           | 330             | 11/30/15 11:32 |            |
| 4-Chloro-3-methylphenol         | ug/kg | ND           | 660             | 11/30/15 11:32 |            |
| 4-Chloroaniline                 | ug/kg | ND           | 660             | 11/30/15 11:32 |            |
| 4-Chlorophenylphenyl ether      | ug/kg | ND           | 330             | 11/30/15 11:32 |            |
| 4-Nitroaniline                  | ug/kg | ND           | 1600            | 11/30/15 11:32 |            |
| 4-Nitrophenol                   | ug/kg | ND           | 1600            | 11/30/15 11:32 |            |
| Acenaphthene                    | ug/kg | ND           | 330             | 11/30/15 11:32 |            |
| Acenaphthylene                  | ug/kg | ND           | 330             | 11/30/15 11:32 |            |
| Anthracene                      | ug/kg | ND           | 330             | 11/30/15 11:32 |            |
| Benzo(a)anthracene              | ug/kg | ND           | 330             | 11/30/15 11:32 |            |
| Benzo(a)pyrene                  | ug/kg | ND           | 170             | 11/30/15 11:32 |            |
| Benzo(b)fluoranthene            | ug/kg | ND           | 330             | 11/30/15 11:32 |            |
| Benzo(g,h,i)perylene            | ug/kg | ND           | 330             | 11/30/15 11:32 |            |
| Benzo(k)fluoranthene            | ug/kg | ND           | 330             | 11/30/15 11:32 |            |
| Benzyl alcohol                  | ug/kg | ND           | 660             | 11/30/15 11:32 |            |
| bis(2-Chloroethoxy)methane      | ug/kg | ND           | 330             | 11/30/15 11:32 |            |
| bis(2-Chloroethyl) ether        | ug/kg | ND           | 330             | 11/30/15 11:32 |            |
| bis(2-Ethylhexyl)phthalate      | ug/kg | ND           | 330             | 11/30/15 11:32 |            |
| bis(2chloro1 methylethyl) ether | ug/kg | ND           | 330             | 11/30/15 11:32 |            |
| Butylbenzylphthalate            | ug/kg | ND           | 330             | 11/30/15 11:32 |            |
| Chrysene                        | ug/kg | ND           | 330             | 11/30/15 11:32 |            |
| Di-n-butylphthalate             | ug/kg | ND           | 330             | 11/30/15 11:32 |            |
| Di-n-octylphthalate             | ug/kg | ND           | 330             | 11/30/15 11:32 |            |
| Dibenz(a,h)anthracene           | ug/kg | ND           | 170             | 11/30/15 11:32 |            |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50133180

METHOD BLANK: 1432777

Matrix: Solid

Associated Lab Samples: 50133180001

| Parameter                  | Units | Blank Result | Reporting Limit | Analyzed       | Qualifiers |
|----------------------------|-------|--------------|-----------------|----------------|------------|
| Dibenzofuran               | ug/kg | ND           | 330             | 11/30/15 11:32 |            |
| Diethylphthalate           | ug/kg | ND           | 330             | 11/30/15 11:32 |            |
| Dimethylphthalate          | ug/kg | ND           | 330             | 11/30/15 11:32 |            |
| Fluoranthene               | ug/kg | ND           | 330             | 11/30/15 11:32 |            |
| Fluorene                   | ug/kg | ND           | 330             | 11/30/15 11:32 |            |
| Hexachloro-1,3-butadiene   | ug/kg | ND           | 330             | 11/30/15 11:32 |            |
| Hexachlorobenzene          | ug/kg | ND           | 330             | 11/30/15 11:32 |            |
| Hexachlorocyclopentadiene  | ug/kg | ND           | 330             | 11/30/15 11:32 |            |
| Hexachloroethane           | ug/kg | ND           | 330             | 11/30/15 11:32 |            |
| Indeno(1,2,3-cd)pyrene     | ug/kg | ND           | 330             | 11/30/15 11:32 |            |
| Isophorone                 | ug/kg | ND           | 330             | 11/30/15 11:32 |            |
| N-Nitroso-di-n-propylamine | ug/kg | ND           | 330             | 11/30/15 11:32 |            |
| N-Nitrosodiphenylamine     | ug/kg | ND           | 330             | 11/30/15 11:32 |            |
| Naphthalene                | ug/kg | ND           | 330             | 11/30/15 11:32 |            |
| Nitrobenzene               | ug/kg | ND           | 330             | 11/30/15 11:32 |            |
| Pentachlorophenol          | ug/kg | ND           | 1600            | 11/30/15 11:32 |            |
| Phenanthrene               | ug/kg | ND           | 330             | 11/30/15 11:32 |            |
| Phenol                     | ug/kg | ND           | 330             | 11/30/15 11:32 |            |
| Pyrene                     | ug/kg | ND           | 330             | 11/30/15 11:32 |            |
| 2,4,6-Tribromophenol (S)   | %     | 72           | 16-122          | 11/30/15 11:32 |            |
| 2-Fluorobiphenyl (S)       | %     | 72           | 31-94           | 11/30/15 11:32 |            |
| 2-Fluorophenol (S)         | %     | 75           | 24-104          | 11/30/15 11:32 |            |
| Nitrobenzene-d5 (S)        | %     | 83           | 28-101          | 11/30/15 11:32 |            |
| p-Terphenyl-d14 (S)        | %     | 92           | 26-110          | 11/30/15 11:32 |            |
| Phenol-d5 (S)              | %     | 71           | 28-101          | 11/30/15 11:32 |            |

LABORATORY CONTROL SAMPLE: 1432778

| Parameter               | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-------------------------|-------|-------------|------------|-----------|--------------|------------|
| 2,4-Dinitrotoluene      | ug/kg | 3320        | 3320       | 100       | 39-103       |            |
| 2-Chlorophenol          | ug/kg | 3320        | 2490       | 75        | 38-96        |            |
| 2-Methylnaphthalene     | ug/kg | 3320        | 2560       | 77        | 36-94        |            |
| 4-Chloro-3-methylphenol | ug/kg | 3320        | 2880       | 87        | 38-104       |            |
| 4-Nitrophenol           | ug/kg | 3320        | 3930       | 118       | 34-104       | L3         |
| Acenaphthene            | ug/kg | 3320        | 2950       | 89        | 43-99        |            |
| Acenaphthylene          | ug/kg | 3320        | 2930       | 88        | 42-101       |            |
| Anthracene              | ug/kg | 3320        | 2920       | 88        | 46-107       |            |
| Benzo(a)anthracene      | ug/kg | 3320        | 3240       | 98        | 45-108       |            |
| Benzo(a)pyrene          | ug/kg | 3320        | 2820       | 85        | 47-113       |            |
| Benzo(b)fluoranthene    | ug/kg | 3320        | 2740       | 82        | 41-110       |            |
| Benzo(g,h,i)perylene    | ug/kg | 3320        | 2710       | 82        | 42-112       |            |
| Benzo(k)fluoranthene    | ug/kg | 3320        | 2810       | 84        | 44-107       |            |
| Chrysene                | ug/kg | 3320        | 3090       | 93        | 43-103       |            |
| Dibenz(a,h)anthracene   | ug/kg | 3320        | 2780       | 84        | 43-110       |            |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50133180

LABORATORY CONTROL SAMPLE: 1432778

| Parameter                  | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|----------------------------|-------|-------------|------------|-----------|--------------|------------|
| Fluoranthene               | ug/kg | 3320        | 2990       | 90        | 45-105       |            |
| Fluorene                   | ug/kg | 3320        | 3080       | 93        | 42-103       |            |
| Indeno(1,2,3-cd)pyrene     | ug/kg | 3320        | 2750       | 83        | 43-111       |            |
| N-Nitroso-di-n-propylamine | ug/kg | 3320        | 2690       | 81        | 37-96        |            |
| Naphthalene                | ug/kg | 3320        | 2260       | 68        | 44-100       |            |
| Pentachlorophenol          | ug/kg | 3320        | 2230       | 67        | 21-103       |            |
| Phenanthrene               | ug/kg | 3320        | 3000       | 90        | 44-104       |            |
| Phenol                     | ug/kg | 3320        | 2440       | 74        | 37-101       |            |
| Pyrene                     | ug/kg | 3320        | 2990       | 90        | 44-105       |            |
| 2,4,6-Tribromophenol (S)   | %.    |             |            | 84        | 16-122       |            |
| 2-Fluorobiphenyl (S)       | %.    |             |            | 79        | 31-94        |            |
| 2-Fluorophenol (S)         | %.    |             |            | 79        | 24-104       |            |
| Nitrobenzene-d5 (S)        | %.    |             |            | 69        | 28-101       |            |
| p-Terphenyl-d14 (S)        | %.    |             |            | 92        | 26-110       |            |
| Phenol-d5 (S)              | %.    |             |            | 77        | 28-101       |            |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1432779 1432780

| Parameter                  | Units | 50133180001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|----------------------------|-------|--------------------|----------------|-----------------|-----------|------------|----------|-----------|--------------|-----|---------|------|
| 2,4-Dinitrotoluene         | ug/kg | ND                 | 10400          | 10400           | 7670      | 8200       | 74       | 79        | 15-102       | 7   | 20      |      |
| 2-Chlorophenol             | ug/kg | ND                 | 10400          | 10400           | 6700      | 7250       | 64       | 70        | 22-96        | 8   | 20      |      |
| 2-Methylnaphthalene        | ug/kg | ND                 | 10400          | 10400           | 7750      | 9310       | 74       | 89        | 14-107       | 18  | 20      |      |
| 4-Chloro-3-methylphenol    | ug/kg | ND                 | 10400          | 10400           | 8770      | 9990       | 84       | 96        | 21-105       | 13  | 20      |      |
| 4-Nitrophenol              | ug/kg | ND                 | 10400          | 10400           | 9960      | 11500      | 96       | 110       | 12-107       | 14  | 20      | M0   |
| Acenaphthene               | ug/kg | ND                 | 10400          | 10400           | 7900      | 8310       | 76       | 80        | 19-110       | 5   | 20      |      |
| Acenaphthylene             | ug/kg | ND                 | 10400          | 10400           | 7380      | 7730       | 71       | 74        | 21-106       | 5   | 20      |      |
| Anthracene                 | ug/kg | ND                 | 10400          | 10400           | 7940      | 8330       | 76       | 80        | 22-112       | 5   | 20      |      |
| Benzo(a)anthracene         | ug/kg | ND                 | 10400          | 10400           | 8100      | 8400       | 77       | 80        | 13-116       | 4   | 20      |      |
| Benzo(a)pyrene             | ug/kg | ND                 | 10400          | 10400           | 7510      | 7780       | 72       | 75        | 11-119       | 4   | 20      |      |
| Benzo(b)fluoranthene       | ug/kg | ND                 | 10400          | 10400           | 7380      | 8150       | 69       | 77        | 10-126       | 10  | 20      |      |
| Benzo(g,h,i)perylene       | ug/kg | ND                 | 10400          | 10400           | 6870      | 7260       | 65       | 68        | 10-114       | 5   | 20      |      |
| Benzo(k)fluoranthene       | ug/kg | ND                 | 10400          | 10400           | 8250      | 7910       | 78       | 75        | 10-117       | 4   | 20      |      |
| Chrysene                   | ug/kg | ND                 | 10400          | 10400           | 8500      | 8710       | 80       | 82        | 14-107       | 2   | 20      |      |
| Dibenz(a,h)anthracene      | ug/kg | ND                 | 10400          | 10400           | 7060      | 7450       | 68       | 71        | 10-119       | 5   | 20      |      |
| Fluoranthene               | ug/kg | ND                 | 10400          | 10400           | 8880      | 8870       | 81       | 81        | 17-110       | 0   | 20      |      |
| Fluorene                   | ug/kg | ND                 | 10400          | 10400           | 8220      | 8720       | 79       | 84        | 17-115       | 6   | 20      |      |
| Indeno(1,2,3-cd)pyrene     | ug/kg | ND                 | 10400          | 10400           | 7250      | 7490       | 70       | 72        | 11-111       | 3   | 20      |      |
| N-Nitroso-di-n-propylamine | ug/kg | ND                 | 10400          | 10400           | 6760      | 7570       | 65       | 73        | 18-103       | 11  | 20      |      |
| Naphthalene                | ug/kg | ND                 | 10400          | 10400           | 6810      | 8060       | 65       | 77        | 16-102       | 17  | 20      |      |
| Pentachlorophenol          | ug/kg | ND                 | 10400          | 10400           | 9700      | 8810       | 79       | 70        | 10-100       | 10  | 20      |      |
| Phenanthrene               | ug/kg | ND                 | 10400          | 10400           | 8520      | 8560       | 79       | 80        | 10-128       | 0   | 20      |      |
| Phenol                     | ug/kg | ND                 | 10400          | 10400           | 6420      | 6770       | 62       | 65        | 22-97        | 5   | 20      |      |
| Pyrene                     | ug/kg | ND                 | 10400          | 10400           | 8430      | 8650       | 78       | 80        | 10-123       | 3   | 20      |      |
| 2,4,6-Tribromophenol (S)   | %.    |                    |                |                 |           |            | 73       | 73        | 16-122       |     |         |      |

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50133180

| MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1432779 1432780 |       |                       |                      |                       |              |               |             |              |                 |            |      |
|--|-------|-----------------------|----------------------|-----------------------|--------------|---------------|-------------|--------------|-----------------|------------|------|
| Parameter  | Units | 50133180001<br>Result | MS<br>Spike<br>Conc. | MSD<br>Spike<br>Conc. | MS<br>Result | MSD<br>Result | MS<br>% Rec | MSD<br>% Rec | % Rec<br>Limits | Max<br>RPD | Qual |
| 2-Fluorobiphenyl (S)                                   | %.    |                       |                      |                       |              |               | 64          | 69           | 31-94           |            |      |
| 2-Fluorophenol (S)                                     | %.    |                       |                      |                       |              |               | 63          | 70           | 24-104          |            |      |
| Nitrobenzene-d5 (S)                                    | %.    |                       |                      |                       |              |               | 63          | 75           | 26-98           |            |      |
| p-Terphenyl-d14 (S)                                    | %.    |                       |                      |                       |              |               | 80          | 84           | 26-110          |            |      |
| Phenol-d5 (S)  | %.    |                       |                      |                       |              |               | 62          | 70           | 28-101          |            |      |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50133180

QC Batch: PMST/11415

Analysis Method: ASTM D2974-87

QC Batch Method: ASTM D2974-87

Analysis Description: Dry Weight/Percent Moisture

Associated Lab Samples: 50133180001

SAMPLE DUPLICATE: 1432791

| Parameter        | Units | 50132741003<br>Result | Dup<br>Result | RPD | Max<br>RPD | Qualifiers |
|------------------|-------|-----------------------|---------------|-----|------------|------------|
| Percent Moisture | %     | 6.8                   | 8.4           | 20  | 5          | R1         |

SAMPLE DUPLICATE: 1432792

| Parameter        | Units | 50132747002<br>Result | Dup<br>Result | RPD | Max<br>RPD | Qualifiers |
|------------------|-------|-----------------------|---------------|-----|------------|------------|
| Percent Moisture | %     | 19.0                  | 18.8          | 1   | 5          |            |

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## QUALIFIERS

Project: Hoosier Wood Preservers

Pace Project No.: 50133180

---

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### ANALYTE QUALIFIERS

L3 Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.

M0 Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

R1 RPD value was outside control limits.

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Hoosier Wood Preservers

Pace Project No.: 50133180

| Lab ID      | Sample ID            | QC Batch Method | QC Batch   | Analytical Method | Analytical Batch |
|-------------|----------------------|-----------------|------------|-------------------|------------------|
| 50133180001 | HWP-SBtreated-151124 | EPA 3010        | MPRP/18908 | EPA 6010          | ICP/22888        |
| 50133180001 | HWP-SBtreated-151124 | EPA 7470        | MERP/7183  | EPA 7470          | MERC/8466        |
| 50133180001 | HWP-SBtreated-151124 | EPA 3546        | OEXT/41634 | EPA 8270          | MSSV/19650       |
| 50133180001 | HWP-SBtreated-151124 | EPA 8260        | MSV/84431  |                   |                  |
| 50133180001 | HWP-SBtreated-151124 | ASTM D2974-87   | PMST/11415 |                   |                  |

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Pace Analytical

Client Name: ENVIRONMENTAL RESTORATIONProject # 50133140Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☒ Client ☐ Commercial ☐ Pace Other \_\_\_\_\_

Tracking #: \_\_\_\_\_

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☒ noDate/Time 5035A kits  
placed in freezerPacking Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other \_\_\_\_\_Thermometer 123456 ABCDEFType of Ice: ☒ We Blue None ☒ Samples on ice, cooling process has begunCooler Temperature 3.1/3.1  
(Initial/Corrected)Ice Visible in Sample Containers: ☐ yes ☒ no

Temp should be above freezing to 6°C

Comments:

Date and Initials of person examining  
contents: 11-24-15 JRF

|   |  |  |
|---|--|--|
| Are samples from West Virginia?   | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                              | 1.   |
| Document any containers out of temp.  |  |  |
| Chain of Custody Present:   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 2.   |
| Chain of Custody Filled Out:  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 3.   |
| Chain of Custody Relinquished:  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 4.   |
| Sampler Name & Signature on COC:  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 5.   |
| Short Hold Time Analysis (<72hr):   | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | 6.   |
| Rush Turn Around Time Requested:  | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | 7.   |
| Containers Intact:  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 8.   |
| Sample Labels match COC:<br>-Includes date/time/ID/Analysis   | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | 9. <u>No TIME on SAMPLE LABELS</u>   |
| All containers needing acid/base pres. have been checked?<br>exceptions: VOA, coliform, TOC, O&G                                | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | 10 (Circle) HNO <sub>3</sub> H <sub>2</sub> SO <sub>4</sub> NaOH NaOH/ZnAc |
| All containers needing preservation are found to be in compliance with EPA recommendation (<2, >9, >12) unless otherwise noted. |  |  |
| Residual Chlorine Check (SVOC 625 Pest/PCB 608)   |  | 11. Present Absent   |
| Residual Chlorine Check (Total/Amenable/Free Cyanide)   |  | 12. Present Absent   |
| Headspace in VOA Vials (>6mm):  | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | 13   |
| Headspace Wisconsin Sulfide   | <input type="checkbox"/> Yes <input type="checkbox"/> No   | 14   |
| Trip Blank Present:   | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | 15   |
| Trip Blank Custody Seals Present  | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A |  |
| Project Manager Review:   |  |  |
| Samples Arrived within Hold Time:   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 15.  |
| Sufficient Volume:  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 16.  |
| Correct Containers Used:  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 17.  |

Client Notification/ Resolution:

Field Data Required? Y / N

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

Project Manager Review: *Kimberly Hunt*Date: 11/24/15

# Sample Container Count

CLIENT: ENVIRONMENTAL RESTORATION

COC PAGE 1 of 1  
COC ID#                     

Project # 50133180

| Sample Line Item | DG9H | AG1U | WGFU | AG0U | R | 4/6 | BP2N | BP2U | BP2S | BP3N | BP3U | BP3S | AG3S | AG1H | BP3C | BP1U | SP5T | AG2U | pH <2 | pH >9 | pH >12 |
|------------------|------|------|------|------|---|-----|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|--------|
| 1                |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 2                |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 3                |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 4                |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 5                |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 6                |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 7                |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 8                |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 9                |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 10               |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 11               |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 12               |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |

## Container Codes

|      |                                |      |                                    |      |                              |      |                               |
|------|--------------------------------|------|------------------------------------|------|------------------------------|------|-------------------------------|
| DG9H | 40mL HCL amber vial            | AG0U | 100mL unpreserved amber glass      | BP1N | 1 liter HNO3 plastic         | DG9P | 40mL TSP amber vial           |
| AG1U | 1liter unpreserved amber glass | AG1H | 1 liter HCL amber glass            | BP1S | 1 liter H2SO4 plastic        | DG9S | 40mL H2SO4 amber vial         |
| WGFU | 4oz clear soil jar             | AG1S | 1 liter H2SO4 amber glass          | BP1U | 1 liter unpreserved plastic  | DG9T | 40mL Na Thio amber vial       |
| R    | terra core kit                 | AG1T | 1 liter Na Thiosulfate amber glass | BP1Z | 1 liter NaOH, Zn, Ac         | DG9U | 40mL unpreserved amber vial   |
| BP2N | 500mL HNO3 plastic             | AG2N | 500mL HNO3 amber glass             | BP2A | 500mL NaOH, Asc Acid plastic | SP5T | 120mL Coliform Na Thiosulfate |
| BP2U | 500mL unpreserved plastic      | AG2S | 500mL H2SO4 amber glass            | BP2O | 500mL NaOH plastic           | JGFU | 4oz unpreserved amber wide    |
| BP2S | 500mL H2SO4 plastic            | AG2U | 500mL unpreserved amber glass      | BP2Z | 500mL NaOH, Zn Ac            | U    | Summa Can                     |
| BP3N | 250mL HNO3 plastic             | AG3U | 250mL unpreserved amber glass      | AF   | Air Filter                   | VG9H | 40mL HCL clear vial           |
| BP3U | 250mL unpreserved plastic      | BG1H | 1 liter HCL clear glass            | BP3C | 250mL NaOH plastic           | VG9T | 40mL Na Thio. clear vial      |
| BP3S | 250mL H2SO4 plastic            | BG1S | 1 liter H2SO4 clear glass          | BP3Z | 250mL NaOH, Zn Ac plastic    | VG9U | 40mL unpreserved clear vial   |
| AG3S | 250mL H2SO4 glass amber        | BG1T | 1 liter Na Thiosulfate clear glass | C    | Air Cassettes                | VSG  | Headspace septa vial & HCL    |
| AG1S | 1 liter H2SO4 amber glass      | BG1U | 1 liter unpreserved glass          | DG9B | 40mL Na Bisulfate amber vial | WGFX | 4oz wide jar w/hexane wipe    |
| BP1U | 1 liter unpreserved plastic    | BP1A | 1 liter NaOH, Asc Acid plastic     | DG9M | 40mL MeOH clear vial         | ZPLC | Ziploc Bag                    |

November 24, 2015

Mr. John Behrens  
Environmental Restoration  
1666 Fabick Drive  
Fenton, MO 63026

RE: Project: Hoosier Wood Preservers  
Pace Project No.: 50132570

Dear Mr. Behrens:

Enclosed are the analytical results for sample(s) received by the laboratory on November 17, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Kenneth Hunt  
kenneth.hunt@pacelabs.com  
Project Manager

Enclosures



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Hoosier Wood Preservers

Pace Project No.: 50132570

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### Indiana Certification IDs

7726 Moller Road, Indianapolis, IN 46268

Illinois Certification #: 200074

Indiana Certification #: C-49-06

Kansas Certification #: E-10177

Kentucky UST Certification #: 0042

Kentucky WW Certification #: 98019

Louisiana Certification #: 04076

Ohio VAP Certification #: CL-0065

Oklahoma Certification #: 2014-148

Texas Certification #: T104704355-15-9

West Virginia Certification #: 330

Wisconsin Certification #: 999788130

USDA Soil Permit #: P330-10-00128

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Hoosier Wood Preservers

Pace Project No.: 50132570

| Lab ID      | Sample ID          | Matrix | Date Collected | Date Received  |
|-------------|--------------------|--------|----------------|----------------|
| 50132570001 | HWP-A2UST-151116   | Water  | 11/16/15 13:45 | 11/17/15 14:12 |
| 50132570002 | HWP-FTBsoil-151116 | Solid  | 11/16/15 15:35 | 11/17/15 14:12 |

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## SAMPLE ANALYTE COUNT

Project: Hoosier Wood Preservers

Pace Project No.: 50132570

| Lab ID      | Sample ID          | Method        | Analysts | Analytes Reported |
|-------------|--------------------|---------------|----------|-------------------|
| 50132570001 | HWP-A2UST-151116   | EPA 6010      | JPk      | 7                 |
|             |                    | EPA 7470      | JGJ      | 1                 |
|             |                    | EPA 8270      | TBP      | 66                |
|             |                    | EPA 8260      | JLZ      | 73                |
|             |                    | EPA 1010      | WDB      | 1                 |
| 50132570002 | HWP-FTBsoil-151116 | EPA 6010      | JPk      | 7                 |
|             |                    | EPA 7470      | JGJ      | 1                 |
|             |                    | EPA 8270      | TBP      | 66                |
|             |                    | EPA 8260      | TMW      | 73                |
|             |                    | ASTM D2974-87 | SCM      | 1                 |

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## ANALYTICAL RESULTS

Project: Hoosier Wood Preservers

Pace Project No.: 50132570

| Sample: HWP-A2UST-151116       |         | Lab ID: 50132570001                                      |              | Collected: 11/16/15 13:45 |                | Received: 11/17/15 14:12 |           | Matrix: Water |  |
|--------------------------------|---------|--|--------------|---------------------------|----------------|--------------------------|-----------|---------------|--|
| Parameters                     | Results | Units  | Report Limit | DF                        | Prepared       | Analyzed                 | CAS No.   | Qual          |  |
| 6010 MET ICP                   |         | Analytical Method: EPA 6010 Preparation Method: EPA 3010 |              |                           |                |                          |           |               |  |
| Arsenic                        | 50200   | ug/L   | 20.0         | 2                         | 11/20/15 07:06 | 11/21/15 00:24           | 7440-38-2 | 1d            |  |
| Barium                         | 83.4    | ug/L   | 10.0         | 1                         | 11/20/15 07:06 | 11/21/15 00:10           | 7440-39-3 |               |  |
| Cadmium                        | 153     | ug/L   | 2.0          | 1                         | 11/20/15 07:06 | 11/21/15 00:10           | 7440-43-9 |               |  |
| Chromium                       | 2480    | ug/L   | 10.0         | 1                         | 11/20/15 07:06 | 11/21/15 00:10           | 7440-47-3 |               |  |
| Lead                           | 47.5    | ug/L   | 10.0         | 1                         | 11/20/15 07:06 | 11/21/15 00:10           | 7439-92-1 |               |  |
| Selenium                       | ND      | ug/L   | 10.0         | 1                         | 11/20/15 07:06 | 11/21/15 00:10           | 7782-49-2 |               |  |
| Silver                         | ND      | ug/L   | 10.0         | 1                         | 11/20/15 07:06 | 11/21/15 00:10           | 7440-22-4 |               |  |
| 7470 Mercury                   |         | Analytical Method: EPA 7470 Preparation Method: EPA 7470 |              |                           |                |                          |           |               |  |
| Mercury                        | ND      | ug/L   | 2.0          | 1                         | 11/21/15 13:35 | 11/23/15 19:52           | 7439-97-6 |               |  |
| 8270 Low-volume Short Spike    |         | Analytical Method: EPA 8270 Preparation Method: EPA 3510 |              |                           |                |                          |           |               |  |
| Acenaphthene                   | ND      | ug/L   | 10.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 83-32-9   |               |  |
| Acenaphthylene                 | ND      | ug/L   | 10.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 208-96-8  |               |  |
| Anthracene                     | ND      | ug/L   | 10.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 120-12-7  |               |  |
| Benzo(a)anthracene             | ND      | ug/L   | 10.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 56-55-3   |               |  |
| Benzo(a)pyrene                 | ND      | ug/L   | 10.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 50-32-8   |               |  |
| Benzo(b)fluoranthene           | ND      | ug/L   | 10.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 205-99-2  |               |  |
| Benzo(g,h,i)perylene           | ND      | ug/L   | 10.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 191-24-2  |               |  |
| Benzo(k)fluoranthene           | ND      | ug/L   | 10.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 207-08-9  |               |  |
| Benzyl alcohol                 | ND      | ug/L   | 10.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 100-51-6  |               |  |
| 4-Bromophenylphenyl ether      | ND      | ug/L   | 10.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 101-55-3  |               |  |
| Butylbenzylphthalate           | ND      | ug/L   | 10.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 85-68-7   |               |  |
| 4-Chloro-3-methylphenol        | ND      | ug/L   | 10.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 59-50-7   |               |  |
| 4-Chloroaniline                | ND      | ug/L   | 10.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 106-47-8  |               |  |
| bis(2-Chloroethoxy)methane     | ND      | ug/L   | 10.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 111-91-1  |               |  |
| bis(2-Chloroethyl) ether       | ND      | ug/L   | 10.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 111-44-4  |               |  |
| bis(2chloro1methylethyl) ether | ND      | ug/L   | 10.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 108-60-1  |               |  |
| 2-Chloronaphthalene            | ND      | ug/L   | 10.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 91-58-7   |               |  |
| 2-Chlorophenol                 | ND      | ug/L   | 10.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 95-57-8   |               |  |
| 4-Chlorophenylphenyl ether     | ND      | ug/L   | 10.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 7005-72-3 |               |  |
| Chrysene                       | ND      | ug/L   | 10.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 218-01-9  |               |  |
| Dibenz(a,h)anthracene          | ND      | ug/L   | 10.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 53-70-3   |               |  |
| Dibenzofuran                   | ND      | ug/L   | 10.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 132-64-9  |               |  |
| 3,3'-Dichlorobenzidine         | ND      | ug/L   | 20.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 91-94-1   |               |  |
| 2,4-Dichlorophenol             | ND      | ug/L   | 10.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 120-83-2  |               |  |
| Diethylphthalate               | ND      | ug/L   | 10.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 84-66-2   |               |  |
| 2,4-Dimethylphenol             | ND      | ug/L   | 10.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 105-67-9  |               |  |
| Dimethylphthalate              | ND      | ug/L   | 10.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 131-11-3  |               |  |
| Di-n-butylphthalate            | ND      | ug/L   | 10.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 84-74-2   |               |  |
| 4,6-Dinitro-2-methylphenol     | ND      | ug/L   | 50.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 534-52-1  |               |  |
| 2,4-Dinitrophenol              | ND      | ug/L   | 50.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 51-28-5   |               |  |
| 2,4-Dinitrotoluene             | ND      | ug/L   | 10.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 121-14-2  |               |  |
| 2,6-Dinitrotoluene             | ND      | ug/L   | 10.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 606-20-2  |               |  |
| Di-n-octylphthalate            | ND      | ug/L   | 10.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 117-84-0  |               |  |
| bis(2-Ethylhexyl)phthalate     | ND      | ug/L   | 10.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 117-81-7  |               |  |

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## ANALYTICAL RESULTS

Project: Hoosier Wood Preservers

Pace Project No.: 50132570

| Sample: HWP-A2UST-151116     |         | Lab ID: 50132570001                                      |              | Collected: 11/16/15 13:45 |                | Received: 11/17/15 14:12 |           | Matrix: Water |  |
|------------------------------|---------|--|--------------|---------------------------|----------------|--------------------------|-----------|---------------|--|
| Parameters                   | Results | Units  | Report Limit | DF                        | Prepared       | Analyzed                 | CAS No.   | Qual          |  |
| 8270 Low-volume Short Spike  |         | Analytical Method: EPA 8270 Preparation Method: EPA 3510 |              |                           |                |                          |           |               |  |
| Fluoranthene                 | ND      | ug/L   | 10.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 206-44-0  |               |  |
| Fluorene                     | ND      | ug/L   | 10.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 86-73-7   |               |  |
| Hexachloro-1,3-butadiene     | ND      | ug/L   | 10.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 87-68-3   |               |  |
| Hexachlorobenzene            | ND      | ug/L   | 10.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 118-74-1  |               |  |
| Hexachlorocyclopentadiene    | ND      | ug/L   | 10.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 77-47-4   |               |  |
| Hexachloroethane             | ND      | ug/L   | 10.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 67-72-1   |               |  |
| Indeno(1,2,3-cd)pyrene       | ND      | ug/L   | 10.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 193-39-5  |               |  |
| Isophorone                   | ND      | ug/L   | 10.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 78-59-1   |               |  |
| 2-Methylnaphthalene          | ND      | ug/L   | 10.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 91-57-6   |               |  |
| 2-Methylphenol(o-Cresol)     | ND      | ug/L   | 10.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 95-48-7   |               |  |
| 3&4-Methylphenol(m&p Cresol) | ND      | ug/L   | 10.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           |           |               |  |
| Naphthalene                  | ND      | ug/L   | 10.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 91-20-3   |               |  |
| 2-Nitroaniline               | ND      | ug/L   | 50.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 88-74-4   |               |  |
| 3-Nitroaniline               | ND      | ug/L   | 50.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 99-09-2   |               |  |
| 4-Nitroaniline               | ND      | ug/L   | 50.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 100-01-6  |               |  |
| Nitrobenzene                 | ND      | ug/L   | 10.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 98-95-3   |               |  |
| 2-Nitrophenol                | ND      | ug/L   | 10.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 88-75-5   |               |  |
| 4-Nitrophenol                | ND      | ug/L   | 50.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 100-02-7  |               |  |
| N-Nitroso-di-n-propylamine   | ND      | ug/L   | 50.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 621-64-7  |               |  |
| N-Nitrosodiphenylamine       | ND      | ug/L   | 10.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 86-30-6   |               |  |
| Pentachlorophenol            | ND      | ug/L   | 50.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 87-86-5   |               |  |
| Phenanthrene                 | ND      | ug/L   | 10.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 85-01-8   |               |  |
| Phenol                       | ND      | ug/L   | 10.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 108-95-2  |               |  |
| Pyrene                       | ND      | ug/L   | 10.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 129-00-0  |               |  |
| 2,4,5-Trichlorophenol        | ND      | ug/L   | 10.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 95-95-4   |               |  |
| 2,4,6-Trichlorophenol        | ND      | ug/L   | 10.0         | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 88-06-2   |               |  |
| Surrogates                   |         |  |              |                           |                |                          |           |               |  |
| Nitrobenzene-d5 (S)          | 95      | %.   | 38-124       | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 4165-60-0 |               |  |
| 2-Fluorobiphenyl (S)         | 92      | %.   | 33-114       | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 321-60-8  |               |  |
| p-Terphenyl-d14 (S)          | 38      | %.   | 10-113       | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 1718-51-0 |               |  |
| Phenol-d5 (S)                | 34      | %.   | 10-58        | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 4165-62-2 |               |  |
| 2-Fluorophenol (S)           | 53      | %.   | 11-79        | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 367-12-4  |               |  |
| 2,4,6-Tribromophenol (S)     | 121     | %.   | 29-158       | 1                         | 11/20/15 10:00 | 11/23/15 10:43           | 118-79-6  |               |  |
| 8260 MSV                     |         | Analytical Method: EPA 8260                              |              |                           |                |                          |           |               |  |
| Acetone                      | ND      | ug/L   | 100          | 1                         |                | 11/22/15 02:39           | 67-64-1   |               |  |
| Acrolein                     | ND      | ug/L   | 50.0         | 1                         |                | 11/22/15 02:39           | 107-02-8  |               |  |
| Acrylonitrile                | ND      | ug/L   | 100          | 1                         |                | 11/22/15 02:39           | 107-13-1  |               |  |
| Benzene                      | ND      | ug/L   | 5.0          | 1                         |                | 11/22/15 02:39           | 71-43-2   |               |  |
| Bromobenzene                 | ND      | ug/L   | 5.0          | 1                         |                | 11/22/15 02:39           | 108-86-1  |               |  |
| Bromochloromethane           | ND      | ug/L   | 5.0          | 1                         |                | 11/22/15 02:39           | 74-97-5   |               |  |
| Bromodichloromethane         | ND      | ug/L   | 5.0          | 1                         |                | 11/22/15 02:39           | 75-27-4   |               |  |
| Bromoform                    | ND      | ug/L   | 5.0          | 1                         |                | 11/22/15 02:39           | 75-25-2   |               |  |
| Bromomethane                 | ND      | ug/L   | 5.0          | 1                         |                | 11/22/15 02:39           | 74-83-9   |               |  |
| 2-Butanone (MEK)             | ND      | ug/L   | 25.0         | 1                         |                | 11/22/15 02:39           | 78-93-3   |               |  |
| n-Butylbenzene               | ND      | ug/L   | 5.0          | 1                         |                | 11/22/15 02:39           | 104-51-8  |               |  |
| sec-Butylbenzene             | ND      | ug/L   | 5.0          | 1                         |                | 11/22/15 02:39           | 135-98-8  |               |  |

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Hoosier Wood Preservers

Pace Project No.: 50132570

| Sample: HWP-A2UST-151116    |         | Lab ID: 50132570001         |              | Collected: 11/16/15 13:45 |          | Received: 11/17/15 14:12 |            | Matrix: Water |  |
|-----------------------------|---------|-----------------------------|--------------|---------------------------|----------|--------------------------|------------|---------------|--|
| Parameters                  | Results | Units                       | Report Limit | DF                        | Prepared | Analyzed                 | CAS No.    | Qual          |  |
| 8260 MSV                    |         | Analytical Method: EPA 8260 |              |                           |          |                          |            |               |  |
| tert-Butylbenzene           | ND      | ug/L                        | 5.0          | 1                         |          | 11/22/15 02:39           | 98-06-6    |               |  |
| Carbon disulfide            | ND      | ug/L                        | 10.0         | 1                         |          | 11/22/15 02:39           | 75-15-0    |               |  |
| Carbon tetrachloride        | ND      | ug/L                        | 5.0          | 1                         |          | 11/22/15 02:39           | 56-23-5    |               |  |
| Chlorobenzene               | ND      | ug/L                        | 5.0          | 1                         |          | 11/22/15 02:39           | 108-90-7   |               |  |
| Chloroethane                | ND      | ug/L                        | 5.0          | 1                         |          | 11/22/15 02:39           | 75-00-3    |               |  |
| Chloroform                  | ND      | ug/L                        | 5.0          | 1                         |          | 11/22/15 02:39           | 67-66-3    |               |  |
| Chloromethane               | ND      | ug/L                        | 5.0          | 1                         |          | 11/22/15 02:39           | 74-87-3    |               |  |
| 2-Chlorotoluene             | ND      | ug/L                        | 5.0          | 1                         |          | 11/22/15 02:39           | 95-49-8    |               |  |
| 4-Chlorotoluene             | ND      | ug/L                        | 5.0          | 1                         |          | 11/22/15 02:39           | 106-43-4   |               |  |
| Dibromochloromethane        | ND      | ug/L                        | 5.0          | 1                         |          | 11/22/15 02:39           | 124-48-1   |               |  |
| 1,2-Dibromoethane (EDB)     | ND      | ug/L                        | 5.0          | 1                         |          | 11/22/15 02:39           | 106-93-4   |               |  |
| Dibromomethane              | ND      | ug/L                        | 5.0          | 1                         |          | 11/22/15 02:39           | 74-95-3    |               |  |
| 1,2-Dichlorobenzene         | ND      | ug/L                        | 5.0          | 1                         |          | 11/22/15 02:39           | 95-50-1    |               |  |
| 1,3-Dichlorobenzene         | ND      | ug/L                        | 5.0          | 1                         |          | 11/22/15 02:39           | 541-73-1   |               |  |
| 1,4-Dichlorobenzene         | ND      | ug/L                        | 5.0          | 1                         |          | 11/22/15 02:39           | 106-46-7   |               |  |
| trans-1,4-Dichloro-2-butene | ND      | ug/L                        | 100          | 1                         |          | 11/22/15 02:39           | 110-57-6   |               |  |
| Dichlorodifluoromethane     | ND      | ug/L                        | 5.0          | 1                         |          | 11/22/15 02:39           | 75-71-8    |               |  |
| 1,1-Dichloroethane          | ND      | ug/L                        | 5.0          | 1                         |          | 11/22/15 02:39           | 75-34-3    |               |  |
| 1,2-Dichloroethane          | ND      | ug/L                        | 5.0          | 1                         |          | 11/22/15 02:39           | 107-06-2   |               |  |
| 1,1-Dichloroethene          | ND      | ug/L                        | 5.0          | 1                         |          | 11/22/15 02:39           | 75-35-4    |               |  |
| cis-1,2-Dichloroethene      | ND      | ug/L                        | 5.0          | 1                         |          | 11/22/15 02:39           | 156-59-2   |               |  |
| trans-1,2-Dichloroethene    | ND      | ug/L                        | 5.0          | 1                         |          | 11/22/15 02:39           | 156-60-5   |               |  |
| 1,2-Dichloropropane         | ND      | ug/L                        | 5.0          | 1                         |          | 11/22/15 02:39           | 78-87-5    |               |  |
| 1,3-Dichloropropane         | ND      | ug/L                        | 5.0          | 1                         |          | 11/22/15 02:39           | 142-28-9   |               |  |
| 2,2-Dichloropropane         | ND      | ug/L                        | 5.0          | 1                         |          | 11/22/15 02:39           | 594-20-7   |               |  |
| 1,1-Dichloropropene         | ND      | ug/L                        | 5.0          | 1                         |          | 11/22/15 02:39           | 563-58-6   |               |  |
| cis-1,3-Dichloropropene     | ND      | ug/L                        | 5.0          | 1                         |          | 11/22/15 02:39           | 10061-01-5 |               |  |
| trans-1,3-Dichloropropene   | ND      | ug/L                        | 5.0          | 1                         |          | 11/22/15 02:39           | 10061-02-6 |               |  |
| Ethylbenzene                | ND      | ug/L                        | 5.0          | 1                         |          | 11/22/15 02:39           | 100-41-4   |               |  |
| Ethyl methacrylate          | ND      | ug/L                        | 100          | 1                         |          | 11/22/15 02:39           | 97-63-2    |               |  |
| Hexachloro-1,3-butadiene    | ND      | ug/L                        | 5.0          | 1                         |          | 11/22/15 02:39           | 87-68-3    |               |  |
| n-Hexane                    | ND      | ug/L                        | 5.0          | 1                         |          | 11/22/15 02:39           | 110-54-3   |               |  |
| 2-Hexanone                  | ND      | ug/L                        | 25.0         | 1                         |          | 11/22/15 02:39           | 591-78-6   |               |  |
| Iodomethane                 | ND      | ug/L                        | 10.0         | 1                         |          | 11/22/15 02:39           | 74-88-4    |               |  |
| Isopropylbenzene (Cumene)   | ND      | ug/L                        | 5.0          | 1                         |          | 11/22/15 02:39           | 98-82-8    |               |  |
| p-Isopropyltoluene          | ND      | ug/L                        | 5.0          | 1                         |          | 11/22/15 02:39           | 99-87-6    |               |  |
| Methylene Chloride          | 293     | ug/L                        | 5.0          | 1                         |          | 11/22/15 02:39           | 75-09-2    | C9            |  |
| 4-Methyl-2-pentanone (MIBK) | ND      | ug/L                        | 25.0         | 1                         |          | 11/22/15 02:39           | 108-10-1   |               |  |
| Methyl-tert-butyl ether     | ND      | ug/L                        | 4.0          | 1                         |          | 11/22/15 02:39           | 1634-04-4  |               |  |
| Naphthalene                 | ND      | ug/L                        | 5.0          | 1                         |          | 11/22/15 02:39           | 91-20-3    |               |  |
| n-Propylbenzene             | ND      | ug/L                        | 5.0          | 1                         |          | 11/22/15 02:39           | 103-65-1   |               |  |
| Styrene                     | ND      | ug/L                        | 5.0          | 1                         |          | 11/22/15 02:39           | 100-42-5   |               |  |
| 1,1,1,2-Tetrachloroethane   | ND      | ug/L                        | 5.0          | 1                         |          | 11/22/15 02:39           | 630-20-6   |               |  |
| 1,1,2,2-Tetrachloroethane   | ND      | ug/L                        | 5.0          | 1                         |          | 11/22/15 02:39           | 79-34-5    |               |  |
| Tetrachloroethene           | ND      | ug/L                        | 5.0          | 1                         |          | 11/22/15 02:39           | 127-18-4   |               |  |
| Toluene                     | ND      | ug/L                        | 5.0          | 1                         |          | 11/22/15 02:39           | 108-88-3   |               |  |
| 1,2,3-Trichlorobenzene      | ND      | ug/L                        | 5.0          | 1                         |          | 11/22/15 02:39           | 87-61-6    |               |  |

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## ANALYTICAL RESULTS

Project: Hoosier Wood Preservers

Pace Project No.: 50132570

| Sample: HWP-A2UST-151116   |         | Lab ID: 50132570001         |              | Collected: 11/16/15 13:45 |          | Received: 11/17/15 14:12 |           | Matrix: Water |  |
|----------------------------|---------|-----------------------------|--------------|---------------------------|----------|--------------------------|-----------|---------------|--|
| Parameters                 | Results | Units                       | Report Limit | DF                        | Prepared | Analyzed                 | CAS No.   | Qual          |  |
| 8260 MSV                   |         | Analytical Method: EPA 8260 |              |                           |          |                          |           |               |  |
| 1,2,4-Trichlorobenzene     | ND      | ug/L                        | 5.0          | 1                         |          | 11/22/15 02:39           | 120-82-1  |               |  |
| 1,1,1-Trichloroethane      | ND      | ug/L                        | 5.0          | 1                         |          | 11/22/15 02:39           | 71-55-6   |               |  |
| 1,1,2-Trichloroethane      | ND      | ug/L                        | 5.0          | 1                         |          | 11/22/15 02:39           | 79-00-5   |               |  |
| Trichloroethene            | ND      | ug/L                        | 5.0          | 1                         |          | 11/22/15 02:39           | 79-01-6   |               |  |
| Trichlorofluoromethane     | ND      | ug/L                        | 5.0          | 1                         |          | 11/22/15 02:39           | 75-69-4   |               |  |
| 1,2,3-Trichloropropane     | ND      | ug/L                        | 5.0          | 1                         |          | 11/22/15 02:39           | 96-18-4   |               |  |
| 1,2,4-Trimethylbenzene     | ND      | ug/L                        | 5.0          | 1                         |          | 11/22/15 02:39           | 95-63-6   |               |  |
| 1,3,5-Trimethylbenzene     | ND      | ug/L                        | 5.0          | 1                         |          | 11/22/15 02:39           | 108-67-8  |               |  |
| Vinyl acetate              | ND      | ug/L                        | 50.0         | 1                         |          | 11/22/15 02:39           | 108-05-4  |               |  |
| Vinyl chloride             | ND      | ug/L                        | 2.0          | 1                         |          | 11/22/15 02:39           | 75-01-4   |               |  |
| Xylene (Total)             | ND      | ug/L                        | 10.0         | 1                         |          | 11/22/15 02:39           | 1330-20-7 |               |  |
| Surrogates                 |         |                             |              |                           |          |                          |           |               |  |
| Dibromofluoromethane (S)   | 102     | %.                          | 79-116       | 1                         |          | 11/22/15 02:39           | 1868-53-7 | HS,p2         |  |
| 4-Bromofluorobenzene (S)   | 96      | %.                          | 80-114       | 1                         |          | 11/22/15 02:39           | 460-00-4  |               |  |
| Toluene-d8 (S)             | 102     | %.                          | 81-110       | 1                         |          | 11/22/15 02:39           | 2037-26-5 |               |  |
| 1010 Flashpoint,Closed Cup |         | Analytical Method: EPA 1010 |              |                           |          |                          |           |               |  |
| Flashpoint                 | >200    | deg F                       |              | 1                         |          | 11/23/15 09:04           |           |               |  |

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## ANALYTICAL RESULTS

Project: Hoosier Wood Preservers

Pace Project No.: 50132570

Sample: HWP-FTBsoil-151116 Lab ID: 50132570002 Collected: 11/16/15 15:35 Received: 11/17/15 14:12 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

| Parameters   | Results | Units | Report Limit | DF | Prepared       | Analyzed       | CAS No.   | Qual |
|--|---------|-------|--------------|----|----------------|----------------|-----------|------|
| <b>6010 MET ICP, TCLP</b>                                |         |       |              |    |                |                |           |      |
| Analytical Method: EPA 6010 Preparation Method: EPA 3010 |         |       |              |    |                |                |           |      |
| Leachate Method/Date: EPA 1311; 11/18/15 18:15           |         |       |              |    |                |                |           |      |
| Arsenic  | 16200   | ug/L  | 100          | 1  | 11/19/15 16:52 | 11/20/15 02:25 | 7440-38-2 |      |
| Barium   | ND      | ug/L  | 5000         | 1  | 11/19/15 16:52 | 11/20/15 02:25 | 7440-39-3 |      |
| Cadmium  | 54.8    | ug/L  | 50.0         | 1  | 11/19/15 16:52 | 11/20/15 02:25 | 7440-43-9 |      |
| Chromium   | 131     | ug/L  | 100          | 1  | 11/19/15 16:52 | 11/20/15 02:25 | 7440-47-3 |      |
| Lead   | ND      | mg/L  | 0.10         | 1  | 11/19/15 16:52 | 11/20/15 02:25 | 7439-92-1 |      |
| Selenium   | ND      | ug/L  | 100          | 1  | 11/19/15 16:52 | 11/20/15 02:25 | 7782-49-2 |      |
| Silver   | ND      | ug/L  | 100          | 1  | 11/19/15 16:52 | 11/20/15 02:25 | 7440-22-4 |      |

### 7470 Mercury, TCLP

Analytical Method: EPA 7470 Preparation Method: EPA 7470

Leachate Method/Date: EPA 1311; 11/18/15 18:15

|         |    |      |        |   |                |                |           |  |
|---------|----|------|--------|---|----------------|----------------|-----------|--|
| Mercury | ND | mg/L | 0.0020 | 1 | 11/20/15 13:59 | 11/20/15 22:13 | 7439-97-6 |  |
|---------|----|------|--------|---|----------------|----------------|-----------|--|

### 8270 MSSV SHORT LIST MICROWAVE

Analytical Method: EPA 8270 Preparation Method: EPA 3546

|                                |    |       |      |   |                |                |           |  |
|--------------------------------|----|-------|------|---|----------------|----------------|-----------|--|
| Acenaphthene                   | ND | ug/kg | 370  | 1 | 11/18/15 09:31 | 11/18/15 14:45 | 83-32-9   |  |
| Acenaphthylene                 | ND | ug/kg | 370  | 1 | 11/18/15 09:31 | 11/18/15 14:45 | 208-96-8  |  |
| Anthracene                     | ND | ug/kg | 370  | 1 | 11/18/15 09:31 | 11/18/15 14:45 | 120-12-7  |  |
| Benzo(a)anthracene             | ND | ug/kg | 370  | 1 | 11/18/15 09:31 | 11/18/15 14:45 | 56-55-3   |  |
| Benzo(a)pyrene                 | ND | ug/kg | 190  | 1 | 11/18/15 09:31 | 11/18/15 14:45 | 50-32-8   |  |
| Benzo(b)fluoranthene           | ND | ug/kg | 370  | 1 | 11/18/15 09:31 | 11/18/15 14:45 | 205-99-2  |  |
| Benzo(g,h,i)perylene           | ND | ug/kg | 370  | 1 | 11/18/15 09:31 | 11/18/15 14:45 | 191-24-2  |  |
| Benzo(k)fluoranthene           | ND | ug/kg | 370  | 1 | 11/18/15 09:31 | 11/18/15 14:45 | 207-08-9  |  |
| Benzyl alcohol                 | ND | ug/kg | 739  | 1 | 11/18/15 09:31 | 11/18/15 14:45 | 100-51-6  |  |
| 4-Bromophenylphenyl ether      | ND | ug/kg | 370  | 1 | 11/18/15 09:31 | 11/18/15 14:45 | 101-55-3  |  |
| Butylbenzylphthalate           | ND | ug/kg | 370  | 1 | 11/18/15 09:31 | 11/18/15 14:45 | 85-68-7   |  |
| 4-Chloro-3-methylphenol        | ND | ug/kg | 739  | 1 | 11/18/15 09:31 | 11/18/15 14:45 | 59-50-7   |  |
| 4-Chloroaniline                | ND | ug/kg | 739  | 1 | 11/18/15 09:31 | 11/18/15 14:45 | 106-47-8  |  |
| bis(2-Chloroethoxy)methane     | ND | ug/kg | 370  | 1 | 11/18/15 09:31 | 11/18/15 14:45 | 111-91-1  |  |
| bis(2-Chloroethyl) ether       | ND | ug/kg | 370  | 1 | 11/18/15 09:31 | 11/18/15 14:45 | 111-44-4  |  |
| bis(2chloro1methylethyl) ether | ND | ug/kg | 370  | 1 | 11/18/15 09:31 | 11/18/15 14:45 | 108-60-1  |  |
| 2-Chloronaphthalene            | ND | ug/kg | 370  | 1 | 11/18/15 09:31 | 11/18/15 14:45 | 91-58-7   |  |
| 2-Chlorophenol                 | ND | ug/kg | 370  | 1 | 11/18/15 09:31 | 11/18/15 14:45 | 95-57-8   |  |
| 4-Chlorophenylphenyl ether     | ND | ug/kg | 370  | 1 | 11/18/15 09:31 | 11/18/15 14:45 | 7005-72-3 |  |
| Chrysene                       | ND | ug/kg | 370  | 1 | 11/18/15 09:31 | 11/18/15 14:45 | 218-01-9  |  |
| Dibenz(a,h)anthracene          | ND | ug/kg | 190  | 1 | 11/18/15 09:31 | 11/18/15 14:45 | 53-70-3   |  |
| Dibenzofuran                   | ND | ug/kg | 370  | 1 | 11/18/15 09:31 | 11/18/15 14:45 | 132-64-9  |  |
| 3,3'-Dichlorobenzidine         | ND | ug/kg | 739  | 1 | 11/18/15 09:31 | 11/18/15 14:45 | 91-94-1   |  |
| 2,4-Dichlorophenol             | ND | ug/kg | 370  | 1 | 11/18/15 09:31 | 11/18/15 14:45 | 120-83-2  |  |
| Diethylphthalate               | ND | ug/kg | 370  | 1 | 11/18/15 09:31 | 11/18/15 14:45 | 84-66-2   |  |
| 2,4-Dimethylphenol             | ND | ug/kg | 370  | 1 | 11/18/15 09:31 | 11/18/15 14:45 | 105-67-9  |  |
| Dimethylphthalate              | ND | ug/kg | 370  | 1 | 11/18/15 09:31 | 11/18/15 14:45 | 131-11-3  |  |
| Di-n-butylphthalate            | ND | ug/kg | 370  | 1 | 11/18/15 09:31 | 11/18/15 14:45 | 84-74-2   |  |
| 4,6-Dinitro-2-methylphenol     | ND | ug/kg | 1790 | 1 | 11/18/15 09:31 | 11/18/15 14:45 | 534-52-1  |  |
| 2,4-Dinitrophenol              | ND | ug/kg | 1790 | 1 | 11/18/15 09:31 | 11/18/15 14:45 | 51-28-5   |  |
| 2,4-Dinitrotoluene             | ND | ug/kg | 370  | 1 | 11/18/15 09:31 | 11/18/15 14:45 | 121-14-2  |  |
| 2,6-Dinitrotoluene             | ND | ug/kg | 370  | 1 | 11/18/15 09:31 | 11/18/15 14:45 | 606-20-2  |  |

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Hoosier Wood Preservers

Pace Project No.: 50132570

Sample: HWP-FTBsoil-151116 Lab ID: 50132570002 Collected: 11/16/15 15:35 Received: 11/17/15 14:12 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

| Parameters   | Results | Units | Report Limit | DF | Prepared       | Analyzed       | CAS No.   | Qual |
|--|---------|-------|--------------|----|----------------|----------------|-----------|------|
| <b>8270 MSSV SHORT LIST MICROWAVE</b> Analytical Method: EPA 8270 Preparation Method: EPA 3546 |         |       |              |    |                |                |           |      |
| Di-n-octylphthalate  | ND      | ug/kg | 370          | 1  | 11/18/15 09:31 | 11/18/15 14:45 | 117-84-0  |      |
| bis(2-Ethylhexyl)phthalate   | ND      | ug/kg | 370          | 1  | 11/18/15 09:31 | 11/18/15 14:45 | 117-81-7  |      |
| Fluoranthene   | ND      | ug/kg | 370          | 1  | 11/18/15 09:31 | 11/18/15 14:45 | 206-44-0  |      |
| Fluorene   | ND      | ug/kg | 370          | 1  | 11/18/15 09:31 | 11/18/15 14:45 | 86-73-7   |      |
| Hexachloro-1,3-butadiene   | ND      | ug/kg | 370          | 1  | 11/18/15 09:31 | 11/18/15 14:45 | 87-68-3   |      |
| Hexachlorobenzene  | ND      | ug/kg | 370          | 1  | 11/18/15 09:31 | 11/18/15 14:45 | 118-74-1  |      |
| Hexachlorocyclopentadiene  | ND      | ug/kg | 370          | 1  | 11/18/15 09:31 | 11/18/15 14:45 | 77-47-4   |      |
| Hexachloroethane   | ND      | ug/kg | 370          | 1  | 11/18/15 09:31 | 11/18/15 14:45 | 67-72-1   |      |
| Indeno(1,2,3-cd)pyrene   | ND      | ug/kg | 370          | 1  | 11/18/15 09:31 | 11/18/15 14:45 | 193-39-5  |      |
| Isophorone   | ND      | ug/kg | 370          | 1  | 11/18/15 09:31 | 11/18/15 14:45 | 78-59-1   |      |
| 2-Methylnaphthalene  | ND      | ug/kg | 370          | 1  | 11/18/15 09:31 | 11/18/15 14:45 | 91-57-6   |      |
| 2-Methylphenol(o-Cresol)   | ND      | ug/kg | 370          | 1  | 11/18/15 09:31 | 11/18/15 14:45 | 95-48-7   |      |
| 3&4-Methylphenol(m&p Cresol)   | ND      | ug/kg | 739          | 1  | 11/18/15 09:31 | 11/18/15 14:45 |           |      |
| Naphthalene  | ND      | ug/kg | 370          | 1  | 11/18/15 09:31 | 11/18/15 14:45 | 91-20-3   |      |
| 2-Nitroaniline   | ND      | ug/kg | 1790         | 1  | 11/18/15 09:31 | 11/18/15 14:45 | 88-74-4   |      |
| 3-Nitroaniline   | ND      | ug/kg | 1790         | 1  | 11/18/15 09:31 | 11/18/15 14:45 | 99-09-2   |      |
| 4-Nitroaniline   | ND      | ug/kg | 1790         | 1  | 11/18/15 09:31 | 11/18/15 14:45 | 100-01-6  |      |
| Nitrobenzene   | ND      | ug/kg | 370          | 1  | 11/18/15 09:31 | 11/18/15 14:45 | 98-95-3   |      |
| 2-Nitrophenol  | ND      | ug/kg | 370          | 1  | 11/18/15 09:31 | 11/18/15 14:45 | 88-75-5   |      |
| 4-Nitrophenol  | ND      | ug/kg | 1790         | 1  | 11/18/15 09:31 | 11/18/15 14:45 | 100-02-7  |      |
| N-Nitroso-di-n-propylamine   | ND      | ug/kg | 370          | 1  | 11/18/15 09:31 | 11/18/15 14:45 | 621-64-7  |      |
| N-Nitrosodiphenylamine   | ND      | ug/kg | 370          | 1  | 11/18/15 09:31 | 11/18/15 14:45 | 86-30-6   |      |
| Pentachlorophenol  | 107000  | ug/kg | 89600        | 50 | 11/18/15 09:31 | 11/24/15 13:07 | 87-86-5   |      |
| Phenanthrene   | ND      | ug/kg | 370          | 1  | 11/18/15 09:31 | 11/18/15 14:45 | 85-01-8   |      |
| Phenol   | ND      | ug/kg | 370          | 1  | 11/18/15 09:31 | 11/18/15 14:45 | 108-95-2  |      |
| Pyrene   | ND      | ug/kg | 370          | 1  | 11/18/15 09:31 | 11/18/15 14:45 | 129-00-0  |      |
| 2,4,5-Trichlorophenol  | ND      | ug/kg | 370          | 1  | 11/18/15 09:31 | 11/18/15 14:45 | 95-95-4   |      |
| 2,4,6-Trichlorophenol  | ND      | ug/kg | 370          | 1  | 11/18/15 09:31 | 11/18/15 14:45 | 88-06-2   |      |
| <b>Surrogates</b>  |         |       |              |    |                |                |           |      |
| Nitrobenzene-d5 (S)  | 68      | %.    | 28-101       | 1  | 11/18/15 09:31 | 11/18/15 14:45 | 4165-60-0 |      |
| 2-Fluorobiphenyl (S)   | 63      | %.    | 31-94        | 1  | 11/18/15 09:31 | 11/18/15 14:45 | 321-60-8  |      |
| p-Terphenyl-d14 (S)  | 80      | %.    | 26-110       | 1  | 11/18/15 09:31 | 11/18/15 14:45 | 1718-51-0 |      |
| Phenol-d5 (S)  | 77      | %.    | 28-101       | 1  | 11/18/15 09:31 | 11/18/15 14:45 | 4165-62-2 |      |
| 2-Fluorophenol (S)   | 75      | %.    | 24-104       | 1  | 11/18/15 09:31 | 11/18/15 14:45 | 367-12-4  |      |
| 2,4,6-Tribromophenol (S)   | 74      | %.    | 16-122       | 1  | 11/18/15 09:31 | 11/18/15 14:45 | 118-79-6  |      |

### 8260 MSV 5030 Low Level

Analytical Method: EPA 8260

|                      |    |       |     |   |  |                |          |  |
|----------------------|----|-------|-----|---|--|----------------|----------|--|
| Acetone              | ND | ug/kg | 112 | 1 |  | 11/19/15 21:23 | 67-64-1  |  |
| Acrolein             | ND | ug/kg | 112 | 1 |  | 11/19/15 21:23 | 107-02-8 |  |
| Acrylonitrile        | ND | ug/kg | 112 | 1 |  | 11/19/15 21:23 | 107-13-1 |  |
| Benzene              | ND | ug/kg | 5.6 | 1 |  | 11/19/15 21:23 | 71-43-2  |  |
| Bromobenzene         | ND | ug/kg | 5.6 | 1 |  | 11/19/15 21:23 | 108-86-1 |  |
| Bromochloromethane   | ND | ug/kg | 5.6 | 1 |  | 11/19/15 21:23 | 74-97-5  |  |
| Bromodichloromethane | ND | ug/kg | 5.6 | 1 |  | 11/19/15 21:23 | 75-27-4  |  |
| Bromoform            | ND | ug/kg | 5.6 | 1 |  | 11/19/15 21:23 | 75-25-2  |  |
| Bromomethane         | ND | ug/kg | 5.6 | 1 |  | 11/19/15 21:23 | 74-83-9  |  |

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## ANALYTICAL RESULTS

Project: Hoosier Wood Preservers

Pace Project No.: 50132570

Sample: HWP-FTBsoil-151116 Lab ID: 50132570002 Collected: 11/16/15 15:35 Received: 11/17/15 14:12 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

| Parameters                     | Results | Units                       | Report Limit | DF | Prepared | Analyzed       | CAS No.    | Qual |
|--------------------------------|---------|-----------------------------|--------------|----|----------|----------------|------------|------|
| <b>8260 MSV 5030 Low Level</b> |         | Analytical Method: EPA 8260 |              |    |          |                |            |      |
| 2-Butanone (MEK)               | ND      | ug/kg                       | 28.0         | 1  |          | 11/19/15 21:23 | 78-93-3    |      |
| n-Butylbenzene                 | ND      | ug/kg                       | 5.6          | 1  |          | 11/19/15 21:23 | 104-51-8   |      |
| sec-Butylbenzene               | ND      | ug/kg                       | 5.6          | 1  |          | 11/19/15 21:23 | 135-98-8   |      |
| tert-Butylbenzene              | ND      | ug/kg                       | 5.6          | 1  |          | 11/19/15 21:23 | 98-06-6    |      |
| Carbon disulfide               | ND      | ug/kg                       | 11.2         | 1  |          | 11/19/15 21:23 | 75-15-0    |      |
| Carbon tetrachloride           | ND      | ug/kg                       | 5.6          | 1  |          | 11/19/15 21:23 | 56-23-5    |      |
| Chlorobenzene                  | ND      | ug/kg                       | 5.6          | 1  |          | 11/19/15 21:23 | 108-90-7   |      |
| Chloroethane                   | ND      | ug/kg                       | 5.6          | 1  |          | 11/19/15 21:23 | 75-00-3    |      |
| Chloroform                     | ND      | ug/kg                       | 5.6          | 1  |          | 11/19/15 21:23 | 67-66-3    |      |
| Chloromethane                  | ND      | ug/kg                       | 5.6          | 1  |          | 11/19/15 21:23 | 74-87-3    |      |
| 2-Chlorotoluene                | ND      | ug/kg                       | 5.6          | 1  |          | 11/19/15 21:23 | 95-49-8    |      |
| 4-Chlorotoluene                | ND      | ug/kg                       | 5.6          | 1  |          | 11/19/15 21:23 | 106-43-4   |      |
| Dibromochloromethane           | ND      | ug/kg                       | 5.6          | 1  |          | 11/19/15 21:23 | 124-48-1   |      |
| 1,2-Dibromoethane (EDB)        | ND      | ug/kg                       | 5.6          | 1  |          | 11/19/15 21:23 | 106-93-4   |      |
| Dibromomethane                 | ND      | ug/kg                       | 5.6          | 1  |          | 11/19/15 21:23 | 74-95-3    |      |
| 1,2-Dichlorobenzene            | ND      | ug/kg                       | 5.6          | 1  |          | 11/19/15 21:23 | 95-50-1    |      |
| 1,3-Dichlorobenzene            | ND      | ug/kg                       | 5.6          | 1  |          | 11/19/15 21:23 | 541-73-1   |      |
| 1,4-Dichlorobenzene            | ND      | ug/kg                       | 5.6          | 1  |          | 11/19/15 21:23 | 106-46-7   |      |
| trans-1,4-Dichloro-2-butene    | ND      | ug/kg                       | 112          | 1  |          | 11/19/15 21:23 | 110-57-6   |      |
| Dichlorodifluoromethane        | ND      | ug/kg                       | 5.6          | 1  |          | 11/19/15 21:23 | 75-71-8    |      |
| 1,1-Dichloroethane             | ND      | ug/kg                       | 5.6          | 1  |          | 11/19/15 21:23 | 75-34-3    |      |
| 1,2-Dichloroethane             | ND      | ug/kg                       | 5.6          | 1  |          | 11/19/15 21:23 | 107-06-2   |      |
| 1,1-Dichloroethene             | ND      | ug/kg                       | 5.6          | 1  |          | 11/19/15 21:23 | 75-35-4    |      |
| cis-1,2-Dichloroethene         | ND      | ug/kg                       | 5.6          | 1  |          | 11/19/15 21:23 | 156-59-2   |      |
| trans-1,2-Dichloroethene       | ND      | ug/kg                       | 5.6          | 1  |          | 11/19/15 21:23 | 156-60-5   |      |
| 1,2-Dichloropropane            | ND      | ug/kg                       | 5.6          | 1  |          | 11/19/15 21:23 | 78-87-5    |      |
| 1,3-Dichloropropane            | ND      | ug/kg                       | 5.6          | 1  |          | 11/19/15 21:23 | 142-28-9   |      |
| 2,2-Dichloropropane            | ND      | ug/kg                       | 5.6          | 1  |          | 11/19/15 21:23 | 594-20-7   |      |
| 1,1-Dichloropropene            | ND      | ug/kg                       | 5.6          | 1  |          | 11/19/15 21:23 | 563-58-6   |      |
| cis-1,3-Dichloropropene        | ND      | ug/kg                       | 5.6          | 1  |          | 11/19/15 21:23 | 10061-01-5 |      |
| trans-1,3-Dichloropropene      | ND      | ug/kg                       | 5.6          | 1  |          | 11/19/15 21:23 | 10061-02-6 |      |
| Ethylbenzene                   | ND      | ug/kg                       | 5.6          | 1  |          | 11/19/15 21:23 | 100-41-4   |      |
| Ethyl methacrylate             | ND      | ug/kg                       | 112          | 1  |          | 11/19/15 21:23 | 97-63-2    |      |
| Hexachloro-1,3-butadiene       | ND      | ug/kg                       | 5.6          | 1  |          | 11/19/15 21:23 | 87-68-3    |      |
| n-Hexane                       | ND      | ug/kg                       | 5.6          | 1  |          | 11/19/15 21:23 | 110-54-3   |      |
| 2-Hexanone                     | ND      | ug/kg                       | 112          | 1  |          | 11/19/15 21:23 | 591-78-6   |      |
| Iodomethane                    | ND      | ug/kg                       | 112          | 1  |          | 11/19/15 21:23 | 74-88-4    |      |
| Isopropylbenzene (Cumene)      | ND      | ug/kg                       | 5.6          | 1  |          | 11/19/15 21:23 | 98-82-8    |      |
| p-Isopropyltoluene             | ND      | ug/kg                       | 5.6          | 1  |          | 11/19/15 21:23 | 99-87-6    |      |
| Methylene Chloride             | ND      | ug/kg                       | 22.4         | 1  |          | 11/19/15 21:23 | 75-09-2    |      |
| 4-Methyl-2-pentanone (MIBK)    | ND      | ug/kg                       | 28.0         | 1  |          | 11/19/15 21:23 | 108-10-1   |      |
| Methyl-tert-butyl ether        | ND      | ug/kg                       | 5.6          | 1  |          | 11/19/15 21:23 | 1634-04-4  |      |
| Naphthalene                    | ND      | ug/kg                       | 5.6          | 1  |          | 11/19/15 21:23 | 91-20-3    |      |
| n-Propylbenzene                | ND      | ug/kg                       | 5.6          | 1  |          | 11/19/15 21:23 | 103-65-1   |      |
| Styrene                        | ND      | ug/kg                       | 5.6          | 1  |          | 11/19/15 21:23 | 100-42-5   |      |
| 1,1,1,2-Tetrachloroethane      | ND      | ug/kg                       | 5.6          | 1  |          | 11/19/15 21:23 | 630-20-6   |      |

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## ANALYTICAL RESULTS

Project: Hoosier Wood Preservers

Pace Project No.: 50132570

Sample: HWP-FTBsoil-151116 Lab ID: 50132570002 Collected: 11/16/15 15:35 Received: 11/17/15 14:12 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

| Parameters                     | Results | Units                            | Report Limit | DF | Prepared | Analyzed       | CAS No.   | Qual |
|--------------------------------|---------|----------------------------------|--------------|----|----------|----------------|-----------|------|
| <b>8260 MSV 5030 Low Level</b> |         | Analytical Method: EPA 8260      |              |    |          |                |           |      |
| 1,1,2,2-Tetrachloroethane      | ND      | ug/kg                            | 5.6          | 1  |          | 11/19/15 21:23 | 79-34-5   |      |
| Tetrachloroethene              | ND      | ug/kg                            | 5.6          | 1  |          | 11/19/15 21:23 | 127-18-4  |      |
| Toluene                        | ND      | ug/kg                            | 5.6          | 1  |          | 11/19/15 21:23 | 108-88-3  |      |
| 1,2,3-Trichlorobenzene         | ND      | ug/kg                            | 5.6          | 1  |          | 11/19/15 21:23 | 87-61-6   |      |
| 1,2,4-Trichlorobenzene         | ND      | ug/kg                            | 5.6          | 1  |          | 11/19/15 21:23 | 120-82-1  |      |
| 1,1,1-Trichloroethane          | ND      | ug/kg                            | 5.6          | 1  |          | 11/19/15 21:23 | 71-55-6   |      |
| 1,1,2-Trichloroethane          | ND      | ug/kg                            | 5.6          | 1  |          | 11/19/15 21:23 | 79-00-5   |      |
| Trichloroethene                | ND      | ug/kg                            | 5.6          | 1  |          | 11/19/15 21:23 | 79-01-6   |      |
| Trichlorofluoromethane         | ND      | ug/kg                            | 5.6          | 1  |          | 11/19/15 21:23 | 75-69-4   |      |
| 1,2,3-Trichloropropane         | ND      | ug/kg                            | 5.6          | 1  |          | 11/19/15 21:23 | 96-18-4   |      |
| 1,2,4-Trimethylbenzene         | ND      | ug/kg                            | 5.6          | 1  |          | 11/19/15 21:23 | 95-63-6   |      |
| 1,3,5-Trimethylbenzene         | ND      | ug/kg                            | 5.6          | 1  |          | 11/19/15 21:23 | 108-67-8  |      |
| Vinyl acetate                  | ND      | ug/kg                            | 112          | 1  |          | 11/19/15 21:23 | 108-05-4  |      |
| Vinyl chloride                 | ND      | ug/kg                            | 5.6          | 1  |          | 11/19/15 21:23 | 75-01-4   |      |
| Xylene (Total)                 | ND      | ug/kg                            | 11.2         | 1  |          | 11/19/15 21:23 | 1330-20-7 |      |
| <b>Surrogates</b>              |         |                                  |              |    |          |                |           |      |
| Dibromofluoromethane (S)       | 102     | %.                               | 85-118       | 1  |          | 11/19/15 21:23 | 1868-53-7 |      |
| Toluene-d8 (S)                 | 105     | %.                               | 71-128       | 1  |          | 11/19/15 21:23 | 2037-26-5 |      |
| 4-Bromofluorobenzene (S)       | 94      | %.                               | 56-144       | 1  |          | 11/19/15 21:23 | 460-00-4  |      |
| <b>Percent Moisture</b>        |         | Analytical Method: ASTM D2974-87 |              |    |          |                |           |      |
| Percent Moisture               | 10.7    | %                                | 0.10         | 1  |          | 11/18/15 14:28 |           |      |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50132570

QC Batch: MERP/7140

Analysis Method: EPA 7470

QC Batch Method: EPA 7470

Analysis Description: 7470 Mercury TCLP

Associated Lab Samples: 50132570002

METHOD BLANK: 1429685

Matrix: Water

Associated Lab Samples: 50132570002

| Parameter | Units | Blank Result | Reporting Limit | Analyzed       | Qualifiers |
|-----------|-------|--------------|-----------------|----------------|------------|
| Mercury   | mg/L  | ND           | 0.0020          | 11/20/15 21:22 |            |

LABORATORY CONTROL SAMPLE: 1429686

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Mercury   | mg/L  | .015        | 0.014      | 97        | 80-120       |            |

MATRIX SPIKE SAMPLE: 1429687

| Parameter | Units | 50132020001 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Mercury   | mg/L  | ND                 | .015        | 0.014     | 93       | 75-125       |            |

MATRIX SPIKE SAMPLE: 1429688

| Parameter | Units | 50132223001 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Mercury   | mg/L  | ND                 | .015        | 0.013     | 89       | 75-125       |            |

MATRIX SPIKE SAMPLE: 1429689

| Parameter | Units | 50132069001 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Mercury   | mg/L  | ND                 | .015        | 0.014     | 90       | 75-125       |            |

MATRIX SPIKE SAMPLE: 1429690

| Parameter | Units | 50132119001 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Mercury   | mg/L  | ND                 | .015        | 0.014     | 94       | 75-125       |            |

MATRIX SPIKE SAMPLE: 1429692

| Parameter | Units | 50132570002 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Mercury   | mg/L  | ND                 | .015        | 0.014     | 93       | 75-125       |            |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50132570

|                      |       |             |       |        |       |        |            |
|----------------------|-------|-------------|-------|--------|-------|--------|------------|
| MATRIX SPIKE SAMPLE: |       | 1429693     |       |        |       |        |            |
|                      |       | 50132486001 | Spike | MS     | MS    | % Rec  |            |
| Parameter            | Units | Result      | Conc. | Result | % Rec | Limits | Qualifiers |
| Mercury              | mg/L  | ND          | .015  | 0.014  | 92    | 75-125 |            |

|                      |       |             |       |        |       |        |            |
|----------------------|-------|-------------|-------|--------|-------|--------|------------|
| MATRIX SPIKE SAMPLE: |       | 1429694     |       |        |       |        |            |
|                      |       | 50132302001 | Spike | MS     | MS    | % Rec  |            |
| Parameter            | Units | Result      | Conc. | Result | % Rec | Limits | Qualifiers |
| Mercury              | mg/L  | ND          | .015  | 0.014  | 94    | 75-125 |            |

|                      |       |             |       |        |       |        |            |
|----------------------|-------|-------------|-------|--------|-------|--------|------------|
| MATRIX SPIKE SAMPLE: |       | 1429695     |       |        |       |        |            |
|                      |       | 50132581001 | Spike | MS     | MS    | % Rec  |            |
| Parameter            | Units | Result      | Conc. | Result | % Rec | Limits | Qualifiers |
| Mercury              | mg/L  | ND          | .015  | 0.013  | 88    | 75-125 |            |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50132570

QC Batch: MERP/7148

Analysis Method: EPA 7470

QC Batch Method: EPA 7470

Analysis Description: 7470 Mercury

Associated Lab Samples: 50132570001

METHOD BLANK: 1430736

Matrix: Water

Associated Lab Samples: 50132570001

| Parameter | Units | Blank Result | Reporting Limit | Analyzed       | Qualifiers |
|-----------|-------|--------------|-----------------|----------------|------------|
| Mercury   | ug/L  | ND           | 2.0             | 11/23/15 19:48 |            |

LABORATORY CONTROL SAMPLE: 1430737

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Mercury   | ug/L  | 5           | 5.0        | 100       | 80-120       |            |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1430738 1430739

| Parameter | Units | 50132910001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|-----------|-------|--------------------|----------------|-----------------|-----------|------------|----------|-----------|--------------|-----|---------|------|
| Mercury   | ug/L  | ND                 | 5              | 5               | 4.4       | 4.3        | 86       | 85        | 75-125       | 1   | 20      |      |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50132570

QC Batch: MPRP/18815

Analysis Method: EPA 6010

QC Batch Method: EPA 3010

Analysis Description: 6010 MET TCLP

Associated Lab Samples: 50132570002

METHOD BLANK: 1428985

Matrix: Water

Associated Lab Samples: 50132570002

| Parameter | Units | Blank Result | Reporting Limit | Analyzed       | Qualifiers |
|-----------|-------|--------------|-----------------|----------------|------------|
| Arsenic   | ug/L  | ND           | 100             | 11/20/15 01:59 |            |
| Barium    | ug/L  | ND           | 5000            | 11/20/15 01:59 |            |
| Cadmium   | ug/L  | ND           | 50.0            | 11/20/15 01:59 |            |
| Chromium  | ug/L  | ND           | 100             | 11/20/15 01:59 |            |
| Lead      | mg/L  | ND           | 0.10            | 11/20/15 01:59 |            |
| Selenium  | ug/L  | ND           | 100             | 11/20/15 01:59 |            |
| Silver    | ug/L  | ND           | 100             | 11/20/15 01:59 |            |

LABORATORY CONTROL SAMPLE: 1428986

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Arsenic   | ug/L  | 10000       | 9980       | 100       | 80-120       |            |
| Barium    | ug/L  | 10000       | 9390       | 94        | 80-120       |            |
| Cadmium   | ug/L  | 10000       | 9640       | 96        | 80-120       |            |
| Chromium  | ug/L  | 10000       | 9570       | 96        | 80-120       |            |
| Lead      | mg/L  | 10          | 9.1        | 91        | 80-120       |            |
| Selenium  | ug/L  | 10000       | 9840       | 98        | 80-120       |            |
| Silver    | ug/L  | 5000        | 4450       | 89        | 80-120       |            |

MATRIX SPIKE SAMPLE: 1428987

| Parameter | Units | 50132020001 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Arsenic   | ug/L  | ND                 | 10000       | 10100     | 101      | 50-150       |            |
| Barium    | ug/L  | ND                 | 10000       | 11400     | 95       | 50-150       |            |
| Cadmium   | ug/L  | ND                 | 10000       | 9730      | 97       | 50-150       |            |
| Chromium  | ug/L  | ND                 | 10000       | 9740      | 97       | 50-150       |            |
| Lead      | mg/L  | ND                 | 10          | 9.1       | 91       | 50-150       |            |
| Selenium  | ug/L  | ND                 | 10000       | 9900      | 99       | 50-150       |            |
| Silver    | ug/L  | ND                 | 5000        | 4550      | 91       | 50-150       |            |

MATRIX SPIKE SAMPLE: 1428988

| Parameter | Units | 50132223001 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Arsenic   | ug/L  | ND                 | 10000       | 9710      | 97       | 50-150       |            |
| Barium    | ug/L  | ND                 | 10000       | 9350      | 92       | 50-150       |            |
| Cadmium   | ug/L  | ND                 | 10000       | 9410      | 94       | 50-150       |            |
| Chromium  | ug/L  | ND                 | 10000       | 9460      | 95       | 50-150       |            |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50132570

| MATRIX SPIKE SAMPLE: |       | 1428988               |                |              |             |                 |            |
|----------------------|-------|-----------------------|----------------|--------------|-------------|-----------------|------------|
| Parameter            | Units | 50132223001<br>Result | Spike<br>Conc. | MS<br>Result | MS<br>% Rec | % Rec<br>Limits | Qualifiers |
| Lead                 | mg/L  | ND                    | 10             | 8.9          | 89          | 50-150          |            |
| Selenium             | ug/L  | ND                    | 10000          | 9600         | 96          | 50-150          |            |
| Silver               | ug/L  | ND                    | 5000           | 4460         | 89          | 50-150          |            |

| MATRIX SPIKE SAMPLE: |       | 1428989               |                |              |             |                 |            |
|----------------------|-------|-----------------------|----------------|--------------|-------------|-----------------|------------|
| Parameter            | Units | 50132570002<br>Result | Spike<br>Conc. | MS<br>Result | MS<br>% Rec | % Rec<br>Limits | Qualifiers |
| Arsenic              | ug/L  | 16200                 | 10000          | 25600        | 94          | 50-150          |            |
| Barium               | ug/L  | ND                    | 10000          | 9810         | 93          | 50-150          |            |
| Cadmium              | ug/L  | 54.8                  | 10000          | 9580         | 95          | 50-150          |            |
| Chromium             | ug/L  | 131                   | 10000          | 9610         | 95          | 50-150          |            |
| Lead                 | mg/L  | ND                    | 10             | 8.9          | 89          | 50-150          |            |
| Selenium             | ug/L  | ND                    | 10000          | 9720         | 97          | 50-150          |            |
| Silver               | ug/L  | ND                    | 5000           | 4590         | 92          | 50-150          |            |

| MATRIX SPIKE SAMPLE: |       | 1428990               |                |              |             |                 |            |
|----------------------|-------|-----------------------|----------------|--------------|-------------|-----------------|------------|
| Parameter            | Units | 50132486001<br>Result | Spike<br>Conc. | MS<br>Result | MS<br>% Rec | % Rec<br>Limits | Qualifiers |
| Arsenic              | ug/L  | ND                    | 10000          | 10200        | 102         | 50-150          |            |
| Barium               | ug/L  | ND                    | 10000          | 11000        | 98          | 50-150          |            |
| Cadmium              | ug/L  | ND                    | 10000          | 9910         | 99          | 50-150          |            |
| Chromium             | ug/L  | ND                    | 10000          | 9960         | 99          | 50-150          |            |
| Lead                 | mg/L  | ND                    | 10             | 9.3          | 93          | 50-150          |            |
| Selenium             | ug/L  | ND                    | 10000          | 10100        | 101         | 50-150          |            |
| Silver               | ug/L  | ND                    | 5000           | 4770         | 95          | 50-150          |            |

| MATRIX SPIKE SAMPLE: |       | 1428991               |                |              |             |                 |            |
|----------------------|-------|-----------------------|----------------|--------------|-------------|-----------------|------------|
| Parameter            | Units | 50132302001<br>Result | Spike<br>Conc. | MS<br>Result | MS<br>% Rec | % Rec<br>Limits | Qualifiers |
| Arsenic              | ug/L  | ND                    | 10000          | 9860         | 99          | 50-150          |            |
| Barium               | ug/L  | ND                    | 10000          | 9960         | 94          | 50-150          |            |
| Cadmium              | ug/L  | ND                    | 10000          | 9530         | 95          | 50-150          |            |
| Chromium             | ug/L  | ND                    | 10000          | 9610         | 96          | 50-150          |            |
| Lead                 | mg/L  | ND                    | 10             | 9.0          | 90          | 50-150          |            |
| Selenium             | ug/L  | ND                    | 10000          | 9710         | 97          | 50-150          |            |
| Silver               | ug/L  | ND                    | 5000           | 4540         | 90          | 50-150          |            |

| MATRIX SPIKE SAMPLE: |       | 1428992               |                |              |             |                 |            |
|----------------------|-------|-----------------------|----------------|--------------|-------------|-----------------|------------|
| Parameter            | Units | 50132305001<br>Result | Spike<br>Conc. | MS<br>Result | MS<br>% Rec | % Rec<br>Limits | Qualifiers |
| Arsenic              | ug/L  | ND                    | 10000          | 10000        | 100         | 50-150          |            |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50132570

| MATRIX SPIKE SAMPLE: |       | 1428992               |                |              |             |                 |            |
|----------------------|-------|-----------------------|----------------|--------------|-------------|-----------------|------------|
| Parameter            | Units | 50132305001<br>Result | Spike<br>Conc. | MS<br>Result | MS<br>% Rec | % Rec<br>Limits | Qualifiers |
| Barium               | ug/L  | ND                    | 10000          | 9910         | 95          | 50-150          |            |
| Cadmium              | ug/L  | ND                    | 10000          | 9700         | 97          | 50-150          |            |
| Chromium             | ug/L  | 115                   | 10000          | 9770         | 97          | 50-150          |            |
| Lead                 | mg/L  | ND                    | 10             | 9.2          | 91          | 50-150          |            |
| Selenium             | ug/L  | ND                    | 10000          | 9920         | 99          | 50-150          |            |
| Silver               | ug/L  | ND                    | 5000           | 4550         | 91          | 50-150          |            |

| MATRIX SPIKE SAMPLE: |       | 1428993               |                |              |             |                 |            |
|----------------------|-------|-----------------------|----------------|--------------|-------------|-----------------|------------|
| Parameter            | Units | 50132343001<br>Result | Spike<br>Conc. | MS<br>Result | MS<br>% Rec | % Rec<br>Limits | Qualifiers |
| Arsenic              | ug/L  | ND                    | 10000          | 9950         | 99          | 50-150          |            |
| Barium               | ug/L  | ND                    | 10000          | 12300        | 94          | 50-150          |            |
| Cadmium              | ug/L  | ND                    | 10000          | 9600         | 96          | 50-150          |            |
| Chromium             | ug/L  | 109                   | 10000          | 9750         | 96          | 50-150          |            |
| Lead                 | mg/L  | 0.20                  | 10             | 9.2          | 90          | 50-150          |            |
| Selenium             | ug/L  | ND                    | 10000          | 9780         | 98          | 50-150          |            |
| Silver               | ug/L  | ND                    | 5000           | 4510         | 90          | 50-150          |            |

| MATRIX SPIKE SAMPLE: |       | 1428994               |                |              |             |                 |            |
|----------------------|-------|-----------------------|----------------|--------------|-------------|-----------------|------------|
| Parameter            | Units | 50132581001<br>Result | Spike<br>Conc. | MS<br>Result | MS<br>% Rec | % Rec<br>Limits | Qualifiers |
| Arsenic              | ug/L  | ND                    | 10000          | 10000        | 100         | 50-150          |            |
| Barium               | ug/L  | ND                    | 10000          | 9580         | 95          | 50-150          |            |
| Cadmium              | ug/L  | ND                    | 10000          | 9670         | 97          | 50-150          |            |
| Chromium             | ug/L  | ND                    | 10000          | 9740         | 97          | 50-150          |            |
| Lead                 | mg/L  | ND                    | 10             | 9.2          | 92          | 50-150          |            |
| Selenium             | ug/L  | ND                    | 10000          | 9930         | 99          | 50-150          |            |
| Silver               | ug/L  | ND                    | 5000           | 4610         | 92          | 50-150          |            |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50132570

QC Batch: MPRP/18794

Analysis Method: EPA 6010

QC Batch Method: EPA 3010

Analysis Description: 6010 MET

Associated Lab Samples: 50132570001

METHOD BLANK: 1428005

Matrix: Water

Associated Lab Samples: 50132570001

| Parameter | Units | Blank Result | Reporting Limit | Analyzed       | Qualifiers |
|-----------|-------|--------------|-----------------|----------------|------------|
| Arsenic   | ug/L  | ND           | 10.0            | 11/20/15 23:23 |            |
| Barium    | ug/L  | ND           | 10.0            | 11/20/15 23:23 |            |
| Cadmium   | ug/L  | ND           | 2.0             | 11/20/15 23:23 |            |
| Chromium  | ug/L  | ND           | 10.0            | 11/20/15 23:23 |            |
| Lead      | ug/L  | ND           | 10.0            | 11/20/15 23:23 |            |
| Selenium  | ug/L  | ND           | 10.0            | 11/20/15 23:23 |            |
| Silver    | ug/L  | ND           | 10.0            | 11/20/15 23:23 |            |

LABORATORY CONTROL SAMPLE: 1428006

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Arsenic   | ug/L  | 1000        | 1090       | 109       | 80-120       |            |
| Barium    | ug/L  | 1000        | 1030       | 103       | 80-120       |            |
| Cadmium   | ug/L  | 1000        | 1090       | 109       | 80-120       |            |
| Chromium  | ug/L  | 1000        | 1040       | 104       | 80-120       |            |
| Lead      | ug/L  | 1000        | 1030       | 103       | 80-120       |            |
| Selenium  | ug/L  | 1000        | 1080       | 108       | 80-120       |            |
| Silver    | ug/L  | 500         | 446        | 89        | 80-120       |            |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1428007 1428008

| Parameter | Units | 50132638001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|-----------|-------|--------------------|----------------|-----------------|-----------|------------|----------|-----------|--------------|-----|---------|------|
| Arsenic   | ug/L  | ND                 | 1000           | 1000            | 1110      | 1120       | 111      | 112       | 75-125       | 1   | 20      |      |
| Barium    | ug/L  | 73.9               | 1000           | 1000            | 1070      | 1100       | 100      | 103       | 75-125       | 3   | 20      |      |
| Cadmium   | ug/L  | ND                 | 1000           | 1000            | 1090      | 1100       | 109      | 110       | 75-125       | 1   | 20      |      |
| Chromium  | ug/L  | ND                 | 1000           | 1000            | 1000      | 1040       | 100      | 104       | 75-125       | 4   | 20      |      |
| Lead      | ug/L  | ND                 | 1000           | 1000            | 977       | 988        | 97       | 99        | 75-125       | 1   | 20      |      |
| Selenium  | ug/L  | ND                 | 1000           | 1000            | 1080      | 1100       | 108      | 109       | 75-125       | 1   | 20      |      |
| Silver    | ug/L  | ND                 | 500            | 500             | 466       | 448        | 93       | 89        | 75-125       | 4   | 20      |      |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50132570

QC Batch: MSV/83882

Analysis Method: EPA 8260

QC Batch Method: EPA 8260

Analysis Description: 8260 MSV 5030 Low

Associated Lab Samples: 50132570002

METHOD BLANK: 1428443

Matrix: Solid

Associated Lab Samples: 50132570002

| Parameter                   | Units | Blank Result | Reporting Limit | Analyzed       | Qualifiers |
|-----------------------------|-------|--------------|-----------------|----------------|------------|
| 1,1,1,2-Tetrachloroethane   | ug/kg | ND           | 5.0             | 11/19/15 12:10 |            |
| 1,1,1-Trichloroethane       | ug/kg | ND           | 5.0             | 11/19/15 12:10 |            |
| 1,1,2,2-Tetrachloroethane   | ug/kg | ND           | 5.0             | 11/19/15 12:10 |            |
| 1,1,2-Trichloroethane       | ug/kg | ND           | 5.0             | 11/19/15 12:10 |            |
| 1,1-Dichloroethane          | ug/kg | ND           | 5.0             | 11/19/15 12:10 |            |
| 1,1-Dichloroethene          | ug/kg | ND           | 5.0             | 11/19/15 12:10 |            |
| 1,1-Dichloropropene         | ug/kg | ND           | 5.0             | 11/19/15 12:10 |            |
| 1,2,3-Trichlorobenzene      | ug/kg | ND           | 5.0             | 11/19/15 12:10 |            |
| 1,2,3-Trichloropropane      | ug/kg | ND           | 5.0             | 11/19/15 12:10 |            |
| 1,2,4-Trichlorobenzene      | ug/kg | ND           | 5.0             | 11/19/15 12:10 |            |
| 1,2,4-Trimethylbenzene      | ug/kg | ND           | 5.0             | 11/19/15 12:10 |            |
| 1,2-Dibromoethane (EDB)     | ug/kg | ND           | 5.0             | 11/19/15 12:10 |            |
| 1,2-Dichlorobenzene         | ug/kg | ND           | 5.0             | 11/19/15 12:10 |            |
| 1,2-Dichloroethane          | ug/kg | ND           | 5.0             | 11/19/15 12:10 |            |
| 1,2-Dichloropropane         | ug/kg | ND           | 5.0             | 11/19/15 12:10 |            |
| 1,3,5-Trimethylbenzene      | ug/kg | ND           | 5.0             | 11/19/15 12:10 |            |
| 1,3-Dichlorobenzene         | ug/kg | ND           | 5.0             | 11/19/15 12:10 |            |
| 1,3-Dichloropropane         | ug/kg | ND           | 5.0             | 11/19/15 12:10 |            |
| 1,4-Dichlorobenzene         | ug/kg | ND           | 5.0             | 11/19/15 12:10 |            |
| 2,2-Dichloropropane         | ug/kg | ND           | 5.0             | 11/19/15 12:10 |            |
| 2-Butanone (MEK)            | ug/kg | ND           | 25.0            | 11/19/15 12:10 |            |
| 2-Chlorotoluene             | ug/kg | ND           | 5.0             | 11/19/15 12:10 |            |
| 2-Hexanone                  | ug/kg | ND           | 100             | 11/19/15 12:10 |            |
| 4-Chlorotoluene             | ug/kg | ND           | 5.0             | 11/19/15 12:10 |            |
| 4-Methyl-2-pentanone (MIBK) | ug/kg | ND           | 25.0            | 11/19/15 12:10 |            |
| Acetone                     | ug/kg | ND           | 100             | 11/19/15 12:10 |            |
| Acrolein                    | ug/kg | ND           | 100             | 11/19/15 12:10 |            |
| Acrylonitrile               | ug/kg | ND           | 100             | 11/19/15 12:10 |            |
| Benzene                     | ug/kg | ND           | 5.0             | 11/19/15 12:10 |            |
| Bromobenzene                | ug/kg | ND           | 5.0             | 11/19/15 12:10 |            |
| Bromochloromethane          | ug/kg | ND           | 5.0             | 11/19/15 12:10 |            |
| Bromodichloromethane        | ug/kg | ND           | 5.0             | 11/19/15 12:10 |            |
| Bromoform                   | ug/kg | ND           | 5.0             | 11/19/15 12:10 |            |
| Bromomethane                | ug/kg | ND           | 5.0             | 11/19/15 12:10 |            |
| Carbon disulfide            | ug/kg | ND           | 10.0            | 11/19/15 12:10 |            |
| Carbon tetrachloride        | ug/kg | ND           | 5.0             | 11/19/15 12:10 |            |
| Chlorobenzene               | ug/kg | ND           | 5.0             | 11/19/15 12:10 |            |
| Chloroethane                | ug/kg | ND           | 5.0             | 11/19/15 12:10 |            |
| Chloroform                  | ug/kg | ND           | 5.0             | 11/19/15 12:10 |            |
| Chloromethane               | ug/kg | ND           | 5.0             | 11/19/15 12:10 |            |
| cis-1,2-Dichloroethene      | ug/kg | ND           | 5.0             | 11/19/15 12:10 |            |

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50132570

METHOD BLANK: 1428443

Matrix: Solid

Associated Lab Samples: 50132570002

| Parameter                   | Units | Blank Result | Reporting Limit | Analyzed       | Qualifiers |
|-----------------------------|-------|--------------|-----------------|----------------|------------|
| cis-1,3-Dichloropropene     | ug/kg | ND           | 5.0             | 11/19/15 12:10 |            |
| Dibromochloromethane        | ug/kg | ND           | 5.0             | 11/19/15 12:10 |            |
| Dibromomethane              | ug/kg | ND           | 5.0             | 11/19/15 12:10 |            |
| Dichlorodifluoromethane     | ug/kg | ND           | 5.0             | 11/19/15 12:10 |            |
| Ethyl methacrylate          | ug/kg | ND           | 100             | 11/19/15 12:10 |            |
| Ethylbenzene                | ug/kg | ND           | 5.0             | 11/19/15 12:10 |            |
| Hexachloro-1,3-butadiene    | ug/kg | ND           | 5.0             | 11/19/15 12:10 |            |
| Iodomethane                 | ug/kg | ND           | 100             | 11/19/15 12:10 |            |
| Isopropylbenzene (Cumene)   | ug/kg | ND           | 5.0             | 11/19/15 12:10 |            |
| Methyl-tert-butyl ether     | ug/kg | ND           | 5.0             | 11/19/15 12:10 |            |
| Methylene Chloride          | ug/kg | ND           | 20.0            | 11/19/15 12:10 |            |
| n-Butylbenzene              | ug/kg | ND           | 5.0             | 11/19/15 12:10 |            |
| n-Hexane                    | ug/kg | ND           | 5.0             | 11/19/15 12:10 |            |
| n-Propylbenzene             | ug/kg | ND           | 5.0             | 11/19/15 12:10 |            |
| Naphthalene                 | ug/kg | ND           | 5.0             | 11/19/15 12:10 |            |
| p-Isopropyltoluene          | ug/kg | ND           | 5.0             | 11/19/15 12:10 |            |
| sec-Butylbenzene            | ug/kg | ND           | 5.0             | 11/19/15 12:10 |            |
| Styrene                     | ug/kg | ND           | 5.0             | 11/19/15 12:10 |            |
| tert-Butylbenzene           | ug/kg | ND           | 5.0             | 11/19/15 12:10 |            |
| Tetrachloroethene           | ug/kg | ND           | 5.0             | 11/19/15 12:10 |            |
| Toluene                     | ug/kg | ND           | 5.0             | 11/19/15 12:10 |            |
| trans-1,2-Dichloroethene    | ug/kg | ND           | 5.0             | 11/19/15 12:10 |            |
| trans-1,3-Dichloropropene   | ug/kg | ND           | 5.0             | 11/19/15 12:10 |            |
| trans-1,4-Dichloro-2-butene | ug/kg | ND           | 100             | 11/19/15 12:10 |            |
| Trichloroethene             | ug/kg | ND           | 5.0             | 11/19/15 12:10 |            |
| Trichlorofluoromethane      | ug/kg | ND           | 5.0             | 11/19/15 12:10 |            |
| Vinyl acetate               | ug/kg | ND           | 100             | 11/19/15 12:10 |            |
| Vinyl chloride              | ug/kg | ND           | 5.0             | 11/19/15 12:10 |            |
| Xylene (Total)              | ug/kg | ND           | 10.0            | 11/19/15 12:10 |            |
| 4-Bromofluorobenzene (S)    | %     | 98           | 56-144          | 11/19/15 12:10 |            |
| Dibromofluoromethane (S)    | %     | 107          | 85-118          | 11/19/15 12:10 |            |
| Toluene-d8 (S)              | %     | 100          | 71-128          | 11/19/15 12:10 |            |

LABORATORY CONTROL SAMPLE: 1428444

| Parameter                 | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---------------------------|-------|-------------|------------|-----------|--------------|------------|
| 1,1,1-Trichloroethane     | ug/kg | 50          | 54.5       | 109       | 70-123       |            |
| 1,1,2,2-Tetrachloroethane | ug/kg | 50          | 49.7       | 99        | 65-124       |            |
| 1,1-Dichloroethene        | ug/kg | 50          | 65.2       | 130       | 66-126       | L3         |
| 1,2,4-Trimethylbenzene    | ug/kg | 50          | 48.0       | 96        | 67-126       |            |
| 1,2-Dichloropropane       | ug/kg | 50          | 50.6       | 101       | 75-118       |            |
| Benzene                   | ug/kg | 50          | 48.8       | 98        | 74-119       |            |
| Chlorobenzene             | ug/kg | 50          | 52.7       | 105       | 77-122       |            |
| Chloroform                | ug/kg | 50          | 53.0       | 106       | 75-124       |            |

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50132570

LABORATORY CONTROL SAMPLE: 1428444

| Parameter                 | Units | Spike<br>Conc. | LCS<br>Result | LCS<br>% Rec | % Rec<br>Limits | Qualifiers |
|---------------------------|-------|----------------|---------------|--------------|-----------------|------------|
| cis-1,2-Dichloroethene    | ug/kg | 50             | 51.4          | 103          | 72-122          |            |
| Ethylbenzene              | ug/kg | 50             | 53.0          | 106          | 72-123          |            |
| Isopropylbenzene (Cumene) | ug/kg | 50             | 53.5          | 107          | 65-123          |            |
| Methyl-tert-butyl ether   | ug/kg | 50             | 50.6          | 101          | 68-120          |            |
| Naphthalene               | ug/kg | 50             | 48.7          | 97           | 67-131          |            |
| Tetrachloroethene         | ug/kg | 50             | 54.8          | 110          | 72-126          |            |
| Toluene                   | ug/kg | 50             | 52.1          | 104          | 71-121          |            |
| trans-1,2-Dichloroethene  | ug/kg | 50             | 56.2          | 112          | 69-123          |            |
| Trichloroethene           | ug/kg | 50             | 56.3          | 113          | 74-123          |            |
| Vinyl chloride            | ug/kg | 50             | 57.6          | 115          | 55-128          |            |
| Xylene (Total)            | ug/kg | 150            | 157           | 105          | 66-124          |            |
| 4-Bromofluorobenzene (S)  | %.    |                |               | 98           | 56-144          |            |
| Dibromofluoromethane (S)  | %.    |                |               | 97           | 85-118          |            |
| Toluene-d8 (S)            | %.    |                |               | 97           | 71-128          |            |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50132570

QC Batch: MSV/84011

Analysis Method: EPA 8260

QC Batch Method: EPA 8260

Analysis Description: 8260 MSV

Associated Lab Samples: 50132570001

METHOD BLANK: 1430716

Matrix: Water

Associated Lab Samples: 50132570001

| Parameter                   | Units | Blank Result | Reporting Limit | Analyzed       | Qualifiers |
|-----------------------------|-------|--------------|-----------------|----------------|------------|
| 1,1,1,2-Tetrachloroethane   | ug/L  | ND           | 5.0             | 11/21/15 17:04 |            |
| 1,1,1-Trichloroethane       | ug/L  | ND           | 5.0             | 11/21/15 17:04 |            |
| 1,1,2,2-Tetrachloroethane   | ug/L  | ND           | 5.0             | 11/21/15 17:04 |            |
| 1,1,2-Trichloroethane       | ug/L  | ND           | 5.0             | 11/21/15 17:04 |            |
| 1,1-Dichloroethane          | ug/L  | ND           | 5.0             | 11/21/15 17:04 |            |
| 1,1-Dichloroethene          | ug/L  | ND           | 5.0             | 11/21/15 17:04 |            |
| 1,1-Dichloropropene         | ug/L  | ND           | 5.0             | 11/21/15 17:04 |            |
| 1,2,3-Trichlorobenzene      | ug/L  | ND           | 5.0             | 11/21/15 17:04 |            |
| 1,2,3-Trichloropropane      | ug/L  | ND           | 5.0             | 11/21/15 17:04 |            |
| 1,2,4-Trichlorobenzene      | ug/L  | ND           | 5.0             | 11/21/15 17:04 |            |
| 1,2,4-Trimethylbenzene      | ug/L  | ND           | 5.0             | 11/21/15 17:04 |            |
| 1,2-Dibromoethane (EDB)     | ug/L  | ND           | 5.0             | 11/21/15 17:04 |            |
| 1,2-Dichlorobenzene         | ug/L  | ND           | 5.0             | 11/21/15 17:04 |            |
| 1,2-Dichloroethane          | ug/L  | ND           | 5.0             | 11/21/15 17:04 |            |
| 1,2-Dichloropropane         | ug/L  | ND           | 5.0             | 11/21/15 17:04 |            |
| 1,3,5-Trimethylbenzene      | ug/L  | ND           | 5.0             | 11/21/15 17:04 |            |
| 1,3-Dichlorobenzene         | ug/L  | ND           | 5.0             | 11/21/15 17:04 |            |
| 1,3-Dichloropropane         | ug/L  | ND           | 5.0             | 11/21/15 17:04 |            |
| 1,4-Dichlorobenzene         | ug/L  | ND           | 5.0             | 11/21/15 17:04 |            |
| 2,2-Dichloropropane         | ug/L  | ND           | 5.0             | 11/21/15 17:04 |            |
| 2-Butanone (MEK)            | ug/L  | ND           | 25.0            | 11/21/15 17:04 |            |
| 2-Chlorotoluene             | ug/L  | ND           | 5.0             | 11/21/15 17:04 |            |
| 2-Hexanone                  | ug/L  | ND           | 25.0            | 11/21/15 17:04 |            |
| 4-Chlorotoluene             | ug/L  | ND           | 5.0             | 11/21/15 17:04 |            |
| 4-Methyl-2-pentanone (MIBK) | ug/L  | ND           | 25.0            | 11/21/15 17:04 |            |
| Acetone                     | ug/L  | ND           | 100             | 11/21/15 17:04 |            |
| Acrolein                    | ug/L  | ND           | 50.0            | 11/21/15 17:04 |            |
| Acrylonitrile               | ug/L  | ND           | 100             | 11/21/15 17:04 |            |
| Benzene                     | ug/L  | ND           | 5.0             | 11/21/15 17:04 |            |
| Bromobenzene                | ug/L  | ND           | 5.0             | 11/21/15 17:04 |            |
| Bromochloromethane          | ug/L  | ND           | 5.0             | 11/21/15 17:04 |            |
| Bromodichloromethane        | ug/L  | ND           | 5.0             | 11/21/15 17:04 |            |
| Bromoform                   | ug/L  | ND           | 5.0             | 11/21/15 17:04 |            |
| Bromomethane                | ug/L  | ND           | 5.0             | 11/21/15 17:04 |            |
| Carbon disulfide            | ug/L  | ND           | 10.0            | 11/21/15 17:04 |            |
| Carbon tetrachloride        | ug/L  | ND           | 5.0             | 11/21/15 17:04 |            |
| Chlorobenzene               | ug/L  | ND           | 5.0             | 11/21/15 17:04 |            |
| Chloroethane                | ug/L  | ND           | 5.0             | 11/21/15 17:04 |            |
| Chloroform                  | ug/L  | ND           | 5.0             | 11/21/15 17:04 |            |
| Chloromethane               | ug/L  | ND           | 5.0             | 11/21/15 17:04 |            |
| cis-1,2-Dichloroethene      | ug/L  | ND           | 5.0             | 11/21/15 17:04 |            |

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50132570

METHOD BLANK: 1430716

Matrix: Water

Associated Lab Samples: 50132570001

| Parameter                   | Units | Blank Result | Reporting Limit | Analyzed       | Qualifiers |
|-----------------------------|-------|--------------|-----------------|----------------|------------|
| cis-1,3-Dichloropropene     | ug/L  | ND           | 5.0             | 11/21/15 17:04 |            |
| Dibromochloromethane        | ug/L  | ND           | 5.0             | 11/21/15 17:04 |            |
| Dibromomethane              | ug/L  | ND           | 5.0             | 11/21/15 17:04 |            |
| Dichlorodifluoromethane     | ug/L  | ND           | 5.0             | 11/21/15 17:04 |            |
| Ethyl methacrylate          | ug/L  | ND           | 100             | 11/21/15 17:04 |            |
| Ethylbenzene                | ug/L  | ND           | 5.0             | 11/21/15 17:04 |            |
| Hexachloro-1,3-butadiene    | ug/L  | ND           | 5.0             | 11/21/15 17:04 |            |
| Iodomethane                 | ug/L  | ND           | 10.0            | 11/21/15 17:04 |            |
| Isopropylbenzene (Cumene)   | ug/L  | ND           | 5.0             | 11/21/15 17:04 |            |
| Methyl-tert-butyl ether     | ug/L  | ND           | 4.0             | 11/21/15 17:04 |            |
| Methylene Chloride          | ug/L  | ND           | 5.0             | 11/21/15 17:04 |            |
| n-Butylbenzene              | ug/L  | ND           | 5.0             | 11/21/15 17:04 |            |
| n-Hexane                    | ug/L  | ND           | 5.0             | 11/21/15 17:04 |            |
| n-Propylbenzene             | ug/L  | ND           | 5.0             | 11/21/15 17:04 |            |
| Naphthalene                 | ug/L  | ND           | 5.0             | 11/21/15 17:04 |            |
| p-Isopropyltoluene          | ug/L  | ND           | 5.0             | 11/21/15 17:04 |            |
| sec-Butylbenzene            | ug/L  | ND           | 5.0             | 11/21/15 17:04 |            |
| Styrene                     | ug/L  | ND           | 5.0             | 11/21/15 17:04 |            |
| tert-Butylbenzene           | ug/L  | ND           | 5.0             | 11/21/15 17:04 |            |
| Tetrachloroethene           | ug/L  | ND           | 5.0             | 11/21/15 17:04 |            |
| Toluene                     | ug/L  | ND           | 5.0             | 11/21/15 17:04 |            |
| trans-1,2-Dichloroethene    | ug/L  | ND           | 5.0             | 11/21/15 17:04 |            |
| trans-1,3-Dichloropropene   | ug/L  | ND           | 5.0             | 11/21/15 17:04 |            |
| trans-1,4-Dichloro-2-butene | ug/L  | ND           | 100             | 11/21/15 17:04 |            |
| Trichloroethene             | ug/L  | ND           | 5.0             | 11/21/15 17:04 |            |
| Trichlorofluoromethane      | ug/L  | ND           | 5.0             | 11/21/15 17:04 |            |
| Vinyl acetate               | ug/L  | ND           | 50.0            | 11/21/15 17:04 |            |
| Vinyl chloride              | ug/L  | ND           | 2.0             | 11/21/15 17:04 |            |
| Xylene (Total)              | ug/L  | ND           | 10.0            | 11/21/15 17:04 |            |
| 4-Bromofluorobenzene (S)    | %     | 97           | 80-114          | 11/21/15 17:04 |            |
| Dibromofluoromethane (S)    | %     | 97           | 79-116          | 11/21/15 17:04 |            |
| Toluene-d8 (S)              | %     | 99           | 81-110          | 11/21/15 17:04 |            |

LABORATORY CONTROL SAMPLE: 1430717

| Parameter                 | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---------------------------|-------|-------------|------------|-----------|--------------|------------|
| 1,1,1-Trichloroethane     | ug/L  | 50          | 49.2       | 98        | 71-129       |            |
| 1,1,2,2-Tetrachloroethane | ug/L  | 50          | 56.5       | 113       | 66-126       |            |
| 1,1-Dichloroethene        | ug/L  | 50          | 40.5       | 81        | 68-127       |            |
| 1,2,4-Trimethylbenzene    | ug/L  | 50          | 47.4       | 95        | 69-127       |            |
| 1,2-Dichloropropane       | ug/L  | 50          | 50.2       | 100       | 74-121       |            |
| Benzene                   | ug/L  | 50          | 47.7       | 95        | 74-122       |            |
| Chlorobenzene             | ug/L  | 50          | 45.5       | 91        | 78-123       |            |
| Chloroform                | ug/L  | 50          | 50.0       | 100       | 78-126       |            |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50132570

LABORATORY CONTROL SAMPLE: 1430717

| Parameter                 | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---------------------------|-------|-------------|------------|-----------|--------------|------------|
| Ethylbenzene              | ug/L  | 50          | 47.6       | 95        | 66-133       |            |
| Isopropylbenzene (Cumene) | ug/L  | 50          | 48.4       | 97        | 69-124       |            |
| Methyl-tert-butyl ether   | ug/L  | 50          | 48.8       | 98        | 69-122       |            |
| Naphthalene               | ug/L  | 50          | 47.9       | 96        | 68-127       |            |
| Tetrachloroethene         | ug/L  | 50          | 40.3       | 81        | 69-130       |            |
| Toluene                   | ug/L  | 50          | 44.4       | 89        | 72-122       |            |
| Trichloroethene           | ug/L  | 50          | 48.0       | 96        | 76-126       |            |
| Vinyl chloride            | ug/L  | 50          | 52.3       | 105       | 59-126       |            |
| Xylene (Total)            | ug/L  | 150         | 148        | 98        | 70-124       |            |
| 4-Bromofluorobenzene (S)  | %.    |             |            | 98        | 80-114       |            |
| Dibromofluoromethane (S)  | %.    |             |            | 103       | 79-116       |            |
| Toluene-d8 (S)            | %.    |             |            | 97        | 81-110       |            |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50132570

QC Batch: OEXT/41548

Analysis Method: EPA 8270

QC Batch Method: EPA 3546

Analysis Description: 8270 Solid MSSV Microwave Short Spike

Associated Lab Samples: 50132570002

METHOD BLANK: 1426853

Matrix: Solid

Associated Lab Samples: 50132570002

| Parameter                       | Units | Blank Result | Reporting Limit | Analyzed       | Qualifiers |
|---------------------------------|-------|--------------|-----------------|----------------|------------|
| 2,4,5-Trichlorophenol           | ug/kg | ND           | 327             | 11/18/15 13:11 |            |
| 2,4,6-Trichlorophenol           | ug/kg | ND           | 327             | 11/18/15 13:11 |            |
| 2,4-Dichlorophenol              | ug/kg | ND           | 327             | 11/18/15 13:11 |            |
| 2,4-Dimethylphenol              | ug/kg | ND           | 327             | 11/18/15 13:11 |            |
| 2,4-Dinitrophenol               | ug/kg | ND           | 1580            | 11/18/15 13:11 |            |
| 2,4-Dinitrotoluene              | ug/kg | ND           | 327             | 11/18/15 13:11 |            |
| 2,6-Dinitrotoluene              | ug/kg | ND           | 327             | 11/18/15 13:11 |            |
| 2-Chloronaphthalene             | ug/kg | ND           | 327             | 11/18/15 13:11 |            |
| 2-Chlorophenol                  | ug/kg | ND           | 327             | 11/18/15 13:11 |            |
| 2-Methylnaphthalene             | ug/kg | ND           | 327             | 11/18/15 13:11 |            |
| 2-Methylphenol(o-Cresol)        | ug/kg | ND           | 327             | 11/18/15 13:11 |            |
| 2-Nitroaniline                  | ug/kg | ND           | 1580            | 11/18/15 13:11 |            |
| 2-Nitrophenol                   | ug/kg | ND           | 327             | 11/18/15 13:11 |            |
| 3&4-Methylphenol(m&p Cresol)    | ug/kg | ND           | 653             | 11/18/15 13:11 |            |
| 3,3'-Dichlorobenzidine          | ug/kg | ND           | 653             | 11/18/15 13:11 |            |
| 3-Nitroaniline                  | ug/kg | ND           | 1580            | 11/18/15 13:11 |            |
| 4,6-Dinitro-2-methylphenol      | ug/kg | ND           | 1580            | 11/18/15 13:11 |            |
| 4-Bromophenylphenyl ether       | ug/kg | ND           | 327             | 11/18/15 13:11 |            |
| 4-Chloro-3-methylphenol         | ug/kg | ND           | 653             | 11/18/15 13:11 |            |
| 4-Chloroaniline                 | ug/kg | ND           | 653             | 11/18/15 13:11 |            |
| 4-Chlorophenylphenyl ether      | ug/kg | ND           | 327             | 11/18/15 13:11 |            |
| 4-Nitroaniline                  | ug/kg | ND           | 1580            | 11/18/15 13:11 |            |
| 4-Nitrophenol                   | ug/kg | ND           | 1580            | 11/18/15 13:11 |            |
| Acenaphthene                    | ug/kg | ND           | 327             | 11/18/15 13:11 |            |
| Acenaphthylene                  | ug/kg | ND           | 327             | 11/18/15 13:11 |            |
| Anthracene                      | ug/kg | ND           | 327             | 11/18/15 13:11 |            |
| Benzo(a)anthracene              | ug/kg | ND           | 327             | 11/18/15 13:11 |            |
| Benzo(a)pyrene                  | ug/kg | ND           | 168             | 11/18/15 13:11 |            |
| Benzo(b)fluoranthene            | ug/kg | ND           | 327             | 11/18/15 13:11 |            |
| Benzo(g,h,i)perylene            | ug/kg | ND           | 327             | 11/18/15 13:11 |            |
| Benzo(k)fluoranthene            | ug/kg | ND           | 327             | 11/18/15 13:11 |            |
| Benzyl alcohol                  | ug/kg | ND           | 653             | 11/18/15 13:11 |            |
| bis(2-Chloroethoxy)methane      | ug/kg | ND           | 327             | 11/18/15 13:11 |            |
| bis(2-Chloroethyl) ether        | ug/kg | ND           | 327             | 11/18/15 13:11 |            |
| bis(2-Ethylhexyl)phthalate      | ug/kg | ND           | 327             | 11/18/15 13:11 |            |
| bis(2chloro1 methylethyl) ether | ug/kg | ND           | 327             | 11/18/15 13:11 |            |
| Butylbenzylphthalate            | ug/kg | ND           | 327             | 11/18/15 13:11 |            |
| Chrysene                        | ug/kg | ND           | 327             | 11/18/15 13:11 |            |
| Di-n-butylphthalate             | ug/kg | ND           | 327             | 11/18/15 13:11 |            |
| Di-n-octylphthalate             | ug/kg | ND           | 327             | 11/18/15 13:11 |            |
| Dibenz(a,h)anthracene           | ug/kg | ND           | 168             | 11/18/15 13:11 |            |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50132570

METHOD BLANK: 1426853

Matrix: Solid

Associated Lab Samples: 50132570002

| Parameter                  | Units | Blank Result | Reporting Limit | Analyzed       | Qualifiers |
|----------------------------|-------|--------------|-----------------|----------------|------------|
| Dibenzofuran               | ug/kg | ND           | 327             | 11/18/15 13:11 |            |
| Diethylphthalate           | ug/kg | ND           | 327             | 11/18/15 13:11 |            |
| Dimethylphthalate          | ug/kg | ND           | 327             | 11/18/15 13:11 |            |
| Fluoranthene               | ug/kg | ND           | 327             | 11/18/15 13:11 |            |
| Fluorene                   | ug/kg | ND           | 327             | 11/18/15 13:11 |            |
| Hexachloro-1,3-butadiene   | ug/kg | ND           | 327             | 11/18/15 13:11 |            |
| Hexachlorobenzene          | ug/kg | ND           | 327             | 11/18/15 13:11 |            |
| Hexachlorocyclopentadiene  | ug/kg | ND           | 327             | 11/18/15 13:11 |            |
| Hexachloroethane           | ug/kg | ND           | 327             | 11/18/15 13:11 |            |
| Indeno(1,2,3-cd)pyrene     | ug/kg | ND           | 327             | 11/18/15 13:11 |            |
| Isophorone                 | ug/kg | ND           | 327             | 11/18/15 13:11 |            |
| N-Nitroso-di-n-propylamine | ug/kg | ND           | 327             | 11/18/15 13:11 |            |
| N-Nitrosodiphenylamine     | ug/kg | ND           | 327             | 11/18/15 13:11 |            |
| Naphthalene                | ug/kg | ND           | 327             | 11/18/15 13:11 |            |
| Nitrobenzene               | ug/kg | ND           | 327             | 11/18/15 13:11 |            |
| Pentachlorophenol          | ug/kg | ND           | 1580            | 11/18/15 13:11 |            |
| Phenanthrene               | ug/kg | ND           | 327             | 11/18/15 13:11 |            |
| Phenol                     | ug/kg | ND           | 327             | 11/18/15 13:11 |            |
| Pyrene                     | ug/kg | ND           | 327             | 11/18/15 13:11 |            |
| 2,4,6-Tribromophenol (S)   | %     | 88           | 16-122          | 11/18/15 13:11 |            |
| 2-Fluorobiphenyl (S)       | %     | 78           | 31-94           | 11/18/15 13:11 |            |
| 2-Fluorophenol (S)         | %     | 84           | 24-104          | 11/18/15 13:11 |            |
| Nitrobenzene-d5 (S)        | %     | 81           | 28-101          | 11/18/15 13:11 |            |
| p-Terphenyl-d14 (S)        | %     | 96           | 26-110          | 11/18/15 13:11 |            |
| Phenol-d5 (S)              | %     | 85           | 28-101          | 11/18/15 13:11 |            |

LABORATORY CONTROL SAMPLE: 1426854

| Parameter               | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-------------------------|-------|-------------|------------|-----------|--------------|------------|
| 2,4-Dinitrotoluene      | ug/kg | 3320        | 2960       | 89        | 39-103       |            |
| 2-Chlorophenol          | ug/kg | 3320        | 2710       | 82        | 38-96        |            |
| 2-Methylnaphthalene     | ug/kg | 3320        | 3170       | 95        | 36-94        | L3         |
| 4-Chloro-3-methylphenol | ug/kg | 3320        | 3100       | 93        | 38-104       |            |
| 4-Nitrophenol           | ug/kg | 3320        | 2730       | 82        | 34-104       |            |
| Acenaphthene            | ug/kg | 3320        | 2780       | 84        | 43-99        |            |
| Acenaphthylene          | ug/kg | 3320        | 2830       | 85        | 42-101       |            |
| Anthracene              | ug/kg | 3320        | 2830       | 85        | 46-107       |            |
| Benzo(a)anthracene      | ug/kg | 3320        | 2940       | 89        | 45-108       |            |
| Benzo(a)pyrene          | ug/kg | 3320        | 2770       | 83        | 47-113       |            |
| Benzo(b)fluoranthene    | ug/kg | 3320        | 2670       | 80        | 41-110       |            |
| Benzo(g,h,i)perylene    | ug/kg | 3320        | 2740       | 83        | 42-112       |            |
| Benzo(k)fluoranthene    | ug/kg | 3320        | 2520       | 76        | 44-107       |            |
| Chrysene                | ug/kg | 3320        | 2970       | 89        | 43-103       |            |
| Dibenz(a,h)anthracene   | ug/kg | 3320        | 2650       | 80        | 43-110       |            |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50132570

LABORATORY CONTROL SAMPLE: 1426854

| Parameter                  | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|----------------------------|-------|-------------|------------|-----------|--------------|------------|
| Fluoranthene               | ug/kg | 3320        | 2950       | 89        | 45-105       |            |
| Fluorene                   | ug/kg | 3320        | 2840       | 85        | 42-103       |            |
| Indeno(1,2,3-cd)pyrene     | ug/kg | 3320        | 2700       | 81        | 43-111       |            |
| N-Nitroso-di-n-propylamine | ug/kg | 3320        | 2560       | 77        | 37-96        |            |
| Naphthalene                | ug/kg | 3320        | 2720       | 82        | 44-100       |            |
| Pentachlorophenol          | ug/kg | 3320        | 2580       | 78        | 21-103       |            |
| Phenanthrene               | ug/kg | 3320        | 2990       | 90        | 44-104       |            |
| Phenol                     | ug/kg | 3320        | 2770       | 83        | 37-101       |            |
| Pyrene                     | ug/kg | 3320        | 2980       | 90        | 44-105       |            |
| 2,4,6-Tribromophenol (S)   | %     |             |            | 88        | 16-122       |            |
| 2-Fluorobiphenyl (S)       | %     |             |            | 78        | 31-94        |            |
| 2-Fluorophenol (S)         | %     |             |            | 84        | 24-104       |            |
| Nitrobenzene-d5 (S)        | %     |             |            | 79        | 28-101       |            |
| p-Terphenyl-d14 (S)        | %     |             |            | 93        | 26-110       |            |
| Phenol-d5 (S)              | %     |             |            | 85        | 28-101       |            |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1426855 1426856

| Parameter                  | Units | 50132550001 |             | MSD         |        | MS     |       | MSD   |       | % Rec Limits | Max |     | Qual |
|----------------------------|-------|-------------|-------------|-------------|--------|--------|-------|-------|-------|--------------|-----|-----|------|
|                            |       | Result      | Spike Conc. | Spike Conc. | Result | Result | % Rec | % Rec | % Rec |              | RPD | RPD |      |
| 2,4-Dinitrotoluene         | ug/kg | ND          | 3390        | 3400        | 2590   | 2470   | 76    | 73    | 73    | 15-102       | 5   | 20  |      |
| 2-Chlorophenol             | ug/kg | ND          | 3390        | 3400        | 2360   | 2370   | 69    | 70    | 70    | 22-96        | 0   | 20  |      |
| 2-Methylnaphthalene        | ug/kg | ND          | 3390        | 3400        | 2800   | 2720   | 83    | 80    | 80    | 14-107       | 3   | 20  |      |
| 4-Chloro-3-methylphenol    | ug/kg | ND          | 3390        | 3400        | 2930   | 2750   | 86    | 81    | 81    | 21-105       | 6   | 20  |      |
| 4-Nitrophenol              | ug/kg | ND          | 3390        | 3400        | 2560   | 2440   | 76    | 71    | 71    | 12-107       | 5   | 20  |      |
| Acenaphthene               | ug/kg | ND          | 3390        | 3400        | 2540   | 2400   | 75    | 70    | 70    | 19-110       | 6   | 20  |      |
| Acenaphthylene             | ug/kg | ND          | 3390        | 3400        | 2510   | 2450   | 74    | 72    | 72    | 21-106       | 3   | 20  |      |
| Anthracene                 | ug/kg | ND          | 3390        | 3400        | 2530   | 2410   | 74    | 71    | 71    | 22-112       | 5   | 20  |      |
| Benzo(a)anthracene         | ug/kg | ND          | 3390        | 3400        | 2610   | 2460   | 77    | 72    | 72    | 13-116       | 6   | 20  |      |
| Benzo(a)pyrene             | ug/kg | ND          | 3390        | 3400        | 2410   | 2320   | 71    | 68    | 68    | 11-119       | 4   | 20  |      |
| Benzo(b)fluoranthene       | ug/kg | ND          | 3390        | 3400        | 2360   | 2060   | 69    | 60    | 60    | 10-126       | 14  | 20  |      |
| Benzo(g,h,i)perylene       | ug/kg | ND          | 3390        | 3400        | 2250   | 2120   | 66    | 62    | 62    | 10-114       | 6   | 20  |      |
| Benzo(k)fluoranthene       | ug/kg | ND          | 3390        | 3400        | 2210   | 2290   | 65    | 67    | 67    | 10-117       | 4   | 20  |      |
| Chrysene                   | ug/kg | ND          | 3390        | 3400        | 2530   | 2400   | 75    | 70    | 70    | 14-107       | 6   | 20  |      |
| Dibenz(a,h)anthracene      | ug/kg | ND          | 3390        | 3400        | 2250   | 2160   | 66    | 63    | 63    | 10-119       | 4   | 20  |      |
| Fluoranthene               | ug/kg | ND          | 3390        | 3400        | 2600   | 2480   | 77    | 73    | 73    | 17-110       | 5   | 20  |      |
| Fluorene                   | ug/kg | ND          | 3390        | 3400        | 2570   | 2450   | 76    | 72    | 72    | 17-115       | 5   | 20  |      |
| Indeno(1,2,3-cd)pyrene     | ug/kg | ND          | 3390        | 3400        | 2260   | 2130   | 67    | 63    | 63    | 11-111       | 6   | 20  |      |
| N-Nitroso-di-n-propylamine | ug/kg | ND          | 3390        | 3400        | 2230   | 2250   | 66    | 66    | 66    | 18-103       | 1   | 20  |      |
| Naphthalene                | ug/kg | ND          | 3390        | 3400        | 2460   | 2440   | 72    | 71    | 71    | 16-102       | 1   | 20  |      |
| Pentachlorophenol          | ug/kg | ND          | 3390        | 3400        | 2240   | 2200   | 66    | 65    | 65    | 10-100       | 2   | 20  |      |
| Phenanthrene               | ug/kg | ND          | 3390        | 3400        | 2630   | 2460   | 77    | 72    | 72    | 10-128       | 7   | 20  |      |
| Phenol                     | ug/kg | ND          | 3390        | 3400        | 2420   | 2420   | 71    | 71    | 71    | 22-97        | 0   | 20  |      |
| Pyrene                     | ug/kg | ND          | 3390        | 3400        | 2540   | 2300   | 75    | 67    | 67    | 10-123       | 10  | 20  |      |
| 2,4,6-Tribromophenol (S)   | %     |             |             |             |        |        | 77    | 76    | 76    | 16-122       |     |     |      |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50132570

| MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1426855 1426856 |       |                       |                      |                       |              |               |             |              |                 |            |      |
|--|-------|-----------------------|----------------------|-----------------------|--------------|---------------|-------------|--------------|-----------------|------------|------|
| Parameter  | Units | 50132550001<br>Result | MS<br>Spike<br>Conc. | MSD<br>Spike<br>Conc. | MS<br>Result | MSD<br>Result | MS<br>% Rec | MSD<br>% Rec | % Rec<br>Limits | Max<br>RPD | Qual |
| 2-Fluorobiphenyl (S)                                   | %.    |                       |                      |                       |              |               | 68          | 65           | 31-94           |            |      |
| 2-Fluorophenol (S)                                     | %.    |                       |                      |                       |              |               | 74          | 74           | 24-104          |            |      |
| Nitrobenzene-d5 (S)                                    | %.    |                       |                      |                       |              |               | 70          | 68           | 26-98           |            |      |
| p-Terphenyl-d14 (S)                                    | %.    |                       |                      |                       |              |               | 84          | 80           | 26-110          |            |      |
| Phenol-d5 (S)  | %.    |                       |                      |                       |              |               | 74          | 74           | 28-101          |            |      |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50132570

QC Batch: OEXT/41574

Analysis Method: EPA 8270

QC Batch Method: EPA 3510

Analysis Description: 8270 Water MSSV

Associated Lab Samples: 50132570001

METHOD BLANK: 1429349

Matrix: Water

Associated Lab Samples: 50132570001

| Parameter                       | Units | Blank Result | Reporting Limit | Analyzed       | Qualifiers |
|---------------------------------|-------|--------------|-----------------|----------------|------------|
| 2,4,5-Trichlorophenol           | ug/L  | ND           | 10.0            | 11/23/15 09:43 |            |
| 2,4,6-Trichlorophenol           | ug/L  | ND           | 10.0            | 11/23/15 09:43 |            |
| 2,4-Dichlorophenol              | ug/L  | ND           | 10.0            | 11/23/15 09:43 |            |
| 2,4-Dimethylphenol              | ug/L  | ND           | 10.0            | 11/23/15 09:43 |            |
| 2,4-Dinitrophenol               | ug/L  | ND           | 50.0            | 11/23/15 09:43 |            |
| 2,4-Dinitrotoluene              | ug/L  | ND           | 10.0            | 11/23/15 09:43 |            |
| 2,6-Dinitrotoluene              | ug/L  | ND           | 10.0            | 11/23/15 09:43 |            |
| 2-Chloronaphthalene             | ug/L  | ND           | 10.0            | 11/23/15 09:43 |            |
| 2-Chlorophenol                  | ug/L  | ND           | 10.0            | 11/23/15 09:43 |            |
| 2-Methylnaphthalene             | ug/L  | ND           | 10.0            | 11/23/15 09:43 |            |
| 2-Methylphenol(o-Cresol)        | ug/L  | ND           | 10.0            | 11/23/15 09:43 |            |
| 2-Nitroaniline                  | ug/L  | ND           | 50.0            | 11/23/15 09:43 |            |
| 2-Nitrophenol                   | ug/L  | ND           | 10.0            | 11/23/15 09:43 |            |
| 3&4-Methylphenol(m&p Cresol)    | ug/L  | ND           | 10.0            | 11/23/15 09:43 |            |
| 3,3'-Dichlorobenzidine          | ug/L  | ND           | 20.0            | 11/23/15 09:43 |            |
| 3-Nitroaniline                  | ug/L  | ND           | 50.0            | 11/23/15 09:43 |            |
| 4,6-Dinitro-2-methylphenol      | ug/L  | ND           | 50.0            | 11/23/15 09:43 |            |
| 4-Bromophenylphenyl ether       | ug/L  | ND           | 10.0            | 11/23/15 09:43 |            |
| 4-Chloro-3-methylphenol         | ug/L  | ND           | 10.0            | 11/23/15 09:43 |            |
| 4-Chloroaniline                 | ug/L  | ND           | 10.0            | 11/23/15 09:43 |            |
| 4-Chlorophenylphenyl ether      | ug/L  | ND           | 10.0            | 11/23/15 09:43 |            |
| 4-Nitroaniline                  | ug/L  | ND           | 50.0            | 11/23/15 09:43 |            |
| 4-Nitrophenol                   | ug/L  | ND           | 50.0            | 11/23/15 09:43 |            |
| Acenaphthene                    | ug/L  | ND           | 10.0            | 11/23/15 09:43 |            |
| Acenaphthylene                  | ug/L  | ND           | 10.0            | 11/23/15 09:43 |            |
| Anthracene                      | ug/L  | ND           | 10.0            | 11/23/15 09:43 |            |
| Benzo(a)anthracene              | ug/L  | ND           | 10.0            | 11/23/15 09:43 |            |
| Benzo(a)pyrene                  | ug/L  | ND           | 10.0            | 11/23/15 09:43 |            |
| Benzo(b)fluoranthene            | ug/L  | ND           | 10.0            | 11/23/15 09:43 |            |
| Benzo(g,h,i)perylene            | ug/L  | ND           | 10.0            | 11/23/15 09:43 |            |
| Benzo(k)fluoranthene            | ug/L  | ND           | 10.0            | 11/23/15 09:43 |            |
| Benzyl alcohol                  | ug/L  | ND           | 10.0            | 11/23/15 09:43 |            |
| bis(2-Chloroethoxy)methane      | ug/L  | ND           | 10.0            | 11/23/15 09:43 |            |
| bis(2-Chloroethyl) ether        | ug/L  | ND           | 10.0            | 11/23/15 09:43 |            |
| bis(2-Ethylhexyl)phthalate      | ug/L  | ND           | 10.0            | 11/23/15 09:43 |            |
| bis(2chloro1 methylethyl) ether | ug/L  | ND           | 10.0            | 11/23/15 09:43 |            |
| Butylbenzylphthalate            | ug/L  | ND           | 10.0            | 11/23/15 09:43 |            |
| Chrysene                        | ug/L  | ND           | 10.0            | 11/23/15 09:43 |            |
| Di-n-butylphthalate             | ug/L  | ND           | 10.0            | 11/23/15 09:43 |            |
| Di-n-octylphthalate             | ug/L  | ND           | 10.0            | 11/23/15 09:43 |            |
| Dibenz(a,h)anthracene           | ug/L  | ND           | 10.0            | 11/23/15 09:43 |            |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50132570

METHOD BLANK: 1429349

Matrix: Water

Associated Lab Samples: 50132570001

| Parameter                  | Units | Blank Result | Reporting Limit | Analyzed       | Qualifiers |
|----------------------------|-------|--------------|-----------------|----------------|------------|
| Dibenzofuran               | ug/L  | ND           | 10.0            | 11/23/15 09:43 |            |
| Diethylphthalate           | ug/L  | ND           | 10.0            | 11/23/15 09:43 |            |
| Dimethylphthalate          | ug/L  | ND           | 10.0            | 11/23/15 09:43 |            |
| Fluoranthene               | ug/L  | ND           | 10.0            | 11/23/15 09:43 |            |
| Fluorene                   | ug/L  | ND           | 10.0            | 11/23/15 09:43 |            |
| Hexachloro-1,3-butadiene   | ug/L  | ND           | 10.0            | 11/23/15 09:43 |            |
| Hexachlorobenzene          | ug/L  | ND           | 10.0            | 11/23/15 09:43 |            |
| Hexachlorocyclopentadiene  | ug/L  | ND           | 10.0            | 11/23/15 09:43 |            |
| Hexachloroethane           | ug/L  | ND           | 10.0            | 11/23/15 09:43 |            |
| Indeno(1,2,3-cd)pyrene     | ug/L  | ND           | 10.0            | 11/23/15 09:43 |            |
| Isophorone                 | ug/L  | ND           | 10.0            | 11/23/15 09:43 |            |
| N-Nitroso-di-n-propylamine | ug/L  | ND           | 50.0            | 11/23/15 09:43 |            |
| N-Nitrosodiphenylamine     | ug/L  | ND           | 10.0            | 11/23/15 09:43 |            |
| Naphthalene                | ug/L  | ND           | 10.0            | 11/23/15 09:43 |            |
| Nitrobenzene               | ug/L  | ND           | 10.0            | 11/23/15 09:43 |            |
| Pentachlorophenol          | ug/L  | ND           | 50.0            | 11/23/15 09:43 |            |
| Phenanthrene               | ug/L  | ND           | 10.0            | 11/23/15 09:43 |            |
| Phenol                     | ug/L  | ND           | 10.0            | 11/23/15 09:43 |            |
| Pyrene                     | ug/L  | ND           | 10.0            | 11/23/15 09:43 |            |
| 2,4,6-Tribromophenol (S)   | %     | 97           | 29-158          | 11/23/15 09:43 |            |
| 2-Fluorobiphenyl (S)       | %     | 96           | 33-114          | 11/23/15 09:43 |            |
| 2-Fluorophenol (S)         | %     | 69           | 11-79           | 11/23/15 09:43 |            |
| Nitrobenzene-d5 (S)        | %     | 106          | 38-124          | 11/23/15 09:43 |            |
| p-Terphenyl-d14 (S)        | %     | 93           | 10-113          | 11/23/15 09:43 |            |
| Phenol-d5 (S)              | %     | 44           | 10-58           | 11/23/15 09:43 |            |

LABORATORY CONTROL SAMPLE: 1429350

| Parameter               | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-------------------------|-------|-------------|------------|-----------|--------------|------------|
| 2,4-Dinitrotoluene      | ug/L  | 100         | 125        | 125       | 41-163       |            |
| 2-Chlorophenol          | ug/L  | 100         | 93.4       | 93        | 30-119       |            |
| 2-Methylnaphthalene     | ug/L  | 100         | 84.0       | 84        | 32-117       |            |
| 4-Chloro-3-methylphenol | ug/L  | 100         | 106        | 106       | 32-142       |            |
| 4-Nitrophenol           | ug/L  | 100         | 46.3J      | 46        | 10-103       |            |
| Acenaphthene            | ug/L  | 100         | 115        | 115       | 40-136       |            |
| Acenaphthylene          | ug/L  | 100         | 116        | 116       | 42-139       |            |
| Anthracene              | ug/L  | 100         | 137        | 137       | 56-155       |            |
| Benzo(a)anthracene      | ug/L  | 100         | 130        | 130       | 54-157       |            |
| Benzo(a)pyrene          | ug/L  | 100         | 141        | 141       | 51-170       |            |
| Benzo(b)fluoranthene    | ug/L  | 100         | 141        | 141       | 52-172       |            |
| Benzo(g,h,i)perylene    | ug/L  | 100         | 133        | 133       | 33-173       |            |
| Benzo(k)fluoranthene    | ug/L  | 100         | 143        | 143       | 52-167       |            |
| Chrysene                | ug/L  | 100         | 133        | 133       | 55-158       |            |
| Dibenz(a,h)anthracene   | ug/L  | 100         | 143        | 143       | 46-179       |            |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50132570

LABORATORY CONTROL SAMPLE: 1429350

| Parameter                  | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|----------------------------|-------|-------------|------------|-----------|--------------|------------|
| Fluoranthene               | ug/L  | 100         | 136        | 136       | 58-157       |            |
| Fluorene                   | ug/L  | 100         | 122        | 122       | 46-148       |            |
| Indeno(1,2,3-cd)pyrene     | ug/L  | 100         | 141        | 141       | 48-174       |            |
| N-Nitroso-di-n-propylamine | ug/L  | 100         | 110        | 110       | 40-135       |            |
| Naphthalene                | ug/L  | 100         | 91.4       | 91        | 38-113       |            |
| Pentachlorophenol          | ug/L  | 100         | 112        | 112       | 27-177       |            |
| Phenanthrene               | ug/L  | 100         | 142        | 142       | 57-154       |            |
| Phenol                     | ug/L  | 100         | 48.8       | 49        | 11-61        |            |
| Pyrene                     | ug/L  | 100         | 143        | 143       | 53-160       |            |
| 2,4,6-Tribromophenol (S)   | %.    |             |            | 112       | 29-158       |            |
| 2-Fluorobiphenyl (S)       | %.    |             |            | 100       | 33-114       |            |
| 2-Fluorophenol (S)         | %.    |             |            | 64        | 11-79        |            |
| Nitrobenzene-d5 (S)        | %.    |             |            | 101       | 38-124       |            |
| p-Terphenyl-d14 (S)        | %.    |             |            | 83        | 10-113       |            |
| Phenol-d5 (S)              | %.    |             |            | 43        | 10-58        |            |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Preservers

Pace Project No.: 50132570

QC Batch: PMST/11389

Analysis Method: ASTM D2974-87

QC Batch Method: ASTM D2974-87

Analysis Description: Dry Weight/Percent Moisture

Associated Lab Samples: 50132570002

SAMPLE DUPLICATE: 1427405

| Parameter        | Units | 50132057011<br>Result | Dup<br>Result | RPD | Max<br>RPD | Qualifiers |
|------------------|-------|-----------------------|---------------|-----|------------|------------|
| Percent Moisture | %     | 12.5                  | 12.6          | 0   | 5          |            |

SAMPLE DUPLICATE: 1427406

| Parameter        | Units | 50132253002<br>Result | Dup<br>Result | RPD | Max<br>RPD | Qualifiers |
|------------------|-------|-----------------------|---------------|-----|------------|------------|
| Percent Moisture | %     | 10.6                  | 9.8           | 8   | 5          | R1         |

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: Hoosier Wood Preservers

Pace Project No.: 50132570

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### BATCH QUALIFIERS

Batch: OEXT/41574

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

### ANALYTE QUALIFIERS

1d Sample digestion began prior to 24 hrs of lab preservation. FRW 11-22-15

C9 Common Laboratory Contaminant.

HS Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).

L3 Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.

R1 RPD value was outside control limits.

p2 Post-analysis pH measurement indicates pH > 2.

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Hoosier Wood Preservers

Pace Project No.: 50132570

| Lab ID      | Sample ID          | QC Batch Method | QC Batch   | Analytical Method | Analytical Batch |
|-------------|--------------------|-----------------|------------|-------------------|------------------|
| 50132570002 | HWP-FTBsoil-151116 | EPA 3010        | MPRP/18815 | EPA 6010          | ICP/22759        |
| 50132570001 | HWP-A2UST-151116   | EPA 3010        | MPRP/18794 | EPA 6010          | ICP/22788        |
| 50132570002 | HWP-FTBsoil-151116 | EPA 7470        | MERP/7140  | EPA 7470          | MERC/8404        |
| 50132570001 | HWP-A2UST-151116   | EPA 7470        | MERP/7148  | EPA 7470          | MERC/8416        |
| 50132570002 | HWP-FTBsoil-151116 | EPA 3546        | OEXT/41548 | EPA 8270          | MSSV/19568       |
| 50132570001 | HWP-A2UST-151116   | EPA 3510        | OEXT/41574 | EPA 8270          | MSSV/19603       |
| 50132570002 | HWP-FTBsoil-151116 | EPA 8260        | MSV/83882  |                   |                  |
| 50132570001 | HWP-A2UST-151116   | EPA 8260        | MSV/84011  |                   |                  |
| 50132570002 | HWP-FTBsoil-151116 | ASTM D2974-87   | PMST/11389 |                   |                  |
| 50132570001 | HWP-A2UST-151116   | EPA 1010        | WET/25834  |                   |                  |

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## Sample Condition Upon Receipt

Pace Analytical

Client Name: Env. RestorationProject # 50132570Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☒ Client ☐ Commercial ☐ Pace Other \_\_\_\_\_

Tracking #: \_\_\_\_\_

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ noDate/Time 5035A kits  
placed in freezerPacking Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other \_\_\_\_\_Thermometer 1 2 3 4 5 6 A B C D E F Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begunCooler Temperature 0.4°C / 0.4°C Ice Visible in Sample Containers: ☐ yes ☒ no

Temp should be above freezing to 6°C

Comments:

Date and initials of person examining  
contents: Vec 11-17-15

|   |  |                                       |
|---|--|---------------------------------------|
| Are samples from West Virginia?   | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                              | 1.                                    |
| Document any containers out of temp.  |  |                                       |
| Chain of Custody Present:   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 2.                                    |
| Chain of Custody Filled Out:  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 3.                                    |
| Chain of Custody Relinquished:  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 4.                                    |
| Sampler Name & Signature on COC:  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 5.                                    |
| Short Hold Time Analysis (<72hr):   | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | 6.                                    |
| Rush Turn Around Time Requested:  | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | 7.                                    |
| Containers Intact:  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 8.                                    |
| Sample Labels match COC:<br>-Includes date/time/ID/Analysis   | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | 9. No sample time on containers       |
| All containers needing acid/base pres. have been checked?<br>exceptions: VOA, coliform, TOC, O&G                                | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | 10 (Circle) HNO3 H2SO4 NaOH NaOH/ZnAc |
| All containers needing preservation are found to be in compliance with EPA recommendation (<2, >9, >12) unless otherwise noted. |  |                                       |
| Residual Chlorine Check (SVOC 625 Pest/PCB 608)   |  | 11. Present Absent                    |
| Residual Chlorine Check (Total/Amenable/Free Cyanide)   |  | 12. Present Absent                    |
| Headspace in VOA Vials (>6mm):  | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | 13                                    |
| Headspace Wisconsin Sulfide   | <input type="checkbox"/> Yes <input type="checkbox"/> No   | 14                                    |
| Trip Blank Present:   | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | 15                                    |
| Trip Blank Custody Seals Present  | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A |                                       |
| Project Manager Review  |  |                                       |
| Samples Arrived within Hold Time:   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 15.                                   |
| Sufficient Volume:  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 16.                                   |
| Correct Containers Used:  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 17.                                   |

Client Notification/ Resolution:

Field Data Required? Y / N

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

Project Manager Review: \_\_\_\_\_

Date: 11/17/15

# Sample Container Count

CLIENT: Env. Restoration

COC PAGE 1 of 1  
COC ID# 1957921

Project # 5032570

| Sample Line Item | DG9H | AG1U | WG9U | AG0U | R | 4/6 | BP2N | BP2U | BP2S | BP3N | BP3U | BP3S | AG3S | AG1H | BP3C | BP1U | SP5T | AG2U | pH <2 | pH >9 | pH >12 |
|------------------|------|------|------|------|---|-----|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|--------|
| 1                |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 2                |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 3                |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 4                |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 5                |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 6                |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 7                |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 8                |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 9                |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 10               |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 11               |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 12               |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |

## Container Codes

|      |                                 |      |                                    |      |                              |      |                               |
|------|---------------------------------|------|------------------------------------|------|------------------------------|------|-------------------------------|
| DG9H | 40mL HCL amber vial             | AG0U | 100mL unpreserved amber glass      | BP1N | 1 liter HNO3 plastic         | DG9P | 40mL TSP amber vial           |
| AG1U | 1 liter unpreserved amber glass | AG1H | 1 liter HCL amber glass            | BP1S | 1 liter H2SO4 plastic        | DG9S | 40mL H2SO4 amber vial         |
| WG9U | 4oz clear soil jar              | AG1S | 1 liter H2SO4 amber glass          | BP1U | 1 liter unpreserved plastic  | DG9T | 40mL Na Thio amber vial       |
| R    | terra core kit                  | AG1T | 1 liter Na Thiosulfate amber glass | BP1Z | 1 liter NaOH, Zn, Ac         | DG9U | 40mL unpreserved amber vial   |
| BP2N | 500mL HNO3 plastic              | AG2N | 500mL HNO3 amber glass             | BP2A | 500mL NaOH, Asc Acid plastic | SP5T | 120mL Coliform Na Thiosulfate |
| BP2U | 500mL unpreserved plastic       | AG2S | 500mL H2SO4 amber glass            | BP2Q | 500mL NaOH plastic           | JGFU | 4oz unpreserved amber wide    |
| BP2S | 500mL H2SO4 plastic             | AG2U | 500mL unpreserved amber glass      | BP2Z | 500mL NaOH, Zn Ac            | U    | Summa Can                     |
| BP3N | 250mL HNO3 plastic              | AG3U | 250mL unpreserved amber glass      | AF   | Air Filter                   | VG9H | 40mL HCL clear vial           |
| BP3U | 250mL unpreserved plastic       | BG1H | 1 liter HCL clear glass            | BP3C | 250mL NaOH plastic           | VG9T | 40mL Na Thio. clear vial      |
| BP3S | 250mL H2SO4 plastic             | BG1S | 1 liter H2SO4 clear glass          | BP3Z | 250mL NaOH, Zn Ac plastic    | VG9U | 40mL unpreserved clear vial   |
| AG3S | 250mL H2SO4 glass amber         | BG1T | 1 liter Na Thiosulfate clear glass | C    | Air Cassettes                | VSG  | Headspace septa vial & HCL    |
| AG1S | 1 liter H2SO4 amber glass       | BG1U | 1 liter unpreserved glass          | DG9B | 40mL Na Bisulfate amber vial | WGFU | 4oz wide jar w/hexane wipe    |
| BP1U | 1 liter unpreserved plastic     | BP1A | 1 liter NaOH, Asc Acid plastic     | DG9M | 40mL MeOH clear vial         | ZPLC | Ziploc Bag                    |

November 23, 2015

Mr. John Behrens  
Environmental Restoration  
1666 Fabick Drive  
Fenton, MO 63026

RE: Project: Hoosier Wood Products  
Pace Project No.: 50132394

Dear Mr. Behrens:

Enclosed are the analytical results for sample(s) received by the laboratory on November 13, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Kenneth Hunt  
kenneth.hunt@pacelabs.com  
Project Manager

Enclosures



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Hoosier Wood Products

Pace Project No.: 50132394

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### Indiana Certification IDs

7726 Moller Road, Indianapolis, IN 46268

Illinois Certification #: 200074

Indiana Certification #: C-49-06

Kansas Certification #: E-10177

Kentucky UST Certification #: 0042

Kentucky WW Certification #: 98019

Louisiana Certification #: 04076

Ohio VAP Certification #: CL-0065

Oklahoma Certification #: 2014-148

Texas Certification #: T104704355-15-9

West Virginia Certification #: 330

Wisconsin Certification #: 999788130

USDA Soil Permit #: P330-10-00128

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Hoosier Wood Products

Pace Project No.: 50132394

| Lab ID      | Sample ID             | Matrix | Date Collected | Date Received  |
|-------------|-----------------------|--------|----------------|----------------|
| 50132394001 | HWP-B1Exc-151112      | Solid  | 11/12/15 10:25 | 11/13/15 16:25 |
| 50132394002 | HWP-Trench-151113     | Solid  | 11/13/15 10:17 | 11/13/15 16:25 |
| 50132394003 | HWP-Exsoil-151113     | Solid  | 11/13/15 10:20 | 11/13/15 16:25 |
| 50132394004 | HWP-DPconcrete-151113 | Solid  | 11/13/15 10:00 | 11/13/15 16:25 |

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## SAMPLE ANALYTE COUNT

Project: Hoosier Wood Products

Pace Project No.: 50132394

| Lab ID      | Sample ID             | Method        | Analysts | Analytes Reported |
|-------------|-----------------------|---------------|----------|-------------------|
| 50132394001 | HWP-B1Exc-151112      | EPA 6010      | MJC      | 7                 |
|             |                       | EPA 7471      | JGJ      | 1                 |
|             |                       | ASTM D2974-87 | SCM      | 1                 |
| 50132394002 | HWP-Trench-151113     | EPA 6010      | MJC      | 7                 |
|             |                       | EPA 7471      | JGJ      | 1                 |
|             |                       | ASTM D2974-87 | SCM      | 1                 |
| 50132394003 | HWP-Exsoil-151113     | EPA 6010      | JPK      | 7                 |
|             |                       | EPA 7470      | JGJ      | 1                 |
|             |                       | EPA 8270      | TBP      | 66                |
|             |                       | EPA 8260      | GRM      | 73                |
|             |                       | ASTM D2974-87 | SCM      | 1                 |
| 50132394004 | HWP-DPconcrete-151113 | EPA 6010      | JPK      | 7                 |
|             |                       | EPA 7470      | ILP      | 1                 |
|             |                       | EPA 8270      | TBP      | 66                |
|             |                       | EPA 8260      | GRM      | 73                |
|             |                       | ASTM D2974-87 | SCM      | 1                 |

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## ANALYTICAL RESULTS

Project: Hoosier Wood Products

Pace Project No.: 50132394

**Sample:** HWP-B1Exc-151112 **Lab ID:** 50132394001 **Collected:** 11/12/15 10:25 **Received:** 11/13/15 16:25 **Matrix:** Solid

*Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.*

| Parameters   | Results | Units | Report Limit | DF | Prepared       | Analyzed       | CAS No.   | Qual |
|--|---------|-------|--------------|----|----------------|----------------|-----------|------|
| <b>6010 MET ICP</b> Analytical Method: EPA 6010 Preparation Method: EPA 3050 |         |       |              |    |                |                |           |      |
| Arsenic  | 8.6     | mg/kg | 1.1          | 1  | 11/19/15 12:27 | 11/20/15 11:00 | 7440-38-2 |      |
| Barium   | 68.4    | mg/kg | 1.1          | 1  | 11/19/15 12:27 | 11/20/15 11:00 | 7440-39-3 |      |
| Cadmium  | ND      | mg/kg | 0.55         | 1  | 11/19/15 12:27 | 11/20/15 11:00 | 7440-43-9 |      |
| Chromium   | 31.0    | mg/kg | 1.1          | 1  | 11/19/15 12:27 | 11/20/15 11:00 | 7440-47-3 |      |
| Lead   | 21.8    | mg/kg | 1.1          | 1  | 11/19/15 12:27 | 11/20/15 11:00 | 7439-92-1 |      |
| Selenium   | ND      | mg/kg | 1.1          | 1  | 11/19/15 12:27 | 11/20/15 11:00 | 7782-49-2 |      |
| Silver   | ND      | mg/kg | 0.55         | 1  | 11/19/15 12:27 | 11/20/15 11:00 | 7440-22-4 |      |
| <b>7471 Mercury</b> Analytical Method: EPA 7471 Preparation Method: EPA 7471 |         |       |              |    |                |                |           |      |
| Mercury  | ND      | mg/kg | 0.24         | 1  | 11/18/15 16:03 | 11/18/15 19:51 | 7439-97-6 |      |
| <b>Percent Moisture</b> Analytical Method: ASTM D2974-87                     |         |       |              |    |                |                |           |      |
| Percent Moisture   | 13.3    | %     | 0.10         | 1  |                | 11/17/15 14:36 |           |      |

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## ANALYTICAL RESULTS

Project: Hoosier Wood Products

Pace Project No.: 50132394

**Sample:** HWP-Trench-151113 **Lab ID:** 50132394002 **Collected:** 11/13/15 10:17 **Received:** 11/13/15 16:25 **Matrix:** Solid

*Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.*

| Parameters   | Results | Units | Report Limit | DF | Prepared       | Analyzed       | CAS No.   | Qual |
|--|---------|-------|--------------|----|----------------|----------------|-----------|------|
| <b>6010 MET ICP</b> Analytical Method: EPA 6010 Preparation Method: EPA 3050 |         |       |              |    |                |                |           |      |
| Arsenic  | 610     | mg/kg | 1.0          | 1  | 11/19/15 12:27 | 11/20/15 11:02 | 7440-38-2 |      |
| Barium   | 44.2    | mg/kg | 1.0          | 1  | 11/19/15 12:27 | 11/20/15 11:02 | 7440-39-3 |      |
| Cadmium  | 4.1     | mg/kg | 0.51         | 1  | 11/19/15 12:27 | 11/20/15 11:02 | 7440-43-9 |      |
| Chromium   | 307     | mg/kg | 1.0          | 1  | 11/19/15 12:27 | 11/20/15 11:02 | 7440-47-3 |      |
| Lead   | 35.4    | mg/kg | 1.0          | 1  | 11/19/15 12:27 | 11/20/15 11:02 | 7439-92-1 |      |
| Selenium   | ND      | mg/kg | 1.0          | 1  | 11/19/15 12:27 | 11/20/15 11:02 | 7782-49-2 |      |
| Silver   | ND      | mg/kg | 2.5          | 5  | 11/19/15 12:27 | 11/20/15 12:52 | 7440-22-4 | D3   |
| <b>7471 Mercury</b> Analytical Method: EPA 7471 Preparation Method: EPA 7471 |         |       |              |    |                |                |           |      |
| Mercury  | ND      | mg/kg | 0.22         | 1  | 11/18/15 16:03 | 11/18/15 19:53 | 7439-97-6 |      |
| <b>Percent Moisture</b> Analytical Method: ASTM D2974-87                     |         |       |              |    |                |                |           |      |
| Percent Moisture   | 9.6     | %     | 0.10         | 1  |                | 11/17/15 14:36 |           |      |

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## ANALYTICAL RESULTS

Project: Hoosier Wood Products

Pace Project No.: 50132394

Sample: HWP-Exsoil-151113 Lab ID: 50132394003 Collected: 11/13/15 10:20 Received: 11/13/15 16:25 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

| Parameters   | Results | Units | Report Limit | DF | Prepared       | Analyzed       | CAS No.   | Qual |
|--|---------|-------|--------------|----|----------------|----------------|-----------|------|
| <b>6010 MET ICP, TCLP</b>                                |         |       |              |    |                |                |           |      |
| Analytical Method: EPA 6010 Preparation Method: EPA 3010 |         |       |              |    |                |                |           |      |
| Leachate Method/Date: EPA 1311; 11/16/15 16:30           |         |       |              |    |                |                |           |      |
| Arsenic  | 0.46    | mg/L  | 0.10         | 1  | 11/17/15 15:50 | 11/18/15 02:49 | 7440-38-2 |      |
| Barium   | ND      | mg/L  | 5.0          | 1  | 11/17/15 15:50 | 11/18/15 02:49 | 7440-39-3 |      |
| Cadmium  | ND      | mg/L  | 0.050        | 1  | 11/17/15 15:50 | 11/18/15 02:49 | 7440-43-9 |      |
| Chromium   | ND      | mg/L  | 0.10         | 1  | 11/17/15 15:50 | 11/18/15 02:49 | 7440-47-3 |      |
| Lead   | ND      | mg/L  | 0.10         | 1  | 11/17/15 15:50 | 11/18/15 02:49 | 7439-92-1 |      |
| Selenium   | ND      | mg/L  | 0.10         | 1  | 11/17/15 15:50 | 11/18/15 02:49 | 7782-49-2 |      |
| Silver   | ND      | mg/L  | 0.10         | 1  | 11/17/15 15:50 | 11/18/15 02:49 | 7440-22-4 |      |

### 7470 Mercury, TCLP

Analytical Method: EPA 7470 Preparation Method: EPA 7470

Leachate Method/Date: EPA 1311; 11/16/15 16:30

|         |    |      |        |   |                |                |           |  |
|---------|----|------|--------|---|----------------|----------------|-----------|--|
| Mercury | ND | mg/L | 0.0020 | 1 | 11/19/15 13:19 | 11/19/15 19:51 | 7439-97-6 |  |
|---------|----|------|--------|---|----------------|----------------|-----------|--|

### 8270 MSSV SHORT LIST MICROWAVE

Analytical Method: EPA 8270 Preparation Method: EPA 3546

|                                |    |       |      |   |                |                |           |  |
|--------------------------------|----|-------|------|---|----------------|----------------|-----------|--|
| Acenaphthene                   | ND | ug/kg | 345  | 1 | 11/16/15 11:01 | 11/16/15 17:56 | 83-32-9   |  |
| Acenaphthylene                 | ND | ug/kg | 345  | 1 | 11/16/15 11:01 | 11/16/15 17:56 | 208-96-8  |  |
| Anthracene                     | ND | ug/kg | 345  | 1 | 11/16/15 11:01 | 11/16/15 17:56 | 120-12-7  |  |
| Benzo(a)anthracene             | ND | ug/kg | 345  | 1 | 11/16/15 11:01 | 11/16/15 17:56 | 56-55-3   |  |
| Benzo(a)pyrene                 | ND | ug/kg | 178  | 1 | 11/16/15 11:01 | 11/16/15 17:56 | 50-32-8   |  |
| Benzo(b)fluoranthene           | ND | ug/kg | 345  | 1 | 11/16/15 11:01 | 11/16/15 17:56 | 205-99-2  |  |
| Benzo(g,h,i)perylene           | ND | ug/kg | 345  | 1 | 11/16/15 11:01 | 11/16/15 17:56 | 191-24-2  |  |
| Benzo(k)fluoranthene           | ND | ug/kg | 345  | 1 | 11/16/15 11:01 | 11/16/15 17:56 | 207-08-9  |  |
| Benzyl alcohol                 | ND | ug/kg | 689  | 1 | 11/16/15 11:01 | 11/16/15 17:56 | 100-51-6  |  |
| 4-Bromophenylphenyl ether      | ND | ug/kg | 345  | 1 | 11/16/15 11:01 | 11/16/15 17:56 | 101-55-3  |  |
| Butylbenzylphthalate           | ND | ug/kg | 345  | 1 | 11/16/15 11:01 | 11/16/15 17:56 | 85-68-7   |  |
| 4-Chloro-3-methylphenol        | ND | ug/kg | 689  | 1 | 11/16/15 11:01 | 11/16/15 17:56 | 59-50-7   |  |
| 4-Chloroaniline                | ND | ug/kg | 689  | 1 | 11/16/15 11:01 | 11/16/15 17:56 | 106-47-8  |  |
| bis(2-Chloroethoxy)methane     | ND | ug/kg | 345  | 1 | 11/16/15 11:01 | 11/16/15 17:56 | 111-91-1  |  |
| bis(2-Chloroethyl) ether       | ND | ug/kg | 345  | 1 | 11/16/15 11:01 | 11/16/15 17:56 | 111-44-4  |  |
| bis(2chloro1methylethyl) ether | ND | ug/kg | 345  | 1 | 11/16/15 11:01 | 11/16/15 17:56 | 108-60-1  |  |
| 2-Chloronaphthalene            | ND | ug/kg | 345  | 1 | 11/16/15 11:01 | 11/16/15 17:56 | 91-58-7   |  |
| 2-Chlorophenol                 | ND | ug/kg | 345  | 1 | 11/16/15 11:01 | 11/16/15 17:56 | 95-57-8   |  |
| 4-Chlorophenylphenyl ether     | ND | ug/kg | 345  | 1 | 11/16/15 11:01 | 11/16/15 17:56 | 7005-72-3 |  |
| Chrysene                       | ND | ug/kg | 345  | 1 | 11/16/15 11:01 | 11/16/15 17:56 | 218-01-9  |  |
| Dibenz(a,h)anthracene          | ND | ug/kg | 178  | 1 | 11/16/15 11:01 | 11/16/15 17:56 | 53-70-3   |  |
| Dibenzofuran                   | ND | ug/kg | 345  | 1 | 11/16/15 11:01 | 11/16/15 17:56 | 132-64-9  |  |
| 3,3'-Dichlorobenzidine         | ND | ug/kg | 689  | 1 | 11/16/15 11:01 | 11/16/15 17:56 | 91-94-1   |  |
| 2,4-Dichlorophenol             | ND | ug/kg | 345  | 1 | 11/16/15 11:01 | 11/16/15 17:56 | 120-83-2  |  |
| Diethylphthalate               | ND | ug/kg | 345  | 1 | 11/16/15 11:01 | 11/16/15 17:56 | 84-66-2   |  |
| 2,4-Dimethylphenol             | ND | ug/kg | 345  | 1 | 11/16/15 11:01 | 11/16/15 17:56 | 105-67-9  |  |
| Dimethylphthalate              | ND | ug/kg | 345  | 1 | 11/16/15 11:01 | 11/16/15 17:56 | 131-11-3  |  |
| Di-n-butylphthalate            | ND | ug/kg | 345  | 1 | 11/16/15 11:01 | 11/16/15 17:56 | 84-74-2   |  |
| 4,6-Dinitro-2-methylphenol     | ND | ug/kg | 1670 | 1 | 11/16/15 11:01 | 11/16/15 17:56 | 534-52-1  |  |
| 2,4-Dinitrophenol              | ND | ug/kg | 1670 | 1 | 11/16/15 11:01 | 11/16/15 17:56 | 51-28-5   |  |
| 2,4-Dinitrotoluene             | ND | ug/kg | 345  | 1 | 11/16/15 11:01 | 11/16/15 17:56 | 121-14-2  |  |
| 2,6-Dinitrotoluene             | ND | ug/kg | 345  | 1 | 11/16/15 11:01 | 11/16/15 17:56 | 606-20-2  |  |

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Hoosier Wood Products

Pace Project No.: 50132394

Sample: HWP-Exsoil-151113 Lab ID: 50132394003 Collected: 11/13/15 10:20 Received: 11/13/15 16:25 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

| Parameters   | Results | Units | Report Limit | DF | Prepared       | Analyzed       | CAS No.   | Qual |
|--|---------|-------|--------------|----|----------------|----------------|-----------|------|
| <b>8270 MSSV SHORT LIST MICROWAVE</b> Analytical Method: EPA 8270 Preparation Method: EPA 3546 |         |       |              |    |                |                |           |      |
| Di-n-octylphthalate  | ND      | ug/kg | 345          | 1  | 11/16/15 11:01 | 11/16/15 17:56 | 117-84-0  |      |
| bis(2-Ethylhexyl)phthalate   | ND      | ug/kg | 345          | 1  | 11/16/15 11:01 | 11/16/15 17:56 | 117-81-7  |      |
| Fluoranthene   | ND      | ug/kg | 345          | 1  | 11/16/15 11:01 | 11/16/15 17:56 | 206-44-0  |      |
| Fluorene   | ND      | ug/kg | 345          | 1  | 11/16/15 11:01 | 11/16/15 17:56 | 86-73-7   |      |
| Hexachloro-1,3-butadiene   | ND      | ug/kg | 345          | 1  | 11/16/15 11:01 | 11/16/15 17:56 | 87-68-3   |      |
| Hexachlorobenzene  | ND      | ug/kg | 345          | 1  | 11/16/15 11:01 | 11/16/15 17:56 | 118-74-1  |      |
| Hexachlorocyclopentadiene  | ND      | ug/kg | 345          | 1  | 11/16/15 11:01 | 11/16/15 17:56 | 77-47-4   |      |
| Hexachloroethane   | ND      | ug/kg | 345          | 1  | 11/16/15 11:01 | 11/16/15 17:56 | 67-72-1   |      |
| Indeno(1,2,3-cd)pyrene   | ND      | ug/kg | 345          | 1  | 11/16/15 11:01 | 11/16/15 17:56 | 193-39-5  |      |
| Isophorone   | ND      | ug/kg | 345          | 1  | 11/16/15 11:01 | 11/16/15 17:56 | 78-59-1   |      |
| 2-Methylnaphthalene  | ND      | ug/kg | 345          | 1  | 11/16/15 11:01 | 11/16/15 17:56 | 91-57-6   |      |
| 2-Methylphenol(o-Cresol)   | ND      | ug/kg | 345          | 1  | 11/16/15 11:01 | 11/16/15 17:56 | 95-48-7   |      |
| 3&4-Methylphenol(m&p Cresol)   | ND      | ug/kg | 689          | 1  | 11/16/15 11:01 | 11/16/15 17:56 |           |      |
| Naphthalene  | ND      | ug/kg | 345          | 1  | 11/16/15 11:01 | 11/16/15 17:56 | 91-20-3   |      |
| 2-Nitroaniline   | ND      | ug/kg | 1670         | 1  | 11/16/15 11:01 | 11/16/15 17:56 | 88-74-4   |      |
| 3-Nitroaniline   | ND      | ug/kg | 1670         | 1  | 11/16/15 11:01 | 11/16/15 17:56 | 99-09-2   |      |
| 4-Nitroaniline   | ND      | ug/kg | 1670         | 1  | 11/16/15 11:01 | 11/16/15 17:56 | 100-01-6  |      |
| Nitrobenzene   | ND      | ug/kg | 345          | 1  | 11/16/15 11:01 | 11/16/15 17:56 | 98-95-3   |      |
| 2-Nitrophenol  | ND      | ug/kg | 345          | 1  | 11/16/15 11:01 | 11/16/15 17:56 | 88-75-5   |      |
| 4-Nitrophenol  | ND      | ug/kg | 1670         | 1  | 11/16/15 11:01 | 11/16/15 17:56 | 100-02-7  |      |
| N-Nitroso-di-n-propylamine   | ND      | ug/kg | 345          | 1  | 11/16/15 11:01 | 11/16/15 17:56 | 621-64-7  |      |
| N-Nitrosodiphenylamine   | ND      | ug/kg | 345          | 1  | 11/16/15 11:01 | 11/16/15 17:56 | 86-30-6   |      |
| Pentachlorophenol  | ND      | ug/kg | 1670         | 1  | 11/16/15 11:01 | 11/16/15 17:56 | 87-86-5   |      |
| Phenanthrene   | ND      | ug/kg | 345          | 1  | 11/16/15 11:01 | 11/16/15 17:56 | 85-01-8   |      |
| Phenol   | ND      | ug/kg | 345          | 1  | 11/16/15 11:01 | 11/16/15 17:56 | 108-95-2  |      |
| Pyrene   | ND      | ug/kg | 345          | 1  | 11/16/15 11:01 | 11/16/15 17:56 | 129-00-0  |      |
| 2,4,5-Trichlorophenol  | ND      | ug/kg | 345          | 1  | 11/16/15 11:01 | 11/16/15 17:56 | 95-95-4   |      |
| 2,4,6-Trichlorophenol  | ND      | ug/kg | 345          | 1  | 11/16/15 11:01 | 11/16/15 17:56 | 88-06-2   |      |
| <b>Surrogates</b>  |         |       |              |    |                |                |           |      |
| Nitrobenzene-d5 (S)  | 64      | %.    | 28-101       | 1  | 11/16/15 11:01 | 11/16/15 17:56 | 4165-60-0 |      |
| 2-Fluorobiphenyl (S)   | 71      | %.    | 31-94        | 1  | 11/16/15 11:01 | 11/16/15 17:56 | 321-60-8  |      |
| p-Terphenyl-d14 (S)  | 77      | %.    | 26-110       | 1  | 11/16/15 11:01 | 11/16/15 17:56 | 1718-51-0 |      |
| Phenol-d5 (S)  | 73      | %.    | 28-101       | 1  | 11/16/15 11:01 | 11/16/15 17:56 | 4165-62-2 |      |
| 2-Fluorophenol (S)   | 74      | %.    | 24-104       | 1  | 11/16/15 11:01 | 11/16/15 17:56 | 367-12-4  |      |
| 2,4,6-Tribromophenol (S)   | 71      | %.    | 16-122       | 1  | 11/16/15 11:01 | 11/16/15 17:56 | 118-79-6  |      |

### 8260 MSV 5030 Low Level

Analytical Method: EPA 8260

|                      |    |       |     |   |                |          |
|----------------------|----|-------|-----|---|----------------|----------|
| Acetone              | ND | ug/kg | 105 | 1 | 11/19/15 04:42 | 67-64-1  |
| Acrolein             | ND | ug/kg | 105 | 1 | 11/19/15 04:42 | 107-02-8 |
| Acrylonitrile        | ND | ug/kg | 105 | 1 | 11/19/15 04:42 | 107-13-1 |
| Benzene              | ND | ug/kg | 5.3 | 1 | 11/19/15 04:42 | 71-43-2  |
| Bromobenzene         | ND | ug/kg | 5.3 | 1 | 11/19/15 04:42 | 108-86-1 |
| Bromochloromethane   | ND | ug/kg | 5.3 | 1 | 11/19/15 04:42 | 74-97-5  |
| Bromodichloromethane | ND | ug/kg | 5.3 | 1 | 11/19/15 04:42 | 75-27-4  |
| Bromoform            | ND | ug/kg | 5.3 | 1 | 11/19/15 04:42 | 75-25-2  |
| Bromomethane         | ND | ug/kg | 5.3 | 1 | 11/19/15 04:42 | 74-83-9  |

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## ANALYTICAL RESULTS

Project: Hoosier Wood Products

Pace Project No.: 50132394

Sample: HWP-Exsoil-151113 Lab ID: 50132394003 Collected: 11/13/15 10:20 Received: 11/13/15 16:25 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

| Parameters                     | Results | Units                       | Report Limit | DF | Prepared | Analyzed       | CAS No.    | Qual |
|--------------------------------|---------|-----------------------------|--------------|----|----------|----------------|------------|------|
| <b>8260 MSV 5030 Low Level</b> |         | Analytical Method: EPA 8260 |              |    |          |                |            |      |
| 2-Butanone (MEK)               | ND      | ug/kg                       | 26.4         | 1  |          | 11/19/15 04:42 | 78-93-3    |      |
| n-Butylbenzene                 | ND      | ug/kg                       | 5.3          | 1  |          | 11/19/15 04:42 | 104-51-8   |      |
| sec-Butylbenzene               | ND      | ug/kg                       | 5.3          | 1  |          | 11/19/15 04:42 | 135-98-8   |      |
| tert-Butylbenzene              | ND      | ug/kg                       | 5.3          | 1  |          | 11/19/15 04:42 | 98-06-6    |      |
| Carbon disulfide               | ND      | ug/kg                       | 10.5         | 1  |          | 11/19/15 04:42 | 75-15-0    |      |
| Carbon tetrachloride           | ND      | ug/kg                       | 5.3          | 1  |          | 11/19/15 04:42 | 56-23-5    |      |
| Chlorobenzene                  | ND      | ug/kg                       | 5.3          | 1  |          | 11/19/15 04:42 | 108-90-7   |      |
| Chloroethane                   | ND      | ug/kg                       | 5.3          | 1  |          | 11/19/15 04:42 | 75-00-3    |      |
| Chloroform                     | ND      | ug/kg                       | 5.3          | 1  |          | 11/19/15 04:42 | 67-66-3    |      |
| Chloromethane                  | ND      | ug/kg                       | 5.3          | 1  |          | 11/19/15 04:42 | 74-87-3    |      |
| 2-Chlorotoluene                | ND      | ug/kg                       | 5.3          | 1  |          | 11/19/15 04:42 | 95-49-8    |      |
| 4-Chlorotoluene                | ND      | ug/kg                       | 5.3          | 1  |          | 11/19/15 04:42 | 106-43-4   |      |
| Dibromochloromethane           | ND      | ug/kg                       | 5.3          | 1  |          | 11/19/15 04:42 | 124-48-1   |      |
| 1,2-Dibromoethane (EDB)        | ND      | ug/kg                       | 5.3          | 1  |          | 11/19/15 04:42 | 106-93-4   |      |
| Dibromomethane                 | ND      | ug/kg                       | 5.3          | 1  |          | 11/19/15 04:42 | 74-95-3    |      |
| 1,2-Dichlorobenzene            | ND      | ug/kg                       | 5.3          | 1  |          | 11/19/15 04:42 | 95-50-1    |      |
| 1,3-Dichlorobenzene            | ND      | ug/kg                       | 5.3          | 1  |          | 11/19/15 04:42 | 541-73-1   |      |
| 1,4-Dichlorobenzene            | ND      | ug/kg                       | 5.3          | 1  |          | 11/19/15 04:42 | 106-46-7   |      |
| trans-1,4-Dichloro-2-butene    | ND      | ug/kg                       | 105          | 1  |          | 11/19/15 04:42 | 110-57-6   |      |
| Dichlorodifluoromethane        | ND      | ug/kg                       | 5.3          | 1  |          | 11/19/15 04:42 | 75-71-8    |      |
| 1,1-Dichloroethane             | ND      | ug/kg                       | 5.3          | 1  |          | 11/19/15 04:42 | 75-34-3    |      |
| 1,2-Dichloroethane             | ND      | ug/kg                       | 5.3          | 1  |          | 11/19/15 04:42 | 107-06-2   |      |
| 1,1-Dichloroethene             | ND      | ug/kg                       | 5.3          | 1  |          | 11/19/15 04:42 | 75-35-4    |      |
| cis-1,2-Dichloroethene         | ND      | ug/kg                       | 5.3          | 1  |          | 11/19/15 04:42 | 156-59-2   |      |
| trans-1,2-Dichloroethene       | ND      | ug/kg                       | 5.3          | 1  |          | 11/19/15 04:42 | 156-60-5   |      |
| 1,2-Dichloropropane            | ND      | ug/kg                       | 5.3          | 1  |          | 11/19/15 04:42 | 78-87-5    |      |
| 1,3-Dichloropropane            | ND      | ug/kg                       | 5.3          | 1  |          | 11/19/15 04:42 | 142-28-9   |      |
| 2,2-Dichloropropane            | ND      | ug/kg                       | 5.3          | 1  |          | 11/19/15 04:42 | 594-20-7   |      |
| 1,1-Dichloropropene            | ND      | ug/kg                       | 5.3          | 1  |          | 11/19/15 04:42 | 563-58-6   |      |
| cis-1,3-Dichloropropene        | ND      | ug/kg                       | 5.3          | 1  |          | 11/19/15 04:42 | 10061-01-5 |      |
| trans-1,3-Dichloropropene      | ND      | ug/kg                       | 5.3          | 1  |          | 11/19/15 04:42 | 10061-02-6 |      |
| Ethylbenzene                   | ND      | ug/kg                       | 5.3          | 1  |          | 11/19/15 04:42 | 100-41-4   |      |
| Ethyl methacrylate             | ND      | ug/kg                       | 105          | 1  |          | 11/19/15 04:42 | 97-63-2    |      |
| Hexachloro-1,3-butadiene       | ND      | ug/kg                       | 5.3          | 1  |          | 11/19/15 04:42 | 87-68-3    |      |
| n-Hexane                       | ND      | ug/kg                       | 5.3          | 1  |          | 11/19/15 04:42 | 110-54-3   |      |
| 2-Hexanone                     | ND      | ug/kg                       | 105          | 1  |          | 11/19/15 04:42 | 591-78-6   |      |
| Iodomethane                    | ND      | ug/kg                       | 105          | 1  |          | 11/19/15 04:42 | 74-88-4    |      |
| Isopropylbenzene (Cumene)      | ND      | ug/kg                       | 5.3          | 1  |          | 11/19/15 04:42 | 98-82-8    |      |
| p-Isopropyltoluene             | ND      | ug/kg                       | 5.3          | 1  |          | 11/19/15 04:42 | 99-87-6    |      |
| Methylene Chloride             | ND      | ug/kg                       | 21.1         | 1  |          | 11/19/15 04:42 | 75-09-2    |      |
| 4-Methyl-2-pentanone (MIBK)    | ND      | ug/kg                       | 26.4         | 1  |          | 11/19/15 04:42 | 108-10-1   |      |
| Methyl-tert-butyl ether        | ND      | ug/kg                       | 5.3          | 1  |          | 11/19/15 04:42 | 1634-04-4  |      |
| Naphthalene                    | ND      | ug/kg                       | 5.3          | 1  |          | 11/19/15 04:42 | 91-20-3    |      |
| n-Propylbenzene                | ND      | ug/kg                       | 5.3          | 1  |          | 11/19/15 04:42 | 103-65-1   |      |
| Styrene                        | ND      | ug/kg                       | 5.3          | 1  |          | 11/19/15 04:42 | 100-42-5   |      |
| 1,1,1,2-Tetrachloroethane      | ND      | ug/kg                       | 5.3          | 1  |          | 11/19/15 04:42 | 630-20-6   |      |

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## ANALYTICAL RESULTS

Project: Hoosier Wood Products

Pace Project No.: 50132394

Sample: HWP-Exsoil-151113 Lab ID: 50132394003 Collected: 11/13/15 10:20 Received: 11/13/15 16:25 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

| Parameters                     | Results | Units                            | Report Limit | DF | Prepared | Analyzed       | CAS No.   | Qual |
|--------------------------------|---------|----------------------------------|--------------|----|----------|----------------|-----------|------|
| <b>8260 MSV 5030 Low Level</b> |         | Analytical Method: EPA 8260      |              |    |          |                |           |      |
| 1,1,2,2-Tetrachloroethane      | ND      | ug/kg                            | 5.3          | 1  |          | 11/19/15 04:42 | 79-34-5   |      |
| Tetrachloroethene              | ND      | ug/kg                            | 5.3          | 1  |          | 11/19/15 04:42 | 127-18-4  |      |
| Toluene                        | ND      | ug/kg                            | 5.3          | 1  |          | 11/19/15 04:42 | 108-88-3  |      |
| 1,2,3-Trichlorobenzene         | ND      | ug/kg                            | 5.3          | 1  |          | 11/19/15 04:42 | 87-61-6   |      |
| 1,2,4-Trichlorobenzene         | ND      | ug/kg                            | 5.3          | 1  |          | 11/19/15 04:42 | 120-82-1  |      |
| 1,1,1-Trichloroethane          | ND      | ug/kg                            | 5.3          | 1  |          | 11/19/15 04:42 | 71-55-6   |      |
| 1,1,2-Trichloroethane          | ND      | ug/kg                            | 5.3          | 1  |          | 11/19/15 04:42 | 79-00-5   |      |
| Trichloroethene                | ND      | ug/kg                            | 5.3          | 1  |          | 11/19/15 04:42 | 79-01-6   |      |
| Trichlorofluoromethane         | ND      | ug/kg                            | 5.3          | 1  |          | 11/19/15 04:42 | 75-69-4   |      |
| 1,2,3-Trichloropropane         | ND      | ug/kg                            | 5.3          | 1  |          | 11/19/15 04:42 | 96-18-4   |      |
| 1,2,4-Trimethylbenzene         | ND      | ug/kg                            | 5.3          | 1  |          | 11/19/15 04:42 | 95-63-6   |      |
| 1,3,5-Trimethylbenzene         | ND      | ug/kg                            | 5.3          | 1  |          | 11/19/15 04:42 | 108-67-8  |      |
| Vinyl acetate                  | ND      | ug/kg                            | 105          | 1  |          | 11/19/15 04:42 | 108-05-4  |      |
| Vinyl chloride                 | ND      | ug/kg                            | 5.3          | 1  |          | 11/19/15 04:42 | 75-01-4   |      |
| Xylene (Total)                 | ND      | ug/kg                            | 10.5         | 1  |          | 11/19/15 04:42 | 1330-20-7 |      |
| <b>Surrogates</b>              |         |                                  |              |    |          |                |           |      |
| Dibromofluoromethane (S)       | 113     | %.                               | 85-118       | 1  |          | 11/19/15 04:42 | 1868-53-7 |      |
| Toluene-d8 (S)                 | 121     | %.                               | 71-128       | 1  |          | 11/19/15 04:42 | 2037-26-5 |      |
| 4-Bromofluorobenzene (S)       | 90      | %.                               | 56-144       | 1  |          | 11/19/15 04:42 | 460-00-4  |      |
| <b>Percent Moisture</b>        |         | Analytical Method: ASTM D2974-87 |              |    |          |                |           |      |
| Percent Moisture               | 5.2     | %                                | 0.10         | 1  |          | 11/17/15 14:36 |           |      |

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## ANALYTICAL RESULTS

Project: Hoosier Wood Products

Pace Project No.: 50132394

Sample: HWP-DPconcrete-151113 Lab ID: 50132394004 Collected: 11/13/15 10:00 Received: 11/13/15 16:25 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

| Parameters   | Results | Units | Report Limit | DF | Prepared       | Analyzed       | CAS No.   | Qual |
|--|---------|-------|--------------|----|----------------|----------------|-----------|------|
| <b>6010 MET ICP, TCLP</b>                                |         |       |              |    |                |                |           |      |
| Analytical Method: EPA 6010 Preparation Method: EPA 3010 |         |       |              |    |                |                |           |      |
| Leachate Method/Date: EPA 1311; 11/16/15 16:30           |         |       |              |    |                |                |           |      |
| Arsenic  | 6.3     | mg/L  | 0.10         | 1  | 11/17/15 15:50 | 11/18/15 04:06 | 7440-38-2 |      |
| Barium   | ND      | mg/L  | 5.0          | 1  | 11/17/15 15:50 | 11/18/15 04:06 | 7440-39-3 |      |
| Cadmium  | ND      | mg/L  | 0.050        | 1  | 11/17/15 15:50 | 11/18/15 04:06 | 7440-43-9 |      |
| Chromium   | 23.8    | mg/L  | 0.10         | 1  | 11/17/15 15:50 | 11/18/15 04:06 | 7440-47-3 |      |
| Lead   | ND      | mg/L  | 0.10         | 1  | 11/17/15 15:50 | 11/18/15 04:06 | 7439-92-1 |      |
| Selenium   | ND      | mg/L  | 0.10         | 1  | 11/17/15 15:50 | 11/18/15 04:06 | 7782-49-2 |      |
| Silver   | ND      | mg/L  | 0.10         | 1  | 11/17/15 15:50 | 11/18/15 04:06 | 7440-22-4 |      |

### 7470 Mercury, TCLP

Analytical Method: EPA 7470 Preparation Method: EPA 7470

Leachate Method/Date: EPA 1311; 11/16/15 16:30

|         |    |      |        |   |                |                |           |  |
|---------|----|------|--------|---|----------------|----------------|-----------|--|
| Mercury | ND | mg/L | 0.0020 | 1 | 11/18/15 23:25 | 11/19/15 10:48 | 7439-97-6 |  |
|---------|----|------|--------|---|----------------|----------------|-----------|--|

### 8270 MSSV SHORT LIST MICROWAVE

Analytical Method: EPA 8270 Preparation Method: EPA 3546

|                                |    |       |      |   |                |                |           |  |
|--------------------------------|----|-------|------|---|----------------|----------------|-----------|--|
| Acenaphthene                   | ND | ug/kg | 357  | 1 | 11/16/15 11:01 | 11/16/15 18:17 | 83-32-9   |  |
| Acenaphthylene                 | ND | ug/kg | 357  | 1 | 11/16/15 11:01 | 11/16/15 18:17 | 208-96-8  |  |
| Anthracene                     | ND | ug/kg | 357  | 1 | 11/16/15 11:01 | 11/16/15 18:17 | 120-12-7  |  |
| Benzo(a)anthracene             | ND | ug/kg | 357  | 1 | 11/16/15 11:01 | 11/16/15 18:17 | 56-55-3   |  |
| Benzo(a)pyrene                 | ND | ug/kg | 184  | 1 | 11/16/15 11:01 | 11/16/15 18:17 | 50-32-8   |  |
| Benzo(b)fluoranthene           | ND | ug/kg | 357  | 1 | 11/16/15 11:01 | 11/16/15 18:17 | 205-99-2  |  |
| Benzo(g,h,i)perylene           | ND | ug/kg | 357  | 1 | 11/16/15 11:01 | 11/16/15 18:17 | 191-24-2  |  |
| Benzo(k)fluoranthene           | ND | ug/kg | 357  | 1 | 11/16/15 11:01 | 11/16/15 18:17 | 207-08-9  |  |
| Benzyl alcohol                 | ND | ug/kg | 715  | 1 | 11/16/15 11:01 | 11/16/15 18:17 | 100-51-6  |  |
| 4-Bromophenylphenyl ether      | ND | ug/kg | 357  | 1 | 11/16/15 11:01 | 11/16/15 18:17 | 101-55-3  |  |
| Butylbenzylphthalate           | ND | ug/kg | 357  | 1 | 11/16/15 11:01 | 11/16/15 18:17 | 85-68-7   |  |
| 4-Chloro-3-methylphenol        | ND | ug/kg | 715  | 1 | 11/16/15 11:01 | 11/16/15 18:17 | 59-50-7   |  |
| 4-Chloroaniline                | ND | ug/kg | 715  | 1 | 11/16/15 11:01 | 11/16/15 18:17 | 106-47-8  |  |
| bis(2-Chloroethoxy)methane     | ND | ug/kg | 357  | 1 | 11/16/15 11:01 | 11/16/15 18:17 | 111-91-1  |  |
| bis(2-Chloroethyl) ether       | ND | ug/kg | 357  | 1 | 11/16/15 11:01 | 11/16/15 18:17 | 111-44-4  |  |
| bis(2chloro1methylethyl) ether | ND | ug/kg | 357  | 1 | 11/16/15 11:01 | 11/16/15 18:17 | 108-60-1  |  |
| 2-Chloronaphthalene            | ND | ug/kg | 357  | 1 | 11/16/15 11:01 | 11/16/15 18:17 | 91-58-7   |  |
| 2-Chlorophenol                 | ND | ug/kg | 357  | 1 | 11/16/15 11:01 | 11/16/15 18:17 | 95-57-8   |  |
| 4-Chlorophenylphenyl ether     | ND | ug/kg | 357  | 1 | 11/16/15 11:01 | 11/16/15 18:17 | 7005-72-3 |  |
| Chrysene                       | ND | ug/kg | 357  | 1 | 11/16/15 11:01 | 11/16/15 18:17 | 218-01-9  |  |
| Dibenz(a,h)anthracene          | ND | ug/kg | 184  | 1 | 11/16/15 11:01 | 11/16/15 18:17 | 53-70-3   |  |
| Dibenzofuran                   | ND | ug/kg | 357  | 1 | 11/16/15 11:01 | 11/16/15 18:17 | 132-64-9  |  |
| 3,3'-Dichlorobenzidine         | ND | ug/kg | 715  | 1 | 11/16/15 11:01 | 11/16/15 18:17 | 91-94-1   |  |
| 2,4-Dichlorophenol             | ND | ug/kg | 357  | 1 | 11/16/15 11:01 | 11/16/15 18:17 | 120-83-2  |  |
| Diethylphthalate               | ND | ug/kg | 357  | 1 | 11/16/15 11:01 | 11/16/15 18:17 | 84-66-2   |  |
| 2,4-Dimethylphenol             | ND | ug/kg | 357  | 1 | 11/16/15 11:01 | 11/16/15 18:17 | 105-67-9  |  |
| Dimethylphthalate              | ND | ug/kg | 357  | 1 | 11/16/15 11:01 | 11/16/15 18:17 | 131-11-3  |  |
| Di-n-butylphthalate            | ND | ug/kg | 357  | 1 | 11/16/15 11:01 | 11/16/15 18:17 | 84-74-2   |  |
| 4,6-Dinitro-2-methylphenol     | ND | ug/kg | 1730 | 1 | 11/16/15 11:01 | 11/16/15 18:17 | 534-52-1  |  |
| 2,4-Dinitrophenol              | ND | ug/kg | 1730 | 1 | 11/16/15 11:01 | 11/16/15 18:17 | 51-28-5   |  |
| 2,4-Dinitrotoluene             | ND | ug/kg | 357  | 1 | 11/16/15 11:01 | 11/16/15 18:17 | 121-14-2  |  |
| 2,6-Dinitrotoluene             | ND | ug/kg | 357  | 1 | 11/16/15 11:01 | 11/16/15 18:17 | 606-20-2  |  |

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Hoosier Wood Products

Pace Project No.: 50132394

Sample: HWP-DPconcrete-151113 Lab ID: 50132394004 Collected: 11/13/15 10:00 Received: 11/13/15 16:25 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

| Parameters   | Results | Units | Report Limit | DF | Prepared       | Analyzed       | CAS No.   | Qual |
|--|---------|-------|--------------|----|----------------|----------------|-----------|------|
| <b>8270 MSSV SHORT LIST MICROWAVE</b> Analytical Method: EPA 8270 Preparation Method: EPA 3546 |         |       |              |    |                |                |           |      |
| Di-n-octylphthalate  | ND      | ug/kg | 357          | 1  | 11/16/15 11:01 | 11/16/15 18:17 | 117-84-0  |      |
| bis(2-Ethylhexyl)phthalate   | ND      | ug/kg | 357          | 1  | 11/16/15 11:01 | 11/16/15 18:17 | 117-81-7  |      |
| Fluoranthene   | ND      | ug/kg | 357          | 1  | 11/16/15 11:01 | 11/16/15 18:17 | 206-44-0  |      |
| Fluorene   | ND      | ug/kg | 357          | 1  | 11/16/15 11:01 | 11/16/15 18:17 | 86-73-7   |      |
| Hexachloro-1,3-butadiene   | ND      | ug/kg | 357          | 1  | 11/16/15 11:01 | 11/16/15 18:17 | 87-68-3   |      |
| Hexachlorobenzene  | ND      | ug/kg | 357          | 1  | 11/16/15 11:01 | 11/16/15 18:17 | 118-74-1  |      |
| Hexachlorocyclopentadiene  | ND      | ug/kg | 357          | 1  | 11/16/15 11:01 | 11/16/15 18:17 | 77-47-4   |      |
| Hexachloroethane   | ND      | ug/kg | 357          | 1  | 11/16/15 11:01 | 11/16/15 18:17 | 67-72-1   |      |
| Indeno(1,2,3-cd)pyrene   | ND      | ug/kg | 357          | 1  | 11/16/15 11:01 | 11/16/15 18:17 | 193-39-5  |      |
| Isophorone   | ND      | ug/kg | 357          | 1  | 11/16/15 11:01 | 11/16/15 18:17 | 78-59-1   |      |
| 2-Methylnaphthalene  | ND      | ug/kg | 357          | 1  | 11/16/15 11:01 | 11/16/15 18:17 | 91-57-6   |      |
| 2-Methylphenol(o-Cresol)   | ND      | ug/kg | 357          | 1  | 11/16/15 11:01 | 11/16/15 18:17 | 95-48-7   |      |
| 3&4-Methylphenol(m&p Cresol)   | ND      | ug/kg | 715          | 1  | 11/16/15 11:01 | 11/16/15 18:17 |           |      |
| Naphthalene  | ND      | ug/kg | 357          | 1  | 11/16/15 11:01 | 11/16/15 18:17 | 91-20-3   |      |
| 2-Nitroaniline   | ND      | ug/kg | 1730         | 1  | 11/16/15 11:01 | 11/16/15 18:17 | 88-74-4   |      |
| 3-Nitroaniline   | ND      | ug/kg | 1730         | 1  | 11/16/15 11:01 | 11/16/15 18:17 | 99-09-2   |      |
| 4-Nitroaniline   | ND      | ug/kg | 1730         | 1  | 11/16/15 11:01 | 11/16/15 18:17 | 100-01-6  |      |
| Nitrobenzene   | ND      | ug/kg | 357          | 1  | 11/16/15 11:01 | 11/16/15 18:17 | 98-95-3   |      |
| 2-Nitrophenol  | ND      | ug/kg | 357          | 1  | 11/16/15 11:01 | 11/16/15 18:17 | 88-75-5   |      |
| 4-Nitrophenol  | ND      | ug/kg | 1730         | 1  | 11/16/15 11:01 | 11/16/15 18:17 | 100-02-7  |      |
| N-Nitroso-di-n-propylamine   | ND      | ug/kg | 357          | 1  | 11/16/15 11:01 | 11/16/15 18:17 | 621-64-7  |      |
| N-Nitrosodiphenylamine   | ND      | ug/kg | 357          | 1  | 11/16/15 11:01 | 11/16/15 18:17 | 86-30-6   |      |
| Pentachlorophenol  | ND      | ug/kg | 1730         | 1  | 11/16/15 11:01 | 11/16/15 18:17 | 87-86-5   |      |
| Phenanthrene   | ND      | ug/kg | 357          | 1  | 11/16/15 11:01 | 11/16/15 18:17 | 85-01-8   |      |
| Phenol   | ND      | ug/kg | 357          | 1  | 11/16/15 11:01 | 11/16/15 18:17 | 108-95-2  |      |
| Pyrene   | ND      | ug/kg | 357          | 1  | 11/16/15 11:01 | 11/16/15 18:17 | 129-00-0  |      |
| 2,4,5-Trichlorophenol  | ND      | ug/kg | 357          | 1  | 11/16/15 11:01 | 11/16/15 18:17 | 95-95-4   |      |
| 2,4,6-Trichlorophenol  | ND      | ug/kg | 357          | 1  | 11/16/15 11:01 | 11/16/15 18:17 | 88-06-2   |      |
| <b>Surrogates</b>  |         |       |              |    |                |                |           |      |
| Nitrobenzene-d5 (S)  | 68      | %.    | 28-101       | 1  | 11/16/15 11:01 | 11/16/15 18:17 | 4165-60-0 |      |
| 2-Fluorobiphenyl (S)   | 76      | %.    | 31-94        | 1  | 11/16/15 11:01 | 11/16/15 18:17 | 321-60-8  |      |
| p-Terphenyl-d14 (S)  | 98      | %.    | 26-110       | 1  | 11/16/15 11:01 | 11/16/15 18:17 | 1718-51-0 |      |
| Phenol-d5 (S)  | 69      | %.    | 28-101       | 1  | 11/16/15 11:01 | 11/16/15 18:17 | 4165-62-2 |      |
| 2-Fluorophenol (S)   | 37      | %.    | 24-104       | 1  | 11/16/15 11:01 | 11/16/15 18:17 | 367-12-4  |      |
| 2,4,6-Tribromophenol (S)   | 4       | %.    | 16-122       | 1  | 11/16/15 11:01 | 11/16/15 18:17 | 118-79-6  | S2   |

### 8260 MSV 5030 Low Level

Analytical Method: EPA 8260

|                      |    |       |     |   |                |          |
|----------------------|----|-------|-----|---|----------------|----------|
| Acetone              | ND | ug/kg | 109 | 1 | 11/19/15 19:30 | 67-64-1  |
| Acrolein             | ND | ug/kg | 109 | 1 | 11/19/15 19:30 | 107-02-8 |
| Acrylonitrile        | ND | ug/kg | 109 | 1 | 11/19/15 19:30 | 107-13-1 |
| Benzene              | ND | ug/kg | 5.4 | 1 | 11/19/15 19:30 | 71-43-2  |
| Bromobenzene         | ND | ug/kg | 5.4 | 1 | 11/19/15 19:30 | 108-86-1 |
| Bromochloromethane   | ND | ug/kg | 5.4 | 1 | 11/19/15 19:30 | 74-97-5  |
| Bromodichloromethane | ND | ug/kg | 5.4 | 1 | 11/19/15 19:30 | 75-27-4  |
| Bromoform            | ND | ug/kg | 5.4 | 1 | 11/19/15 19:30 | 75-25-2  |
| Bromomethane         | ND | ug/kg | 5.4 | 1 | 11/19/15 19:30 | 74-83-9  |

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## ANALYTICAL RESULTS

Project: Hoosier Wood Products

Pace Project No.: 50132394

Sample: HWP-DPconcrete-151113 Lab ID: 50132394004 Collected: 11/13/15 10:00 Received: 11/13/15 16:25 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

| Parameters                     | Results | Units                       | Report Limit | DF | Prepared | Analyzed       | CAS No.    | Qual |
|--------------------------------|---------|-----------------------------|--------------|----|----------|----------------|------------|------|
| <b>8260 MSV 5030 Low Level</b> |         | Analytical Method: EPA 8260 |              |    |          |                |            |      |
| 2-Butanone (MEK)               | ND      | ug/kg                       | 27.2         | 1  |          | 11/19/15 19:30 | 78-93-3    |      |
| n-Butylbenzene                 | ND      | ug/kg                       | 5.4          | 1  |          | 11/19/15 19:30 | 104-51-8   |      |
| sec-Butylbenzene               | ND      | ug/kg                       | 5.4          | 1  |          | 11/19/15 19:30 | 135-98-8   |      |
| tert-Butylbenzene              | ND      | ug/kg                       | 5.4          | 1  |          | 11/19/15 19:30 | 98-06-6    |      |
| Carbon disulfide               | ND      | ug/kg                       | 10.9         | 1  |          | 11/19/15 19:30 | 75-15-0    |      |
| Carbon tetrachloride           | ND      | ug/kg                       | 5.4          | 1  |          | 11/19/15 19:30 | 56-23-5    |      |
| Chlorobenzene                  | ND      | ug/kg                       | 5.4          | 1  |          | 11/19/15 19:30 | 108-90-7   |      |
| Chloroethane                   | ND      | ug/kg                       | 5.4          | 1  |          | 11/19/15 19:30 | 75-00-3    |      |
| Chloroform                     | ND      | ug/kg                       | 5.4          | 1  |          | 11/19/15 19:30 | 67-66-3    |      |
| Chloromethane                  | ND      | ug/kg                       | 5.4          | 1  |          | 11/19/15 19:30 | 74-87-3    |      |
| 2-Chlorotoluene                | ND      | ug/kg                       | 5.4          | 1  |          | 11/19/15 19:30 | 95-49-8    |      |
| 4-Chlorotoluene                | ND      | ug/kg                       | 5.4          | 1  |          | 11/19/15 19:30 | 106-43-4   |      |
| Dibromochloromethane           | ND      | ug/kg                       | 5.4          | 1  |          | 11/19/15 19:30 | 124-48-1   |      |
| 1,2-Dibromoethane (EDB)        | ND      | ug/kg                       | 5.4          | 1  |          | 11/19/15 19:30 | 106-93-4   |      |
| Dibromomethane                 | ND      | ug/kg                       | 5.4          | 1  |          | 11/19/15 19:30 | 74-95-3    |      |
| 1,2-Dichlorobenzene            | ND      | ug/kg                       | 5.4          | 1  |          | 11/19/15 19:30 | 95-50-1    |      |
| 1,3-Dichlorobenzene            | ND      | ug/kg                       | 5.4          | 1  |          | 11/19/15 19:30 | 541-73-1   |      |
| 1,4-Dichlorobenzene            | ND      | ug/kg                       | 5.4          | 1  |          | 11/19/15 19:30 | 106-46-7   |      |
| trans-1,4-Dichloro-2-butene    | ND      | ug/kg                       | 109          | 1  |          | 11/19/15 19:30 | 110-57-6   |      |
| Dichlorodifluoromethane        | ND      | ug/kg                       | 5.4          | 1  |          | 11/19/15 19:30 | 75-71-8    |      |
| 1,1-Dichloroethane             | ND      | ug/kg                       | 5.4          | 1  |          | 11/19/15 19:30 | 75-34-3    |      |
| 1,2-Dichloroethane             | ND      | ug/kg                       | 5.4          | 1  |          | 11/19/15 19:30 | 107-06-2   |      |
| 1,1-Dichloroethene             | ND      | ug/kg                       | 5.4          | 1  |          | 11/19/15 19:30 | 75-35-4    |      |
| cis-1,2-Dichloroethene         | ND      | ug/kg                       | 5.4          | 1  |          | 11/19/15 19:30 | 156-59-2   |      |
| trans-1,2-Dichloroethene       | ND      | ug/kg                       | 5.4          | 1  |          | 11/19/15 19:30 | 156-60-5   |      |
| 1,2-Dichloropropane            | ND      | ug/kg                       | 5.4          | 1  |          | 11/19/15 19:30 | 78-87-5    |      |
| 1,3-Dichloropropane            | ND      | ug/kg                       | 5.4          | 1  |          | 11/19/15 19:30 | 142-28-9   |      |
| 2,2-Dichloropropane            | ND      | ug/kg                       | 5.4          | 1  |          | 11/19/15 19:30 | 594-20-7   |      |
| 1,1-Dichloropropene            | ND      | ug/kg                       | 5.4          | 1  |          | 11/19/15 19:30 | 563-58-6   |      |
| cis-1,3-Dichloropropene        | ND      | ug/kg                       | 5.4          | 1  |          | 11/19/15 19:30 | 10061-01-5 |      |
| trans-1,3-Dichloropropene      | ND      | ug/kg                       | 5.4          | 1  |          | 11/19/15 19:30 | 10061-02-6 |      |
| Ethylbenzene                   | ND      | ug/kg                       | 5.4          | 1  |          | 11/19/15 19:30 | 100-41-4   |      |
| Ethyl methacrylate             | ND      | ug/kg                       | 109          | 1  |          | 11/19/15 19:30 | 97-63-2    |      |
| Hexachloro-1,3-butadiene       | ND      | ug/kg                       | 5.4          | 1  |          | 11/19/15 19:30 | 87-68-3    |      |
| n-Hexane                       | ND      | ug/kg                       | 5.4          | 1  |          | 11/19/15 19:30 | 110-54-3   |      |
| 2-Hexanone                     | ND      | ug/kg                       | 109          | 1  |          | 11/19/15 19:30 | 591-78-6   |      |
| Iodomethane                    | ND      | ug/kg                       | 109          | 1  |          | 11/19/15 19:30 | 74-88-4    |      |
| Isopropylbenzene (Cumene)      | ND      | ug/kg                       | 5.4          | 1  |          | 11/19/15 19:30 | 98-82-8    |      |
| p-Isopropyltoluene             | ND      | ug/kg                       | 5.4          | 1  |          | 11/19/15 19:30 | 99-87-6    |      |
| Methylene Chloride             | ND      | ug/kg                       | 21.8         | 1  |          | 11/19/15 19:30 | 75-09-2    |      |
| 4-Methyl-2-pentanone (MIBK)    | ND      | ug/kg                       | 27.2         | 1  |          | 11/19/15 19:30 | 108-10-1   |      |
| Methyl-tert-butyl ether        | ND      | ug/kg                       | 5.4          | 1  |          | 11/19/15 19:30 | 1634-04-4  |      |
| Naphthalene                    | ND      | ug/kg                       | 5.4          | 1  |          | 11/19/15 19:30 | 91-20-3    |      |
| n-Propylbenzene                | ND      | ug/kg                       | 5.4          | 1  |          | 11/19/15 19:30 | 103-65-1   |      |
| Styrene                        | ND      | ug/kg                       | 5.4          | 1  |          | 11/19/15 19:30 | 100-42-5   |      |
| 1,1,1,2-Tetrachloroethane      | ND      | ug/kg                       | 5.4          | 1  |          | 11/19/15 19:30 | 630-20-6   |      |

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## ANALYTICAL RESULTS

Project: Hoosier Wood Products

Pace Project No.: 50132394

Sample: HWP-DPconcrete-151113 Lab ID: 50132394004 Collected: 11/13/15 10:00 Received: 11/13/15 16:25 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

| Parameters                     | Results | Units                            | Report Limit | DF | Prepared | Analyzed       | CAS No.   | Qual |
|--------------------------------|---------|----------------------------------|--------------|----|----------|----------------|-----------|------|
| <b>8260 MSV 5030 Low Level</b> |         | Analytical Method: EPA 8260      |              |    |          |                |           |      |
| 1,1,2,2-Tetrachloroethane      | ND      | ug/kg                            | 5.4          | 1  |          | 11/19/15 19:30 | 79-34-5   |      |
| Tetrachloroethene              | ND      | ug/kg                            | 5.4          | 1  |          | 11/19/15 19:30 | 127-18-4  |      |
| Toluene                        | ND      | ug/kg                            | 5.4          | 1  |          | 11/19/15 19:30 | 108-88-3  |      |
| 1,2,3-Trichlorobenzene         | ND      | ug/kg                            | 5.4          | 1  |          | 11/19/15 19:30 | 87-61-6   |      |
| 1,2,4-Trichlorobenzene         | ND      | ug/kg                            | 5.4          | 1  |          | 11/19/15 19:30 | 120-82-1  |      |
| 1,1,1-Trichloroethane          | ND      | ug/kg                            | 5.4          | 1  |          | 11/19/15 19:30 | 71-55-6   |      |
| 1,1,2-Trichloroethane          | ND      | ug/kg                            | 5.4          | 1  |          | 11/19/15 19:30 | 79-00-5   |      |
| Trichloroethene                | ND      | ug/kg                            | 5.4          | 1  |          | 11/19/15 19:30 | 79-01-6   |      |
| Trichlorofluoromethane         | ND      | ug/kg                            | 5.4          | 1  |          | 11/19/15 19:30 | 75-69-4   |      |
| 1,2,3-Trichloropropane         | ND      | ug/kg                            | 5.4          | 1  |          | 11/19/15 19:30 | 96-18-4   |      |
| 1,2,4-Trimethylbenzene         | ND      | ug/kg                            | 5.4          | 1  |          | 11/19/15 19:30 | 95-63-6   |      |
| 1,3,5-Trimethylbenzene         | ND      | ug/kg                            | 5.4          | 1  |          | 11/19/15 19:30 | 108-67-8  |      |
| Vinyl acetate                  | ND      | ug/kg                            | 109          | 1  |          | 11/19/15 19:30 | 108-05-4  |      |
| Vinyl chloride                 | ND      | ug/kg                            | 5.4          | 1  |          | 11/19/15 19:30 | 75-01-4   |      |
| Xylene (Total)                 | ND      | ug/kg                            | 10.9         | 1  |          | 11/19/15 19:30 | 1330-20-7 |      |
| <b>Surrogates</b>              |         |                                  |              |    |          |                |           |      |
| Dibromofluoromethane (S)       | 88      | %.                               | 85-118       | 1  |          | 11/19/15 19:30 | 1868-53-7 |      |
| Toluene-d8 (S)                 | 117     | %.                               | 71-128       | 1  |          | 11/19/15 19:30 | 2037-26-5 |      |
| 4-Bromofluorobenzene (S)       | 88      | %.                               | 56-144       | 1  |          | 11/19/15 19:30 | 460-00-4  |      |
| <b>Percent Moisture</b>        |         | Analytical Method: ASTM D2974-87 |              |    |          |                |           |      |
| Percent Moisture               | 8.2     | %                                | 0.10         | 1  |          | 11/17/15 14:36 |           |      |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Products

Pace Project No.: 50132394

QC Batch: MERP/7094

Analysis Method: EPA 7470

QC Batch Method: EPA 7470

Analysis Description: 7470 Mercury TCLP

Associated Lab Samples: 50132394004

METHOD BLANK: 1422128

Matrix: Water

Associated Lab Samples: 50132394004

| Parameter | Units | Blank Result | Reporting Limit | Analyzed       | Qualifiers |
|-----------|-------|--------------|-----------------|----------------|------------|
| Mercury   | mg/L  | ND           | 0.0020          | 11/19/15 10:31 |            |

LABORATORY CONTROL SAMPLE: 1422129

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Mercury   | mg/L  | .015        | 0.015      | 102       | 80-120       |            |

MATRIX SPIKE SAMPLE: 1422130

| Parameter | Units | 50131723003 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Mercury   | mg/L  | ND                 | .015        | 0.015     | 103      | 75-125       |            |

MATRIX SPIKE SAMPLE: 1427783

| Parameter | Units | 50132511001 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Mercury   | mg/L  | ND                 | .015        | 0.016     | 104      | 75-125       |            |

MATRIX SPIKE SAMPLE: 1427792

| Parameter | Units | 50132394004 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Mercury   | mg/L  | ND                 | .015        | 0.015     | 100      | 75-125       |            |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Products

Pace Project No.: 50132394

QC Batch: MERP/7095

Analysis Method: EPA 7470

QC Batch Method: EPA 7470

Analysis Description: 7470 Mercury TCLP

Associated Lab Samples: 50132394003

METHOD BLANK: 1422131

Matrix: Water

Associated Lab Samples: 50132394003

| Parameter | Units | Blank Result | Reporting Limit | Analyzed       | Qualifiers |
|-----------|-------|--------------|-----------------|----------------|------------|
| Mercury   | mg/L  | ND           | 0.0020          | 11/19/15 19:36 |            |

LABORATORY CONTROL SAMPLE: 1422132

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Mercury   | mg/L  | .015        | 0.015      | 102       | 80-120       |            |

MATRIX SPIKE SAMPLE: 1422133

| Parameter | Units | 50131723005 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Mercury   | mg/L  | ND                 | .015        | 0.015     | 103      | 75-125       |            |

MATRIX SPIKE SAMPLE: 1427741

| Parameter | Units | 50132394003 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Mercury   | mg/L  | ND                 | .015        | 0.015     | 99       | 75-125       |            |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Products

Pace Project No.: 50132394

QC Batch: MERP/7131

Analysis Method: EPA 7471

QC Batch Method: EPA 7471

Analysis Description: 7471 Mercury

Associated Lab Samples: 50132394001, 50132394002

METHOD BLANK: 1427012

Matrix: Solid

Associated Lab Samples: 50132394001, 50132394002

| Parameter | Units | Blank Result | Reporting Limit | Analyzed       | Qualifiers |
|-----------|-------|--------------|-----------------|----------------|------------|
| Mercury   | mg/kg | ND           | 0.20            | 11/18/15 19:44 |            |

LABORATORY CONTROL SAMPLE: 1427013

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Mercury   | mg/kg | .5          | 0.53       | 105       | 80-120       |            |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1427014 1427015

| Parameter | Units | 50132153001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|-----------|-------|--------------------|----------------|-----------------|-----------|------------|----------|-----------|--------------|-----|---------|------|
| Mercury   | mg/kg | ND                 | .71            | .69             | 0.75      | 0.73       | 103      | 103       | 75-125       | 3   | 20      |      |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Products

Pace Project No.: 50132394

QC Batch: MPRP/18772

Analysis Method: EPA 6010

QC Batch Method: EPA 3050

Analysis Description: 6010 MET

Associated Lab Samples: 50132394001, 50132394002

METHOD BLANK: 1426760

Matrix: Solid

Associated Lab Samples: 50132394001, 50132394002

| Parameter | Units | Blank Result | Reporting Limit | Analyzed       | Qualifiers |
|-----------|-------|--------------|-----------------|----------------|------------|
| Arsenic   | mg/kg | ND           | 1.0             | 11/20/15 10:40 |            |
| Barium    | mg/kg | ND           | 1.0             | 11/20/15 10:40 |            |
| Cadmium   | mg/kg | ND           | 0.50            | 11/20/15 10:40 |            |
| Chromium  | mg/kg | 1.7          | 1.0             | 11/20/15 10:40 | P8         |
| Lead      | mg/kg | ND           | 1.0             | 11/20/15 10:40 |            |
| Selenium  | mg/kg | ND           | 1.0             | 11/20/15 10:40 |            |
| Silver    | mg/kg | ND           | 0.50            | 11/20/15 10:40 |            |

LABORATORY CONTROL SAMPLE: 1426761

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Arsenic   | mg/kg | 50          | 48.9       | 98        | 80-120       |            |
| Barium    | mg/kg | 50          | 48.3       | 97        | 80-120       |            |
| Cadmium   | mg/kg | 50          | 46.5       | 93        | 80-120       |            |
| Chromium  | mg/kg | 50          | 51.0       | 102       | 80-120       |            |
| Lead      | mg/kg | 50          | 45.9       | 92        | 80-120       |            |
| Selenium  | mg/kg | 50          | 48.8       | 98        | 80-120       |            |
| Silver    | mg/kg | 25          | 23.4       | 94        | 80-120       |            |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1426762 1426763

| Parameter | Units | 50131976001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual  |
|-----------|-------|--------------------|----------------|-----------------|-----------|------------|----------|-----------|--------------|-----|---------|-------|
| Arsenic   | mg/kg | ND                 | 106            | 107             | ND        | ND         | 47       | 44        | 75-125       |     | 20      | D3,M3 |
| Barium    | mg/kg | ND                 | 106            | 107             | 240       | 221        | 107      | 88        | 75-125       | 8   | 20      |       |
| Cadmium   | mg/kg | ND                 | 106            | 107             | 103J      | 106J       | 94       | 95        | 75-125       |     | 20      | D3    |
| Chromium  | mg/kg | ND                 | 106            | 107             | 128J      | 184J       | 17       | 68        | 75-125       |     | 20      | D3,M3 |
| Lead      | mg/kg | ND                 | 106            | 107             | 296       | 512        | 141      | 340       | 75-125       | 54  | 20      | 1d,M3 |
| Selenium  | mg/kg | ND                 | 106            | 107             | ND        | ND         | 52       | 40        | 75-125       |     | 20      | D3,M3 |
| Silver    | mg/kg | 2380               | 53             | 53.8            | 536       | 978        | -3470    | -2610     | 75-125       | 58  | 20      | 1d,P6 |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Products

Pace Project No.: 50132394

QC Batch: MPRP/18766

Analysis Method: EPA 6010

QC Batch Method: EPA 3010

Analysis Description: 6010 MET TCLP

Associated Lab Samples: 50132394003

METHOD BLANK: 1426590

Matrix: Water

Associated Lab Samples: 50132394003

| Parameter | Units | Blank Result | Reporting Limit | Analyzed       | Qualifiers |
|-----------|-------|--------------|-----------------|----------------|------------|
| Arsenic   | mg/L  | ND           | 0.10            | 11/18/15 02:23 |            |
| Barium    | mg/L  | ND           | 5.0             | 11/18/15 02:23 |            |
| Cadmium   | mg/L  | ND           | 0.050           | 11/18/15 02:23 |            |
| Chromium  | mg/L  | ND           | 0.10            | 11/18/15 02:23 |            |
| Lead      | mg/L  | ND           | 0.10            | 11/18/15 02:23 |            |
| Selenium  | mg/L  | ND           | 0.10            | 11/18/15 02:23 |            |
| Silver    | mg/L  | ND           | 0.10            | 11/18/15 02:23 |            |

LABORATORY CONTROL SAMPLE: 1426591

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Arsenic   | mg/L  | 10          | 9.8        | 98        | 80-120       |            |
| Barium    | mg/L  | 10          | 9.4        | 94        | 80-120       |            |
| Cadmium   | mg/L  | 10          | 9.2        | 92        | 80-120       |            |
| Chromium  | mg/L  | 10          | 9.2        | 92        | 80-120       |            |
| Lead      | mg/L  | 10          | 8.6        | 86        | 80-120       |            |
| Selenium  | mg/L  | 10          | 9.6        | 96        | 80-120       |            |
| Silver    | mg/L  | 5           | 4.6        | 92        | 80-120       |            |

MATRIX SPIKE SAMPLE: 1426592

| Parameter | Units | 50132482001 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Arsenic   | mg/L  | 0.18               | 10          | 10.2      | 100      | 50-150       |            |
| Barium    | mg/L  | ND                 | 10          | 9.6       | 94       | 50-150       |            |
| Cadmium   | mg/L  | ND                 | 10          | 9.5       | 94       | 50-150       |            |
| Chromium  | mg/L  | ND                 | 10          | 9.2       | 92       | 50-150       |            |
| Lead      | mg/L  | 0.74               | 10          | 9.4       | 86       | 50-150       |            |
| Selenium  | mg/L  | ND                 | 10          | 9.8       | 98       | 50-150       |            |
| Silver    | mg/L  | ND                 | 5           | 4.6       | 93       | 50-150       |            |

MATRIX SPIKE SAMPLE: 1426593

| Parameter | Units | 50132364001 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Arsenic   | mg/L  | ND                 | 10          | 10        | 99       | 50-150       |            |
| Barium    | mg/L  | ND                 | 10          | 9.8       | 95       | 50-150       |            |
| Cadmium   | mg/L  | ND                 | 10          | 9.4       | 94       | 50-150       |            |
| Chromium  | mg/L  | ND                 | 10          | 9.2       | 92       | 50-150       |            |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Products

Pace Project No.: 50132394

|                      |       |             |       |        |       |        |            |
|----------------------|-------|-------------|-------|--------|-------|--------|------------|
| MATRIX SPIKE SAMPLE: |       | 1426593     |       |        |       |        |            |
|                      |       | 50132364001 | Spike | MS     | MS    | % Rec  |            |
| Parameter            | Units | Result      | Conc. | Result | % Rec | Limits | Qualifiers |
| Lead                 | mg/L  | ND          | 10    | 8.6    | 86    | 50-150 |            |
| Selenium             | mg/L  | ND          | 10    | 9.7    | 97    | 50-150 |            |
| Silver               | mg/L  | ND          | 5     | 4.6    | 92    | 50-150 |            |

|                      |       |             |       |        |       |        |            |
|----------------------|-------|-------------|-------|--------|-------|--------|------------|
| MATRIX SPIKE SAMPLE: |       | 1426594     |       |        |       |        |            |
|                      |       | 50132394003 | Spike | MS     | MS    | % Rec  |            |
| Parameter            | Units | Result      | Conc. | Result | % Rec | Limits | Qualifiers |
| Arsenic              | mg/L  | 0.46        | 10    | 10.3   | 98    | 50-150 |            |
| Barium               | mg/L  | ND          | 10    | 9.8    | 94    | 50-150 |            |
| Cadmium              | mg/L  | ND          | 10    | 9.3    | 93    | 50-150 |            |
| Chromium             | mg/L  | ND          | 10    | 9.1    | 91    | 50-150 |            |
| Lead                 | mg/L  | ND          | 10    | 8.5    | 85    | 50-150 |            |
| Selenium             | mg/L  | ND          | 10    | 9.6    | 96    | 50-150 |            |
| Silver               | mg/L  | ND          | 5     | 4.7    | 93    | 50-150 |            |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Products

Pace Project No.: 50132394

QC Batch: MPRP/18767

Analysis Method: EPA 6010

QC Batch Method: EPA 3010

Analysis Description: 6010 MET TCLP

Associated Lab Samples: 50132394004

METHOD BLANK: 1426602

Matrix: Water

Associated Lab Samples: 50132394004

| Parameter | Units | Blank Result | Reporting Limit | Analyzed       | Qualifiers |
|-----------|-------|--------------|-----------------|----------------|------------|
| Arsenic   | mg/L  | ND           | 0.10            | 11/18/15 03:40 |            |
| Barium    | mg/L  | ND           | 5.0             | 11/18/15 03:40 |            |
| Cadmium   | mg/L  | ND           | 0.050           | 11/18/15 03:40 |            |
| Chromium  | mg/L  | ND           | 0.10            | 11/18/15 03:40 |            |
| Lead      | mg/L  | ND           | 0.10            | 11/18/15 03:40 |            |
| Selenium  | mg/L  | ND           | 0.10            | 11/18/15 03:40 |            |
| Silver    | mg/L  | ND           | 0.10            | 11/18/15 03:40 |            |

LABORATORY CONTROL SAMPLE: 1426603

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Arsenic   | mg/L  | 10          | 9.8        | 98        | 80-120       |            |
| Barium    | mg/L  | 10          | 9.6        | 96        | 80-120       |            |
| Cadmium   | mg/L  | 10          | 9.4        | 94        | 80-120       |            |
| Chromium  | mg/L  | 10          | 9.4        | 94        | 80-120       |            |
| Lead      | mg/L  | 10          | 8.9        | 89        | 80-120       |            |
| Selenium  | mg/L  | 10          | 9.7        | 97        | 80-120       |            |
| Silver    | mg/L  | 5           | 4.8        | 95        | 80-120       |            |

MATRIX SPIKE SAMPLE: 1426604

| Parameter | Units | 50132454001 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Arsenic   | mg/L  | 6720 ug/L          | 10          | 16.8      | 101      | 50-150       |            |
| Barium    | mg/L  | 10800 ug/L         | 10          | 20.4      | 95       | 50-150       |            |
| Cadmium   | mg/L  | ND                 | 10          | 9.5       | 95       | 50-150       |            |
| Chromium  | mg/L  | ND                 | 10          | 9.3       | 93       | 50-150       |            |
| Lead      | mg/L  | ND                 | 10          | 8.7       | 87       | 50-150       |            |
| Selenium  | mg/L  | ND                 | 10          | 9.8       | 98       | 50-150       |            |
| Silver    | mg/L  | ND                 | 5           | 4.8       | 94       | 50-150       |            |

MATRIX SPIKE SAMPLE: 1426605

| Parameter | Units | 50132482005 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|--------------------|-------------|-----------|----------|--------------|------------|
| Arsenic   | mg/L  | 0.21               | 10          | 10.4      | 102      | 50-150       |            |
| Barium    | mg/L  | ND                 | 10          | 9.8       | 97       | 50-150       |            |
| Cadmium   | mg/L  | 0.75               | 10          | 10.3      | 96       | 50-150       |            |
| Chromium  | mg/L  | ND                 | 10          | 9.4       | 94       | 50-150       |            |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Products

Pace Project No.: 50132394

|                      |       |             |       |        |       |        |            |
|----------------------|-------|-------------|-------|--------|-------|--------|------------|
| MATRIX SPIKE SAMPLE: |       | 1426605     |       |        |       |        |            |
|                      |       | 50132482005 | Spike | MS     | MS    | % Rec  |            |
| Parameter            | Units | Result      | Conc. | Result | % Rec | Limits | Qualifiers |
| Lead                 | mg/L  | 0.54        | 10    | 9.3    | 88    | 50-150 |            |
| Selenium             | mg/L  | 253 ug/L    | 10    | 10.1   | 99    | 50-150 |            |
| Silver               | mg/L  | ND          | 5     | 4.9    | 97    | 50-150 |            |

|                      |       |             |       |        |       |        |            |
|----------------------|-------|-------------|-------|--------|-------|--------|------------|
| MATRIX SPIKE SAMPLE: |       | 1426606     |       |        |       |        |            |
|                      |       | 50132310004 | Spike | MS     | MS    | % Rec  |            |
| Parameter            | Units | Result      | Conc. | Result | % Rec | Limits | Qualifiers |
| Arsenic              | mg/L  | ND          | 10    | 10.0   | 100   | 50-150 |            |
| Barium               | mg/L  | ND          | 10    | 10.3   | 97    | 50-150 |            |
| Cadmium              | mg/L  | ND          | 10    | 9.5    | 95    | 50-150 |            |
| Chromium             | mg/L  | ND          | 10    | 9.3    | 93    | 50-150 |            |
| Lead                 | mg/L  | ND          | 10    | 8.7    | 87    | 50-150 |            |
| Selenium             | mg/L  | ND          | 10    | 9.8    | 98    | 50-150 |            |
| Silver               | mg/L  | ND          | 5     | 4.8    | 96    | 50-150 |            |

|                      |       |             |       |        |       |        |            |
|----------------------|-------|-------------|-------|--------|-------|--------|------------|
| MATRIX SPIKE SAMPLE: |       | 1426607     |       |        |       |        |            |
|                      |       | 50132394004 | Spike | MS     | MS    | % Rec  |            |
| Parameter            | Units | Result      | Conc. | Result | % Rec | Limits | Qualifiers |
| Arsenic              | mg/L  | 6.3         | 10    | 16.3   | 100   | 50-150 |            |
| Barium               | mg/L  | ND          | 10    | 10     | 97    | 50-150 |            |
| Cadmium              | mg/L  | ND          | 10    | 9.5    | 95    | 50-150 |            |
| Chromium             | mg/L  | 23.8        | 10    | 32.9   | 92    | 50-150 |            |
| Lead                 | mg/L  | ND          | 10    | 8.7    | 87    | 50-150 |            |
| Selenium             | mg/L  | ND          | 10    | 9.8    | 98    | 50-150 |            |
| Silver               | mg/L  | ND          | 5     | 4.8    | 97    | 50-150 |            |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Products

Pace Project No.: 50132394

QC Batch: MSV/83865

Analysis Method: EPA 8260

QC Batch Method: EPA 8260

Analysis Description: 8260 MSV 5030 Low

Associated Lab Samples: 50132394003

METHOD BLANK: 1427958

Matrix: Solid

Associated Lab Samples: 50132394003

| Parameter                   | Units | Blank Result | Reporting Limit | Analyzed       | Qualifiers |
|-----------------------------|-------|--------------|-----------------|----------------|------------|
| 1,1,1,2-Tetrachloroethane   | ug/kg | ND           | 5.0             | 11/19/15 03:34 |            |
| 1,1,1-Trichloroethane       | ug/kg | ND           | 5.0             | 11/19/15 03:34 |            |
| 1,1,2,2-Tetrachloroethane   | ug/kg | ND           | 5.0             | 11/19/15 03:34 |            |
| 1,1,2-Trichloroethane       | ug/kg | ND           | 5.0             | 11/19/15 03:34 |            |
| 1,1-Dichloroethane          | ug/kg | ND           | 5.0             | 11/19/15 03:34 |            |
| 1,1-Dichloroethene          | ug/kg | ND           | 5.0             | 11/19/15 03:34 |            |
| 1,1-Dichloropropene         | ug/kg | ND           | 5.0             | 11/19/15 03:34 |            |
| 1,2,3-Trichlorobenzene      | ug/kg | ND           | 5.0             | 11/19/15 03:34 |            |
| 1,2,3-Trichloropropane      | ug/kg | ND           | 5.0             | 11/19/15 03:34 |            |
| 1,2,4-Trichlorobenzene      | ug/kg | ND           | 5.0             | 11/19/15 03:34 |            |
| 1,2,4-Trimethylbenzene      | ug/kg | ND           | 5.0             | 11/19/15 03:34 |            |
| 1,2-Dibromoethane (EDB)     | ug/kg | ND           | 5.0             | 11/19/15 03:34 |            |
| 1,2-Dichlorobenzene         | ug/kg | ND           | 5.0             | 11/19/15 03:34 |            |
| 1,2-Dichloroethane          | ug/kg | ND           | 5.0             | 11/19/15 03:34 |            |
| 1,2-Dichloropropane         | ug/kg | ND           | 5.0             | 11/19/15 03:34 |            |
| 1,3,5-Trimethylbenzene      | ug/kg | ND           | 5.0             | 11/19/15 03:34 |            |
| 1,3-Dichlorobenzene         | ug/kg | ND           | 5.0             | 11/19/15 03:34 |            |
| 1,3-Dichloropropane         | ug/kg | ND           | 5.0             | 11/19/15 03:34 |            |
| 1,4-Dichlorobenzene         | ug/kg | ND           | 5.0             | 11/19/15 03:34 |            |
| 2,2-Dichloropropane         | ug/kg | ND           | 5.0             | 11/19/15 03:34 |            |
| 2-Butanone (MEK)            | ug/kg | ND           | 25.0            | 11/19/15 03:34 |            |
| 2-Chlorotoluene             | ug/kg | ND           | 5.0             | 11/19/15 03:34 |            |
| 2-Hexanone                  | ug/kg | ND           | 100             | 11/19/15 03:34 |            |
| 4-Chlorotoluene             | ug/kg | ND           | 5.0             | 11/19/15 03:34 |            |
| 4-Methyl-2-pentanone (MIBK) | ug/kg | ND           | 25.0            | 11/19/15 03:34 |            |
| Acetone                     | ug/kg | ND           | 100             | 11/19/15 03:34 |            |
| Acrolein                    | ug/kg | ND           | 100             | 11/19/15 03:34 |            |
| Acrylonitrile               | ug/kg | ND           | 100             | 11/19/15 03:34 |            |
| Benzene                     | ug/kg | ND           | 5.0             | 11/19/15 03:34 |            |
| Bromobenzene                | ug/kg | ND           | 5.0             | 11/19/15 03:34 |            |
| Bromochloromethane          | ug/kg | ND           | 5.0             | 11/19/15 03:34 |            |
| Bromodichloromethane        | ug/kg | ND           | 5.0             | 11/19/15 03:34 |            |
| Bromoform                   | ug/kg | ND           | 5.0             | 11/19/15 03:34 |            |
| Bromomethane                | ug/kg | ND           | 5.0             | 11/19/15 03:34 |            |
| Carbon disulfide            | ug/kg | ND           | 10.0            | 11/19/15 03:34 |            |
| Carbon tetrachloride        | ug/kg | ND           | 5.0             | 11/19/15 03:34 |            |
| Chlorobenzene               | ug/kg | ND           | 5.0             | 11/19/15 03:34 |            |
| Chloroethane                | ug/kg | ND           | 5.0             | 11/19/15 03:34 |            |
| Chloroform                  | ug/kg | ND           | 5.0             | 11/19/15 03:34 |            |
| Chloromethane               | ug/kg | ND           | 5.0             | 11/19/15 03:34 |            |
| cis-1,2-Dichloroethene      | ug/kg | ND           | 5.0             | 11/19/15 03:34 |            |

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Hoosier Wood Products

Pace Project No.: 50132394

METHOD BLANK: 1427958

Matrix: Solid

Associated Lab Samples: 50132394003

| Parameter                   | Units | Blank Result | Reporting Limit | Analyzed       | Qualifiers |
|-----------------------------|-------|--------------|-----------------|----------------|------------|
| cis-1,3-Dichloropropene     | ug/kg | ND           | 5.0             | 11/19/15 03:34 |            |
| Dibromochloromethane        | ug/kg | ND           | 5.0             | 11/19/15 03:34 |            |
| Dibromomethane              | ug/kg | ND           | 5.0             | 11/19/15 03:34 |            |
| Dichlorodifluoromethane     | ug/kg | ND           | 5.0             | 11/19/15 03:34 |            |
| Ethyl methacrylate          | ug/kg | ND           | 100             | 11/19/15 03:34 |            |
| Ethylbenzene                | ug/kg | ND           | 5.0             | 11/19/15 03:34 |            |
| Hexachloro-1,3-butadiene    | ug/kg | ND           | 5.0             | 11/19/15 03:34 |            |
| Iodomethane                 | ug/kg | ND           | 100             | 11/19/15 03:34 |            |
| Isopropylbenzene (Cumene)   | ug/kg | ND           | 5.0             | 11/19/15 03:34 |            |
| Methyl-tert-butyl ether     | ug/kg | ND           | 5.0             | 11/19/15 03:34 |            |
| Methylene Chloride          | ug/kg | ND           | 20.0            | 11/19/15 03:34 |            |
| n-Butylbenzene              | ug/kg | ND           | 5.0             | 11/19/15 03:34 |            |
| n-Hexane                    | ug/kg | ND           | 5.0             | 11/19/15 03:34 |            |
| n-Propylbenzene             | ug/kg | ND           | 5.0             | 11/19/15 03:34 |            |
| Naphthalene                 | ug/kg | ND           | 5.0             | 11/19/15 03:34 |            |
| p-Isopropyltoluene          | ug/kg | ND           | 5.0             | 11/19/15 03:34 |            |
| sec-Butylbenzene            | ug/kg | ND           | 5.0             | 11/19/15 03:34 |            |
| Styrene                     | ug/kg | ND           | 5.0             | 11/19/15 03:34 |            |
| tert-Butylbenzene           | ug/kg | ND           | 5.0             | 11/19/15 03:34 |            |
| Tetrachloroethene           | ug/kg | ND           | 5.0             | 11/19/15 03:34 |            |
| Toluene                     | ug/kg | ND           | 5.0             | 11/19/15 03:34 |            |
| trans-1,2-Dichloroethene    | ug/kg | ND           | 5.0             | 11/19/15 03:34 |            |
| trans-1,3-Dichloropropene   | ug/kg | ND           | 5.0             | 11/19/15 03:34 |            |
| trans-1,4-Dichloro-2-butene | ug/kg | ND           | 100             | 11/19/15 03:34 |            |
| Trichloroethene             | ug/kg | ND           | 5.0             | 11/19/15 03:34 |            |
| Trichlorofluoromethane      | ug/kg | ND           | 5.0             | 11/19/15 03:34 |            |
| Vinyl acetate               | ug/kg | ND           | 100             | 11/19/15 03:34 |            |
| Vinyl chloride              | ug/kg | ND           | 5.0             | 11/19/15 03:34 |            |
| Xylene (Total)              | ug/kg | ND           | 10.0            | 11/19/15 03:34 |            |
| 4-Bromofluorobenzene (S)    | %     | 97           | 56-144          | 11/19/15 03:34 |            |
| Dibromofluoromethane (S)    | %     | 107          | 85-118          | 11/19/15 03:34 |            |
| Toluene-d8 (S)              | %     | 110          | 71-128          | 11/19/15 03:34 |            |

LABORATORY CONTROL SAMPLE: 1427959

| Parameter                 | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---------------------------|-------|-------------|------------|-----------|--------------|------------|
| 1,1,1,2-Tetrachloroethane | ug/kg | 50          | 50.8       | 102       | 62-123       |            |
| 1,1,1-Trichloroethane     | ug/kg | 50          | 50.8       | 102       | 70-123       |            |
| 1,1,2,2-Tetrachloroethane | ug/kg | 50          | 52.0       | 104       | 65-124       |            |
| 1,1,2-Trichloroethane     | ug/kg | 50          | 55.0       | 110       | 74-129       |            |
| 1,1-Dichloroethane        | ug/kg | 50          | 49.4       | 99        | 73-130       |            |
| 1,1-Dichloroethene        | ug/kg | 50          | 51.9       | 104       | 66-126       |            |
| 1,1-Dichloropropene       | ug/kg | 50          | 49.4       | 99        | 78-125       |            |
| 1,2,3-Trichlorobenzene    | ug/kg | 50          | 43.2       | 86        | 66-131       |            |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Products

Pace Project No.: 50132394

LABORATORY CONTROL SAMPLE: 1427959

| Parameter                   | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------------------------|-------|-------------|------------|-----------|--------------|------------|
| 1,2,3-Trichloropropane      | ug/kg | 50          | 53.5       | 107       | 44-157       |            |
| 1,2,4-Trichlorobenzene      | ug/kg | 50          | 42.1       | 84        | 68-129       |            |
| 1,2,4-Trimethylbenzene      | ug/kg | 50          | 44.6       | 89        | 67-126       |            |
| 1,2-Dibromoethane (EDB)     | ug/kg | 50          | 52.5       | 105       | 74-120       |            |
| 1,2-Dichlorobenzene         | ug/kg | 50          | 44.6       | 89        | 73-122       |            |
| 1,2-Dichloroethane          | ug/kg | 50          | 49.7       | 99        | 73-127       |            |
| 1,2-Dichloropropane         | ug/kg | 50          | 50.0       | 100       | 75-118       |            |
| 1,3,5-Trimethylbenzene      | ug/kg | 50          | 44.9       | 90        | 65-127       |            |
| 1,3-Dichlorobenzene         | ug/kg | 50          | 45.7       | 91        | 73-121       |            |
| 1,3-Dichloropropane         | ug/kg | 50          | 51.8       | 104       | 72-121       |            |
| 1,4-Dichlorobenzene         | ug/kg | 50          | 42.9       | 86        | 75-119       |            |
| 2,2-Dichloropropane         | ug/kg | 50          | 48.3       | 97        | 63-122       |            |
| 2-Butanone (MEK)            | ug/kg | 250         | 242        | 97        | 59-139       |            |
| 2-Chlorotoluene             | ug/kg | 50          | 46.7       | 93        | 72-121       |            |
| 2-Hexanone                  | ug/kg | 250         | 274        | 110       | 56-139       |            |
| 4-Chlorotoluene             | ug/kg | 50          | 46.6       | 93        | 75-123       |            |
| 4-Methyl-2-pentanone (MIBK) | ug/kg | 250         | 268        | 107       | 63-136       |            |
| Acetone                     | ug/kg | 250         | 278        | 111       | 46-156       |            |
| Acrolein                    | ug/kg | 1000        | 1830       | 183       | 47-200       |            |
| Acrylonitrile               | ug/kg | 200         | 206        | 103       | 67-130       |            |
| Benzene                     | ug/kg | 50          | 50.0       | 100       | 74-119       |            |
| Bromobenzene                | ug/kg | 50          | 42.9       | 86        | 69-129       |            |
| Bromochloromethane          | ug/kg | 50          | 48.1       | 96        | 67-129       |            |
| Bromodichloromethane        | ug/kg | 50          | 47.8       | 96        | 68-121       |            |
| Bromoform                   | ug/kg | 50          | 41.5       | 83        | 49-124       |            |
| Bromomethane                | ug/kg | 50          | 59.7       | 119       | 44-142       |            |
| Carbon disulfide            | ug/kg | 50          | 51.8       | 104       | 61-129       |            |
| Carbon tetrachloride        | ug/kg | 50          | 50.7       | 101       | 58-127       |            |
| Chlorobenzene               | ug/kg | 50          | 45.9       | 92        | 77-122       |            |
| Chloroethane                | ug/kg | 50          | 56.2       | 112       | 59-141       |            |
| Chloroform                  | ug/kg | 50          | 47.9       | 96        | 75-124       |            |
| Chloromethane               | ug/kg | 50          | 50.1       | 100       | 46-133       |            |
| cis-1,2-Dichloroethene      | ug/kg | 50          | 51.3       | 103       | 72-122       |            |
| cis-1,3-Dichloropropene     | ug/kg | 50          | 51.9       | 104       | 68-115       |            |
| Dibromochloromethane        | ug/kg | 50          | 53.0       | 106       | 60-121       |            |
| Dibromomethane              | ug/kg | 50          | 50.2       | 100       | 72-124       |            |
| Dichlorodifluoromethane     | ug/kg | 50          | 64.0       | 128       | 26-186       |            |
| Ethyl methacrylate          | ug/kg | 200         | 211        | 106       | 63-130       |            |
| Ethylbenzene                | ug/kg | 50          | 47.0       | 94        | 72-123       |            |
| Hexachloro-1,3-butadiene    | ug/kg | 50          | 43.1       | 86        | 55-139       |            |
| Iodomethane                 | ug/kg | 100         | 118        | 118       | 38-149       |            |
| Isopropylbenzene (Cumene)   | ug/kg | 50          | 46.6       | 93        | 65-123       |            |
| Methyl-tert-butyl ether     | ug/kg | 50          | 50.7       | 101       | 68-120       |            |
| Methylene Chloride          | ug/kg | 50          | 47.7       | 95        | 57-142       |            |
| n-Butylbenzene              | ug/kg | 50          | 44.6       | 89        | 68-125       |            |
| n-Hexane                    | ug/kg | 50          | 48.1       | 96        | 57-117       |            |
| n-Propylbenzene             | ug/kg | 50          | 48.7       | 97        | 68-122       |            |

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Hoosier Wood Products

Pace Project No.: 50132394

LABORATORY CONTROL SAMPLE: 1427959

| Parameter                   | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------------------------|-------|-------------|------------|-----------|--------------|------------|
| Naphthalene                 | ug/kg | 50          | 46.5       | 93        | 67-131       |            |
| p-Isopropyltoluene          | ug/kg | 50          | 43.0       | 86        | 66-133       |            |
| sec-Butylbenzene            | ug/kg | 50          | 48.3       | 97        | 64-131       |            |
| Styrene                     | ug/kg | 50          | 44.6       | 89        | 70-126       |            |
| tert-Butylbenzene           | ug/kg | 50          | 44.9       | 90        | 46-124       |            |
| Tetrachloroethene           | ug/kg | 50          | 47.7       | 95        | 72-126       |            |
| Toluene                     | ug/kg | 50          | 45.9       | 92        | 71-121       |            |
| trans-1,2-Dichloroethene    | ug/kg | 50          | 50.7       | 101       | 69-123       |            |
| trans-1,3-Dichloropropene   | ug/kg | 50          | 53.8       | 108       | 66-114       |            |
| trans-1,4-Dichloro-2-butene | ug/kg | 200         | 198        | 99        | 61-124       |            |
| Trichloroethene             | ug/kg | 50          | 53.9       | 108       | 74-123       |            |
| Trichlorofluoromethane      | ug/kg | 50          | 63.2       | 126       | 72-146       |            |
| Vinyl acetate               | ug/kg | 200         | 223        | 112       | 57-131       |            |
| Vinyl chloride              | ug/kg | 50          | 57.5       | 115       | 55-128       |            |
| Xylene (Total)              | ug/kg | 150         | 135        | 90        | 66-124       |            |
| 4-Bromofluorobenzene (S)    | %.    |             |            | 102       | 56-144       |            |
| Dibromofluoromethane (S)    | %.    |             |            | 97        | 85-118       |            |
| Toluene-d8 (S)              | %.    |             |            | 101       | 71-128       |            |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Products

Pace Project No.: 50132394

QC Batch: MSV/83981

Analysis Method: EPA 8260

QC Batch Method: EPA 8260

Analysis Description: 8260 MSV 5030 Low

Associated Lab Samples: 50132394004

METHOD BLANK: 1430285

Matrix: Solid

Associated Lab Samples: 50132394004

| Parameter                   | Units | Blank Result | Reporting Limit | Analyzed       | Qualifiers |
|-----------------------------|-------|--------------|-----------------|----------------|------------|
| 1,1,1,2-Tetrachloroethane   | ug/kg | ND           | 5.0             | 11/19/15 15:29 |            |
| 1,1,1-Trichloroethane       | ug/kg | ND           | 5.0             | 11/19/15 15:29 |            |
| 1,1,2,2-Tetrachloroethane   | ug/kg | ND           | 5.0             | 11/19/15 15:29 |            |
| 1,1,2-Trichloroethane       | ug/kg | ND           | 5.0             | 11/19/15 15:29 |            |
| 1,1-Dichloroethane          | ug/kg | ND           | 5.0             | 11/19/15 15:29 |            |
| 1,1-Dichloroethene          | ug/kg | ND           | 5.0             | 11/19/15 15:29 |            |
| 1,1-Dichloropropene         | ug/kg | ND           | 5.0             | 11/19/15 15:29 |            |
| 1,2,3-Trichlorobenzene      | ug/kg | ND           | 5.0             | 11/19/15 15:29 |            |
| 1,2,3-Trichloropropane      | ug/kg | ND           | 5.0             | 11/19/15 15:29 |            |
| 1,2,4-Trichlorobenzene      | ug/kg | ND           | 5.0             | 11/19/15 15:29 |            |
| 1,2,4-Trimethylbenzene      | ug/kg | ND           | 5.0             | 11/19/15 15:29 |            |
| 1,2-Dibromoethane (EDB)     | ug/kg | ND           | 5.0             | 11/19/15 15:29 |            |
| 1,2-Dichlorobenzene         | ug/kg | ND           | 5.0             | 11/19/15 15:29 |            |
| 1,2-Dichloroethane          | ug/kg | ND           | 5.0             | 11/19/15 15:29 |            |
| 1,2-Dichloropropane         | ug/kg | ND           | 5.0             | 11/19/15 15:29 |            |
| 1,3,5-Trimethylbenzene      | ug/kg | ND           | 5.0             | 11/19/15 15:29 |            |
| 1,3-Dichlorobenzene         | ug/kg | ND           | 5.0             | 11/19/15 15:29 |            |
| 1,3-Dichloropropane         | ug/kg | ND           | 5.0             | 11/19/15 15:29 |            |
| 1,4-Dichlorobenzene         | ug/kg | ND           | 5.0             | 11/19/15 15:29 |            |
| 2,2-Dichloropropane         | ug/kg | ND           | 5.0             | 11/19/15 15:29 |            |
| 2-Butanone (MEK)            | ug/kg | ND           | 25.0            | 11/19/15 15:29 |            |
| 2-Chlorotoluene             | ug/kg | ND           | 5.0             | 11/19/15 15:29 |            |
| 2-Hexanone                  | ug/kg | ND           | 100             | 11/19/15 15:29 |            |
| 4-Chlorotoluene             | ug/kg | ND           | 5.0             | 11/19/15 15:29 |            |
| 4-Methyl-2-pentanone (MIBK) | ug/kg | ND           | 25.0            | 11/19/15 15:29 |            |
| Acetone                     | ug/kg | ND           | 100             | 11/19/15 15:29 |            |
| Acrolein                    | ug/kg | ND           | 100             | 11/19/15 15:29 |            |
| Acrylonitrile               | ug/kg | ND           | 100             | 11/19/15 15:29 |            |
| Benzene                     | ug/kg | ND           | 5.0             | 11/19/15 15:29 |            |
| Bromobenzene                | ug/kg | ND           | 5.0             | 11/19/15 15:29 |            |
| Bromochloromethane          | ug/kg | ND           | 5.0             | 11/19/15 15:29 |            |
| Bromodichloromethane        | ug/kg | ND           | 5.0             | 11/19/15 15:29 |            |
| Bromoform                   | ug/kg | ND           | 5.0             | 11/19/15 15:29 |            |
| Bromomethane                | ug/kg | ND           | 5.0             | 11/19/15 15:29 |            |
| Carbon disulfide            | ug/kg | ND           | 10.0            | 11/19/15 15:29 |            |
| Carbon tetrachloride        | ug/kg | ND           | 5.0             | 11/19/15 15:29 |            |
| Chlorobenzene               | ug/kg | ND           | 5.0             | 11/19/15 15:29 |            |
| Chloroethane                | ug/kg | ND           | 5.0             | 11/19/15 15:29 |            |
| Chloroform                  | ug/kg | ND           | 5.0             | 11/19/15 15:29 |            |
| Chloromethane               | ug/kg | ND           | 5.0             | 11/19/15 15:29 |            |
| cis-1,2-Dichloroethene      | ug/kg | ND           | 5.0             | 11/19/15 15:29 |            |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Products

Pace Project No.: 50132394

METHOD BLANK: 1430285

Matrix: Solid

Associated Lab Samples: 50132394004

| Parameter                   | Units | Blank Result | Reporting Limit | Analyzed       | Qualifiers |
|-----------------------------|-------|--------------|-----------------|----------------|------------|
| cis-1,3-Dichloropropene     | ug/kg | ND           | 5.0             | 11/19/15 15:29 |            |
| Dibromochloromethane        | ug/kg | ND           | 5.0             | 11/19/15 15:29 |            |
| Dibromomethane              | ug/kg | ND           | 5.0             | 11/19/15 15:29 |            |
| Dichlorodifluoromethane     | ug/kg | ND           | 5.0             | 11/19/15 15:29 |            |
| Ethyl methacrylate          | ug/kg | ND           | 100             | 11/19/15 15:29 |            |
| Ethylbenzene                | ug/kg | ND           | 5.0             | 11/19/15 15:29 |            |
| Hexachloro-1,3-butadiene    | ug/kg | ND           | 5.0             | 11/19/15 15:29 |            |
| Iodomethane                 | ug/kg | ND           | 100             | 11/19/15 15:29 |            |
| Isopropylbenzene (Cumene)   | ug/kg | ND           | 5.0             | 11/19/15 15:29 |            |
| Methyl-tert-butyl ether     | ug/kg | ND           | 5.0             | 11/19/15 15:29 |            |
| Methylene Chloride          | ug/kg | ND           | 20.0            | 11/19/15 15:29 |            |
| n-Butylbenzene              | ug/kg | ND           | 5.0             | 11/19/15 15:29 |            |
| n-Hexane                    | ug/kg | ND           | 5.0             | 11/19/15 15:29 |            |
| n-Propylbenzene             | ug/kg | ND           | 5.0             | 11/19/15 15:29 |            |
| Naphthalene                 | ug/kg | ND           | 5.0             | 11/19/15 15:29 |            |
| p-Isopropyltoluene          | ug/kg | ND           | 5.0             | 11/19/15 15:29 |            |
| sec-Butylbenzene            | ug/kg | ND           | 5.0             | 11/19/15 15:29 |            |
| Styrene                     | ug/kg | ND           | 5.0             | 11/19/15 15:29 |            |
| tert-Butylbenzene           | ug/kg | ND           | 5.0             | 11/19/15 15:29 |            |
| Tetrachloroethene           | ug/kg | ND           | 5.0             | 11/19/15 15:29 |            |
| Toluene                     | ug/kg | ND           | 5.0             | 11/19/15 15:29 |            |
| trans-1,2-Dichloroethene    | ug/kg | ND           | 5.0             | 11/19/15 15:29 |            |
| trans-1,3-Dichloropropene   | ug/kg | ND           | 5.0             | 11/19/15 15:29 |            |
| trans-1,4-Dichloro-2-butene | ug/kg | ND           | 100             | 11/19/15 15:29 |            |
| Trichloroethene             | ug/kg | ND           | 5.0             | 11/19/15 15:29 |            |
| Trichlorofluoromethane      | ug/kg | ND           | 5.0             | 11/19/15 15:29 |            |
| Vinyl acetate               | ug/kg | ND           | 100             | 11/19/15 15:29 |            |
| Vinyl chloride              | ug/kg | ND           | 5.0             | 11/19/15 15:29 |            |
| Xylene (Total)              | ug/kg | ND           | 10.0            | 11/19/15 15:29 |            |
| 4-Bromofluorobenzene (S)    | %     | 98           | 56-144          | 11/19/15 15:29 |            |
| Dibromofluoromethane (S)    | %     | 106          | 85-118          | 11/19/15 15:29 |            |
| Toluene-d8 (S)              | %     | 109          | 71-128          | 11/19/15 15:29 |            |

LABORATORY CONTROL SAMPLE: 1430286

| Parameter                 | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---------------------------|-------|-------------|------------|-----------|--------------|------------|
| 1,1,1,2-Tetrachloroethane | ug/kg | 50          | 51.9       | 104       | 62-123       |            |
| 1,1,1-Trichloroethane     | ug/kg | 50          | 50.1       | 100       | 70-123       |            |
| 1,1,2,2-Tetrachloroethane | ug/kg | 50          | 51.6       | 103       | 65-124       |            |
| 1,1,2-Trichloroethane     | ug/kg | 50          | 57.4       | 115       | 74-129       |            |
| 1,1-Dichloroethane        | ug/kg | 50          | 49.3       | 99        | 73-130       |            |
| 1,1-Dichloroethene        | ug/kg | 50          | 52.5       | 105       | 66-126       |            |
| 1,1-Dichloropropene       | ug/kg | 50          | 50.3       | 101       | 78-125       |            |
| 1,2,3-Trichlorobenzene    | ug/kg | 50          | 43.8       | 88        | 66-131       |            |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Products

Pace Project No.: 50132394

LABORATORY CONTROL SAMPLE: 1430286

| Parameter                   | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------------------------|-------|-------------|------------|-----------|--------------|------------|
| 1,2,3-Trichloropropane      | ug/kg | 50          | 50.9       | 102       | 44-157       |            |
| 1,2,4-Trichlorobenzene      | ug/kg | 50          | 42.9       | 86        | 68-129       |            |
| 1,2,4-Trimethylbenzene      | ug/kg | 50          | 44.8       | 90        | 67-126       |            |
| 1,2-Dibromoethane (EDB)     | ug/kg | 50          | 54.4       | 109       | 74-120       |            |
| 1,2-Dichlorobenzene         | ug/kg | 50          | 43.8       | 88        | 73-122       |            |
| 1,2-Dichloroethane          | ug/kg | 50          | 49.4       | 99        | 73-127       |            |
| 1,2-Dichloropropane         | ug/kg | 50          | 50.6       | 101       | 75-118       |            |
| 1,3,5-Trimethylbenzene      | ug/kg | 50          | 44.6       | 89        | 65-127       |            |
| 1,3-Dichlorobenzene         | ug/kg | 50          | 47.7       | 95        | 73-121       |            |
| 1,3-Dichloropropane         | ug/kg | 50          | 55.0       | 110       | 72-121       |            |
| 1,4-Dichlorobenzene         | ug/kg | 50          | 44.9       | 90        | 75-119       |            |
| 2,2-Dichloropropane         | ug/kg | 50          | 51.0       | 102       | 63-122       |            |
| 2-Butanone (MEK)            | ug/kg | 250         | 246        | 99        | 59-139       |            |
| 2-Chlorotoluene             | ug/kg | 50          | 46.5       | 93        | 72-121       |            |
| 2-Hexanone                  | ug/kg | 250         | 282        | 113       | 56-139       |            |
| 4-Chlorotoluene             | ug/kg | 50          | 48.2       | 96        | 75-123       |            |
| 4-Methyl-2-pentanone (MIBK) | ug/kg | 250         | 282        | 113       | 63-136       |            |
| Acetone                     | ug/kg | 250         | 288        | 115       | 46-156       |            |
| Acrolein                    | ug/kg | 1000        | 1880       | 188       | 47-200       |            |
| Acrylonitrile               | ug/kg | 200         | 204        | 102       | 67-130       |            |
| Benzene                     | ug/kg | 50          | 50.4       | 101       | 74-119       |            |
| Bromobenzene                | ug/kg | 50          | 42.7       | 85        | 69-129       |            |
| Bromochloromethane          | ug/kg | 50          | 49.8       | 100       | 67-129       |            |
| Bromodichloromethane        | ug/kg | 50          | 48.1       | 96        | 68-121       |            |
| Bromoform                   | ug/kg | 50          | 41.9       | 84        | 49-124       |            |
| Bromomethane                | ug/kg | 50          | 52.7       | 105       | 44-142       |            |
| Carbon disulfide            | ug/kg | 50          | 52.4       | 105       | 61-129       |            |
| Carbon tetrachloride        | ug/kg | 50          | 50.7       | 101       | 58-127       |            |
| Chlorobenzene               | ug/kg | 50          | 47.0       | 94        | 77-122       |            |
| Chloroethane                | ug/kg | 50          | 57.2       | 114       | 59-141       |            |
| Chloroform                  | ug/kg | 50          | 46.3       | 93        | 75-124       |            |
| Chloromethane               | ug/kg | 50          | 49.6       | 99        | 46-133       |            |
| cis-1,2-Dichloroethene      | ug/kg | 50          | 51.3       | 103       | 72-122       |            |
| cis-1,3-Dichloropropene     | ug/kg | 50          | 55.8       | 112       | 68-115       |            |
| Dibromochloromethane        | ug/kg | 50          | 54.3       | 109       | 60-121       |            |
| Dibromomethane              | ug/kg | 50          | 50.3       | 101       | 72-124       |            |
| Dichlorodifluoromethane     | ug/kg | 50          | 64.9       | 130       | 26-186       |            |
| Ethyl methacrylate          | ug/kg | 200         | 226        | 113       | 63-130       |            |
| Ethylbenzene                | ug/kg | 50          | 48.9       | 98        | 72-123       |            |
| Hexachloro-1,3-butadiene    | ug/kg | 50          | 42.2       | 84        | 55-139       |            |
| Iodomethane                 | ug/kg | 100         | 103        | 103       | 38-149       |            |
| Isopropylbenzene (Cumene)   | ug/kg | 50          | 47.7       | 95        | 65-123       |            |
| Methyl-tert-butyl ether     | ug/kg | 50          | 50.9       | 102       | 68-120       |            |
| Methylene Chloride          | ug/kg | 50          | 47.0       | 94        | 57-142       |            |
| n-Butylbenzene              | ug/kg | 50          | 45.1       | 90        | 68-125       |            |
| n-Hexane                    | ug/kg | 50          | 49.9       | 100       | 57-117       |            |
| n-Propylbenzene             | ug/kg | 50          | 49.9       | 100       | 68-122       |            |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Products

Pace Project No.: 50132394

LABORATORY CONTROL SAMPLE: 1430286

| Parameter                   | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------------------------|-------|-------------|------------|-----------|--------------|------------|
| Naphthalene                 | ug/kg | 50          | 44.6       | 89        | 67-131       |            |
| p-Isopropyltoluene          | ug/kg | 50          | 44.2       | 88        | 66-133       |            |
| sec-Butylbenzene            | ug/kg | 50          | 49.3       | 99        | 64-131       |            |
| Styrene                     | ug/kg | 50          | 46.2       | 92        | 70-126       |            |
| tert-Butylbenzene           | ug/kg | 50          | 45.7       | 91        | 46-124       |            |
| Tetrachloroethene           | ug/kg | 50          | 53.1       | 106       | 72-126       |            |
| Toluene                     | ug/kg | 50          | 49.3       | 99        | 71-121       |            |
| trans-1,2-Dichloroethene    | ug/kg | 50          | 50.9       | 102       | 69-123       |            |
| trans-1,3-Dichloropropene   | ug/kg | 50          | 58.1       | 116       | 66-114       | L3         |
| trans-1,4-Dichloro-2-butene | ug/kg | 200         | 200        | 100       | 61-124       |            |
| Trichloroethene             | ug/kg | 50          | 54.5       | 109       | 74-123       |            |
| Trichlorofluoromethane      | ug/kg | 50          | 65.5       | 131       | 72-146       |            |
| Vinyl acetate               | ug/kg | 200         | 232        | 116       | 57-131       |            |
| Vinyl chloride              | ug/kg | 50          | 55.5       | 111       | 55-128       |            |
| Xylene (Total)              | ug/kg | 150         | 139        | 93        | 66-124       |            |
| 4-Bromofluorobenzene (S)    | %.    |             |            | 96        | 56-144       |            |
| Dibromofluoromethane (S)    | %.    |             |            | 95        | 85-118       |            |
| Toluene-d8 (S)              | %.    |             |            | 106       | 71-128       |            |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Products

Pace Project No.: 50132394

QC Batch: OEXT/41513

Analysis Method: EPA 8270

QC Batch Method: EPA 3546

Analysis Description: 8270 Solid MSSV Microwave Short Spike

Associated Lab Samples: 50132394003, 50132394004

METHOD BLANK: 1425158

Matrix: Solid

Associated Lab Samples: 50132394003, 50132394004

| Parameter                       | Units | Blank Result | Reporting Limit | Analyzed       | Qualifiers |
|---------------------------------|-------|--------------|-----------------|----------------|------------|
| 2,4,5-Trichlorophenol           | ug/kg | ND           | 329             | 11/16/15 13:46 |            |
| 2,4,6-Trichlorophenol           | ug/kg | ND           | 329             | 11/16/15 13:46 |            |
| 2,4-Dichlorophenol              | ug/kg | ND           | 329             | 11/16/15 13:46 |            |
| 2,4-Dimethylphenol              | ug/kg | ND           | 329             | 11/16/15 13:46 |            |
| 2,4-Dinitrophenol               | ug/kg | ND           | 1590            | 11/16/15 13:46 |            |
| 2,4-Dinitrotoluene              | ug/kg | ND           | 329             | 11/16/15 13:46 |            |
| 2,6-Dinitrotoluene              | ug/kg | ND           | 329             | 11/16/15 13:46 |            |
| 2-Chloronaphthalene             | ug/kg | ND           | 329             | 11/16/15 13:46 |            |
| 2-Chlorophenol                  | ug/kg | ND           | 329             | 11/16/15 13:46 |            |
| 2-Methylnaphthalene             | ug/kg | ND           | 329             | 11/16/15 13:46 |            |
| 2-Methylphenol(o-Cresol)        | ug/kg | ND           | 329             | 11/16/15 13:46 |            |
| 2-Nitroaniline                  | ug/kg | ND           | 1590            | 11/16/15 13:46 |            |
| 2-Nitrophenol                   | ug/kg | ND           | 329             | 11/16/15 13:46 |            |
| 3&4-Methylphenol(m&p Cresol)    | ug/kg | ND           | 658             | 11/16/15 13:46 |            |
| 3,3'-Dichlorobenzidine          | ug/kg | ND           | 658             | 11/16/15 13:46 |            |
| 3-Nitroaniline                  | ug/kg | ND           | 1590            | 11/16/15 13:46 |            |
| 4,6-Dinitro-2-methylphenol      | ug/kg | ND           | 1590            | 11/16/15 13:46 |            |
| 4-Bromophenylphenyl ether       | ug/kg | ND           | 329             | 11/16/15 13:46 |            |
| 4-Chloro-3-methylphenol         | ug/kg | ND           | 658             | 11/16/15 13:46 |            |
| 4-Chloroaniline                 | ug/kg | ND           | 658             | 11/16/15 13:46 |            |
| 4-Chlorophenylphenyl ether      | ug/kg | ND           | 329             | 11/16/15 13:46 |            |
| 4-Nitroaniline                  | ug/kg | ND           | 1590            | 11/16/15 13:46 |            |
| 4-Nitrophenol                   | ug/kg | ND           | 1590            | 11/16/15 13:46 |            |
| Acenaphthene                    | ug/kg | ND           | 329             | 11/16/15 13:46 |            |
| Acenaphthylene                  | ug/kg | ND           | 329             | 11/16/15 13:46 |            |
| Anthracene                      | ug/kg | ND           | 329             | 11/16/15 13:46 |            |
| Benzo(a)anthracene              | ug/kg | ND           | 329             | 11/16/15 13:46 |            |
| Benzo(a)pyrene                  | ug/kg | ND           | 169             | 11/16/15 13:46 |            |
| Benzo(b)fluoranthene            | ug/kg | ND           | 329             | 11/16/15 13:46 |            |
| Benzo(g,h,i)perylene            | ug/kg | ND           | 329             | 11/16/15 13:46 |            |
| Benzo(k)fluoranthene            | ug/kg | ND           | 329             | 11/16/15 13:46 |            |
| Benzyl alcohol                  | ug/kg | ND           | 658             | 11/16/15 13:46 |            |
| bis(2-Chloroethoxy)methane      | ug/kg | ND           | 329             | 11/16/15 13:46 |            |
| bis(2-Chloroethyl) ether        | ug/kg | ND           | 329             | 11/16/15 13:46 |            |
| bis(2-Ethylhexyl)phthalate      | ug/kg | ND           | 329             | 11/16/15 13:46 |            |
| bis(2chloro1 methylethyl) ether | ug/kg | ND           | 329             | 11/16/15 13:46 |            |
| Butylbenzylphthalate            | ug/kg | ND           | 329             | 11/16/15 13:46 |            |
| Chrysene                        | ug/kg | ND           | 329             | 11/16/15 13:46 |            |
| Di-n-butylphthalate             | ug/kg | ND           | 329             | 11/16/15 13:46 |            |
| Di-n-octylphthalate             | ug/kg | ND           | 329             | 11/16/15 13:46 |            |
| Dibenz(a,h)anthracene           | ug/kg | ND           | 169             | 11/16/15 13:46 |            |

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Hoosier Wood Products

Pace Project No.: 50132394

METHOD BLANK: 1425158

Matrix: Solid

Associated Lab Samples: 50132394003, 50132394004

| Parameter                  | Units | Blank Result | Reporting Limit | Analyzed       | Qualifiers |
|----------------------------|-------|--------------|-----------------|----------------|------------|
| Dibenzofuran               | ug/kg | ND           | 329             | 11/16/15 13:46 |            |
| Diethylphthalate           | ug/kg | ND           | 329             | 11/16/15 13:46 |            |
| Dimethylphthalate          | ug/kg | ND           | 329             | 11/16/15 13:46 |            |
| Fluoranthene               | ug/kg | ND           | 329             | 11/16/15 13:46 |            |
| Fluorene                   | ug/kg | ND           | 329             | 11/16/15 13:46 |            |
| Hexachloro-1,3-butadiene   | ug/kg | ND           | 329             | 11/16/15 13:46 |            |
| Hexachlorobenzene          | ug/kg | ND           | 329             | 11/16/15 13:46 |            |
| Hexachlorocyclopentadiene  | ug/kg | ND           | 329             | 11/16/15 13:46 |            |
| Hexachloroethane           | ug/kg | ND           | 329             | 11/16/15 13:46 |            |
| Indeno(1,2,3-cd)pyrene     | ug/kg | ND           | 329             | 11/16/15 13:46 |            |
| Isophorone                 | ug/kg | ND           | 329             | 11/16/15 13:46 |            |
| N-Nitroso-di-n-propylamine | ug/kg | ND           | 329             | 11/16/15 13:46 |            |
| N-Nitrosodiphenylamine     | ug/kg | ND           | 329             | 11/16/15 13:46 |            |
| Naphthalene                | ug/kg | ND           | 329             | 11/16/15 13:46 |            |
| Nitrobenzene               | ug/kg | ND           | 329             | 11/16/15 13:46 |            |
| Pentachlorophenol          | ug/kg | ND           | 1590            | 11/16/15 13:46 |            |
| Phenanthrene               | ug/kg | ND           | 329             | 11/16/15 13:46 |            |
| Phenol                     | ug/kg | ND           | 329             | 11/16/15 13:46 |            |
| Pyrene                     | ug/kg | ND           | 329             | 11/16/15 13:46 |            |
| 2,4,6-Tribromophenol (S)   | %     | 81           | 16-122          | 11/16/15 13:46 |            |
| 2-Fluorobiphenyl (S)       | %     | 85           | 31-94           | 11/16/15 13:46 |            |
| 2-Fluorophenol (S)         | %     | 89           | 24-104          | 11/16/15 13:46 |            |
| Nitrobenzene-d5 (S)        | %     | 80           | 28-101          | 11/16/15 13:46 |            |
| p-Terphenyl-d14 (S)        | %     | 97           | 26-110          | 11/16/15 13:46 |            |
| Phenol-d5 (S)              | %     | 86           | 28-101          | 11/16/15 13:46 |            |

LABORATORY CONTROL SAMPLE: 1425159

| Parameter               | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-------------------------|-------|-------------|------------|-----------|--------------|------------|
| 2,4-Dinitrotoluene      | ug/kg | 3320        | 2840       | 85        | 39-103       |            |
| 2-Chlorophenol          | ug/kg | 3320        | 2710       | 82        | 38-96        |            |
| 2-Methylnaphthalene     | ug/kg | 3320        | 2480       | 75        | 36-94        |            |
| 4-Chloro-3-methylphenol | ug/kg | 3320        | 2950       | 89        | 38-104       |            |
| 4-Nitrophenol           | ug/kg | 3320        | 3260       | 98        | 34-104       |            |
| Acenaphthene            | ug/kg | 3320        | 2570       | 77        | 43-99        |            |
| Acenaphthylene          | ug/kg | 3320        | 2570       | 77        | 42-101       |            |
| Anthracene              | ug/kg | 3320        | 2470       | 74        | 46-107       |            |
| Benzo(a)anthracene      | ug/kg | 3320        | 2590       | 78        | 45-108       |            |
| Benzo(a)pyrene          | ug/kg | 3320        | 2670       | 81        | 47-113       |            |
| Benzo(b)fluoranthene    | ug/kg | 3320        | 2490       | 75        | 41-110       |            |
| Benzo(g,h,i)perylene    | ug/kg | 3320        | 2730       | 82        | 42-112       |            |
| Benzo(k)fluoranthene    | ug/kg | 3320        | 2690       | 81        | 44-107       |            |
| Chrysene                | ug/kg | 3320        | 2650       | 80        | 43-103       |            |
| Dibenz(a,h)anthracene   | ug/kg | 3320        | 2820       | 85        | 43-110       |            |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Products

Pace Project No.: 50132394

LABORATORY CONTROL SAMPLE: 1425159

| Parameter                  | Units | Spike<br>Conc. | LCS<br>Result | LCS<br>% Rec | % Rec<br>Limits | Qualifiers |
|----------------------------|-------|----------------|---------------|--------------|-----------------|------------|
| Fluoranthene               | ug/kg | 3320           | 2780          | 84           | 45-105          |            |
| Fluorene                   | ug/kg | 3320           | 2670          | 80           | 42-103          |            |
| Indeno(1,2,3-cd)pyrene     | ug/kg | 3320           | 2760          | 83           | 43-111          |            |
| N-Nitroso-di-n-propylamine | ug/kg | 3320           | 2500          | 75           | 37-96           |            |
| Naphthalene                | ug/kg | 3320           | 2680          | 81           | 44-100          |            |
| Pentachlorophenol          | ug/kg | 3320           | 2670          | 80           | 21-103          |            |
| Phenanthrene               | ug/kg | 3320           | 2470          | 74           | 44-104          |            |
| Phenol                     | ug/kg | 3320           | 2780          | 84           | 37-101          |            |
| Pyrene                     | ug/kg | 3320           | 2490          | 75           | 44-105          |            |
| 2,4,6-Tribromophenol (S)   | %.    |                |               | 90           | 16-122          |            |
| 2-Fluorobiphenyl (S)       | %.    |                |               | 85           | 31-94           |            |
| 2-Fluorophenol (S)         | %.    |                |               | 87           | 24-104          |            |
| Nitrobenzene-d5 (S)        | %.    |                |               | 82           | 28-101          |            |
| p-Terphenyl-d14 (S)        | %.    |                |               | 96           | 26-110          |            |
| Phenol-d5 (S)              | %.    |                |               | 86           | 28-101          |            |

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## QUALITY CONTROL DATA

Project: Hoosier Wood Products

Pace Project No.: 50132394

QC Batch: PMST/11384

Analysis Method: ASTM D2974-87

QC Batch Method: ASTM D2974-87

Analysis Description: Dry Weight/Percent Moisture

Associated Lab Samples: 50132394001, 50132394002, 50132394003, 50132394004

SAMPLE DUPLICATE: 1426412

| Parameter        | Units | 50131976001<br>Result | Dup<br>Result | RPD | Max<br>RPD | Qualifiers |
|------------------|-------|-----------------------|---------------|-----|------------|------------|
| Percent Moisture | %     | 60.0                  | 61.5          | 3   | 5          |            |

SAMPLE DUPLICATE: 1426413

| Parameter        | Units | 50131988005<br>Result | Dup<br>Result | RPD | Max<br>RPD | Qualifiers |
|------------------|-------|-----------------------|---------------|-----|------------|------------|
| Percent Moisture | %     | 10.8                  | 10.7          | 1   | 5          |            |

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## QUALIFIERS

Project: Hoosier Wood Products

Pace Project No.: 50132394

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### ANALYTE QUALIFIERS

- |    |   |
|----|---|
| 1d | RPD is outside of control limits due to sample non-homogeneity. FRW 11-23-15  |
| D3 | Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.  |
| L3 | Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias. |
| M3 | Matrix spike recovery was outside laboratory control limits due to matrix interferences.  |
| P6 | Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.                                       |
| P8 | Analyte was detected in the method blank. All associated samples had concentrations of at least ten times greater than the blank or were below the reporting limit.         |
| S2 | Surrogate recovery outside laboratory control limits due to matrix interferences (confirmed by similar results from sample re-analysis).                                    |

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Hoosier Wood Products

Pace Project No.: 50132394

| Lab ID      | Sample ID             | QC Batch Method | QC Batch   | Analytical Method | Analytical Batch |
|-------------|-----------------------|-----------------|------------|-------------------|------------------|
| 50132394001 | HWP-B1Exc-151112      | EPA 3050        | MPRP/18772 | EPA 6010          | ICP/22764        |
| 50132394002 | HWP-Trench-151113     | EPA 3050        | MPRP/18772 | EPA 6010          | ICP/22764        |
| 50132394003 | HWP-Exsoil-151113     | EPA 3010        | MPRP/18766 | EPA 6010          | ICP/22696        |
| 50132394004 | HWP-DPconcrete-151113 | EPA 3010        | MPRP/18767 | EPA 6010          | ICP/22699        |
| 50132394003 | HWP-Exsoil-151113     | EPA 7470        | MERP/7095  | EPA 7470          | MERC/8394        |
| 50132394004 | HWP-DPconcrete-151113 | EPA 7470        | MERP/7094  | EPA 7470          | MERC/8384        |
| 50132394001 | HWP-B1Exc-151112      | EPA 7471        | MERP/7131  | EPA 7471          | MERC/8382        |
| 50132394002 | HWP-Trench-151113     | EPA 7471        | MERP/7131  | EPA 7471          | MERC/8382        |
| 50132394003 | HWP-Exsoil-151113     | EPA 3546        | OEXT/41513 | EPA 8270          | MSSV/19536       |
| 50132394004 | HWP-DPconcrete-151113 | EPA 3546        | OEXT/41513 | EPA 8270          | MSSV/19536       |
| 50132394003 | HWP-Exsoil-151113     | EPA 8260        | MSV/83865  |                   |                  |
| 50132394004 | HWP-DPconcrete-151113 | EPA 8260        | MSV/83981  |                   |                  |
| 50132394001 | HWP-B1Exc-151112      | ASTM D2974-87   | PMST/11384 |                   |                  |
| 50132394002 | HWP-Trench-151113     | ASTM D2974-87   | PMST/11384 |                   |                  |
| 50132394003 | HWP-Exsoil-151113     | ASTM D2974-87   | PMST/11384 |                   |                  |
| 50132394004 | HWP-DPconcrete-151113 | ASTM D2974-87   | PMST/11384 |                   |                  |

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# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

|  |   |   |                       |  |    |
|--|---|---|-----------------------|--|----|
| <b>Section A</b><br>Required Client Information: |   | <b>Section B</b><br>Required Project Information: |                       | <b>Section C</b><br>Invoice Information: |    |
| Company: <b>Environmental Restoration LLC</b>    | Report To: <b>J. Behrens@ERLLC.com</b>          | Attention:  | Company Name:         | Page: <b>1957926</b>                     | of |
| Address: <b>16060 Canal St</b>                   | Copy To: <b>Khughes@gedi.com</b>                |   | Address:              |  |    |
| <b>South Holland IL</b>                          |   |   | Pace Quote Reference: |  |    |
| Email To: <b>J.Behrens@ERLLC.com</b>             | Purchase Order No.: <b>Hosier Wood Products</b> |   | Pace Project Manager: |  |    |
| Phone: <b>708 473 7124</b>                       | Project Name: <b>Hosier Wood Products</b>       |   | Pace Profile #:       |  |    |
| Requested Due Date/TAT:                          | Project Number:                                 |   |                       |  |    |

| Section D<br>Required Client Information |                               | Section E<br>Matrix Codes  |   | Section F<br>Sample Information |      | Section G<br>Analysis Information |      | Section H<br>Preservatives |      | Section I<br>Analysis Test |      | Section J<br>Requested Analysis Filtered (Y/N) |      | Section K<br>Residual Chlorine (Y/N) |      | Section L<br>Pace Project No. / Lab I.D. |      |
|--|-------------------------------|--|---|---------------------------------|------|-----------------------------------|------|----------------------------|------|----------------------------|------|--|------|--------------------------------------|------|--|------|
| ITEM #                                   | Matrix Codes<br>MATRIX / CODE | Drinking Water<br>Water<br>Waste Water<br>Product<br>Soil/Solid<br>Oil<br>Wipe<br>Air<br>Tissue<br>Other | DW<br>WT<br>WW<br>P<br>SL<br>OL<br>WP<br>AR<br>TS<br>OT | DATE                            | TIME | DATE                              | TIME | DATE                       | TIME | DATE                       | TIME | DATE   | TIME | DATE                                 | TIME | DATE                                     | TIME |
| 1  | HWP-B-2-EXC-15/11/12          |  |   | 11/12/15                        | 1025 |                                   |      |                            |      |                            |      |  |      |                                      |      |  | -001 |
| 2  | HWP-Trench-15/11/13           |  |   | 11/13/15                        | 1017 |                                   |      |                            |      |                            |      |  |      |                                      |      |  | -002 |
| 3  | HWP-EX Soil-15/11/13          |  |   | 11/13/15                        | 1020 |                                   |      |                            |      |                            |      |  |      |                                      |      |  | -003 |
| 4  | HWP-DP Concrete-15/11/13      |  |   | 11/13/15                        | 1000 |                                   |      |                            |      |                            |      |  |      |                                      |      |  | -004 |
| 5  |                               |  |   |                                 |      |                                   |      |                            |      |                            |      |  |      |                                      |      |  |      |
| 6  |                               |  |   |                                 |      |                                   |      |                            |      |                            |      |  |      |                                      |      |  |      |
| 7  |                               |  |   |                                 |      |                                   |      |                            |      |                            |      |  |      |                                      |      |  |      |
| 8  |                               |  |   |                                 |      |                                   |      |                            |      |                            |      |  |      |                                      |      |  |      |
| 9  |                               |  |   |                                 |      |                                   |      |                            |      |                            |      |  |      |                                      |      |  |      |
| 10                                       |                               |  |   |                                 |      |                                   |      |                            |      |                            |      |  |      |                                      |      |  |      |
| 11                                       |                               |  |   |                                 |      |                                   |      |                            |      |                            |      |  |      |                                      |      |  |      |
| 12                                       |                               |  |   |                                 |      |                                   |      |                            |      |                            |      |  |      |                                      |      |  |      |

# Sample Condition Upon Receipt

Pace Analytical

Client Name: ENV. RESTORATION Project # 50132394

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☒ Client ☐ Commercial ☐ Pace Other \_\_\_\_\_

Tracking #: \_\_\_\_\_

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☒ no

Date/Time 5035A kits placed in freezer

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ None ☐ Other \_\_\_\_\_

Thermometer 1 2 3 4 5 6 A B C D E F

Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 5.8 / 5.8 °C  
(Initial/Corrected)

Ice Visible in Sample Containers: ☐ yes ☒ no

Temp should be above freezing to 6°C

Comments:

Date and Initials of person examining contents: 11/13/15 88

|   |   |                                       |
|---|---|---------------------------------------|
| Are samples from West Virginia?   | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No   | 1.                                    |
| Document any containers out of temp.  |   |                                       |
| Chain of Custody Present:   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A            | 2.                                    |
| Chain of Custody Filled Out:  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A            | 3.                                    |
| Chain of Custody Relinquished:  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A            | 4.                                    |
| Sampler Name & Signature on COC:  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A            | 5.                                    |
| Short Hold Time Analysis (<72hr):   | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A            | 6.                                    |
| Rush Turn Around Time Requested:  | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A            | 7.                                    |
| Containers Intact:  | <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | 8. REC'D HWP-DC CONCRETE CRACKED      |
| Sample Labels match COC:<br>-Includes date/time/ID/Analysis   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A            | 9.                                    |
| All containers needing acid/base pres. have been checked?<br>exceptions: VOA, coliform, TOC, O&G                                | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A            | 10 (Circle) HNO3 H2SO4 NaOH NaOH/ZnAc |
| All containers needing preservation are found to be in compliance with EPA recommendation (<2, >9, >12) unless otherwise noted. |   |                                       |
| Residual Chlorine Check (SVOC 625 Pest/PCB 608)   |   | 11. Present Absent                    |
| Residual Chlorine Check (Total/Amenable/Free Cyanide)   |   | 12. Present Absent                    |
| Headspace in VOA Vials (>6mm):  | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A            | 13                                    |
| Headspace Wisconsin Sulfide   | <input type="checkbox"/> Yes <input type="checkbox"/> No  | 14                                    |
| Trip Blank Present:   | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A            | 15                                    |
| Trip Blank Custody Seals Present  | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A            |                                       |
| Project Manager Review  |   |                                       |
| Samples Arrived within Hold Time:   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A            | 15.                                   |
| Sufficient Volume:  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A            | 16.                                   |
| Correct Containers Used:  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A            | 17.                                   |

Client Notification/ Resolution:

Field Data Required? Y / N

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments/ Resolution:

Project Manager Review:

Date: 11/13/15



# Sample Container Count

CLIENT: ENV. RESTORATION

COC PAGE 1 of 1  
COC ID# 1937926

Project # 9132394

| Sample Line Item | DG9H | AG1U | WG9U | AG0U | R | 4/6 | BP2N | BP2U | BP2S | BP3N | BP3U | BP3S | AG3S | AG1H | BP3C | BP1U | SP5T | AG2U | BG1U | pH <2 | pH >9 | pH >12 |
|------------------|------|------|------|------|---|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|--------|
| 1                |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 2                |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 3                |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 4                |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 5                |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 6                |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 7                |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 8                |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 9                |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 10               |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 11               |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |
| 12               |      |      |      |      |   |     |      |      |      |      |      |      |      |      |      |      |      |      |      |       |       |        |

## Container Codes

|      |                                |      |                                    |      |                              |      |                               |
|------|--------------------------------|------|------------------------------------|------|------------------------------|------|-------------------------------|
| DG9H | 40mL HCL amber vial            | AG0U | 100mL unpreserved amber glass      | BP1N | 1 liter HNO3 plastic         | DG9P | 40mL TSP amber vial           |
| AG1U | 1liter unpreserved amber glass | AG1H | 1 liter HCL amber glass            | BP1S | 1 liter H2SO4 plastic        | DG9S | 40mL H2SO4 amber vial         |
| WG9U | 4oz clear soil jar             | AG1S | 1 liter H2SO4 amber glass          | BP1U | 1 liter unpreserved plastic  | DG9T | 40mL Na Thio amber vial       |
| R    | terra core kit                 | AG1T | 1 liter Na Thiosulfate amber glass | BP1Z | 1 liter NaOH, Zn, Ac         | DG9U | 40mL unpreserved amber vial   |
| BP2N | 500mL HNO3 plastic             | AG2N | 500mL HNO3 amber glass             | BP2A | 500mL NaOH, Asc Acid plastic | SP5T | 120mL Collform Na Thiosulfate |
| BP2U | 500mL unpreserved plastic      | AG2S | 500mL H2SO4 amber glass            | BP2O | 500mL NaOH plastic           | JGFU | 4oz unpreserved amber wide    |
| BP2S | 500mL H2SO4 plastic            | AG2U | 500mL unpreserved amber glass      | BP2Z | 500mL NaOH, Zn Ac            | U    | Summa Can                     |
| BP3N | 250mL HNO3 plastic             | AG3U | 250mL unpreserved amber glass      | AF   | Air Filter                   | VG9H | 40mL HCL clear vial           |
| BP3U | 250mL unpreserved plastic      | BG1H | 1 liter HCL clear glass            | BP3C | 250mL NaOH plastic           | VG9T | 40mL Na Thio. clear vial      |
| BP3S | 250mL H2SO4 plastic            | BG1S | 1 liter H2SO4 clear glass          | BP3Z | 250mL NaOH, Zn Ac plastic    | VG9U | 40mL unpreserved clear vial   |
| AG3S | 250mL H2SO4 glass amber        | BG1T | 1 liter Na Thiosulfate clear glass | C    | Air Cassettes                | VSG  | Headspace septa vial & HCL    |
| AG1S | 1 liter H2SO4 amber glass      | BG1U | 1 liter unpreserved glass          | DG9B | 40mL Na Bisulfate amber vial | WGFX | 4oz wide jar w/hexane wipe    |
| BP1U | 1 liter unpreserved plastic    | BP1A | 1 liter NaOH, Asc Acid plastic     | DG9M | 40mL MeOH clear vial         | ZPLC | Ziploc Bag                    |



March 15, 2016

Ms. Shelly Lam  
On-Scene Coordinator  
U.S. Environmental Protection Agency Region 5  
2525 North Shadeland Avenue  
Indianapolis, Indiana 46219

**Subject: Data Validation Report  
Hoosier Wood Preservers RV  
EPA Contract No. EP-S5-13-01  
Technical Direction Document No. S05-0001-1510-018  
Document Tracking No. 0596J**

Dear Ms. Lam:

Tetra Tech Inc. (Tetra Tech) is submitting this Data Validation Report for one soil and one solid sample collected at the Hoosier Wood Preservers RV site. The samples were collected on December 1, 2015, and were analyzed for dioxins and furans by EPA SW8290 by Microbac Laboratory, Inc., Indiana. Tetra Tech received the final data package on December 9, 2015.

Analytical data were evaluated in general accordance with the EPA Contract Laboratory Program *National Functional Guidelines for Chlorinated Dibenzo-p-Dioxins (CDDs) and Chlorinated Dibenzofurans (CDFs) Data Review* (September 2011).

The data are acceptable and usable as received.

If you have any questions regarding this data validation report, please call me at (509) 688-5957.

Sincerely,

A handwritten signature in blue ink that reads 'Deb Kutsal'.

Deb Kutsal  
START Chemist

Enclosure

cc: Kevin Scott, Tetra Tech Program Manager  
Josh Randall, Tetra Tech Project Manager  
Lucas Stamps, QEPI  
TDD File

**ATTACHMENT 1**

**DATA VALIDATION REPORT  
SDG 15L0077**

**DATA VALIDATION CHECKLIST – STAGE 2A**  
**EPA REGION 5 START CONTRACT**

|   |                                   |  |   |
|---|-----------------------------------|--|---|
| <b>Site Name</b>                          | Hoosier Wood Preservers RV        | <b>TDD No.</b>                                 | 0001-1510-018                           |
| <b>Document Tracking No.</b>              | 0596J                             | <b>Technical Reviewer (signature and date)</b> | <i>Harry N. Ellis III</i> 14 March 2016 |
| <b>Data Reviewer (signature and date)</b> | <i>Debbie Kuhl</i> March 13, 2016 | <b>Laboratory</b>                              | Microbac Laboratory, Inc. Indiana       |
| <b>Laboratory Report No.</b>              | 15L0077                           |  |   |
| <b>Analyses</b>                           | Dioxins and furans by EPA SW8290  |  |   |
| <b>Samples and Matrix</b>                 | One soil and one solid sample     |  |   |
| <b>Field Duplicate Pairs</b>              | None                              |  |   |
| <b>Field Blanks</b>                       | None                              |  |   |

**INTRODUCTION**

This checklist summarizes the Stage 2A validation performed on the subject laboratory report, in accordance with the U.S. Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the EPA Contract Laboratory Program *National Functional Guidelines for Chlorinated Dibenzo-p-Dioxins (CDDs) and Chlorinated Dibenzofurans (CDFs) Data Review* (September 2011), as well as the above referenced method.

**OVERALL EVALUATION**

The data are acceptable and usable as received.

**Data completeness:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| Y               |                  |

**Sample preservation, receipt, and holding times:**

| Within Criteria | Exceedance/Notes   |
|-----------------|--|
| N               | Sample date on sample labels (12/11/2015) and COC form (12-01-15) do not match. Samples were received at the laboratory on December 2, 2015, so the sample date on the COC form was used to process the samples. |



**DATA VALIDATION CHECKLIST – STAGE 2A  
EPA REGION 5 START CONTRACT**

**Method blanks:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| Y               |                  |

**Field blanks:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| NA              |                  |

**System monitoring compounds (surrogates and labeled compounds):**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| Y               |                  |

**MS/MSD:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| NA              |                  |

**Laboratory duplicates:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| NA              |                  |

**Field duplicates:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| NA              |                  |



**DATA VALIDATION CHECKLIST – STAGE 2A  
EPA REGION 5 START CONTRACT**

**LCS/LCSDs:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| Y               |                  |

**Sample dilutions:**

| Within Criteria | Exceedance/Notes   |
|-----------------|--|
| Y               | Sample HWP-FTBSoil-151201 was analyzed at a 100x dilution and sample HWP-FTBCon-151201 was analyzed at a 10x dilution to bring target analytes into calibration range. |

**Re-extraction and reanalysis:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| NA              |                  |

**MDLs/RLs:**

| Within Criteria | Exceedance/Notes   |
|-----------------|--|
| Y               | Detected results below laboratory RLs were qualified as estimated (J). |

**Tentatively identified compounds:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| NA              |                  |

**Other (specify):**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| Y               |                  |



## DATA VALIDATION CHECKLIST – STAGE 2A EPA REGION 5 START CONTRACT

### Overall Qualifications:

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

|    |   |
|----|---|
| J  | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.  |
| J+ | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.   |
| J- | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.  |
| NJ | The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated value is the approximate concentration of the analyte in the sample.                    |
| R  | The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample.                                 |
| U  | The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).  |
| UJ | The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria. |

**Hoosier Wood Preservers RV Soil and Solid Sample Results**  
**Microbac Laboratory, Inc. Indiana, 15L0077**

| Sample ID          | Lab ID  | Matrix | Parameter                                  | Lab Result | Units | Lab Qual | PQL  | Val. Result | Val. Qual |
|--------------------|---------|--------|--|------------|-------|----------|------|-------------|-----------|
| HWP-FTBSoil-151201 | 8569001 | Soil   | 2,3,7,8-Tetrachlorodibenzo-p-dioxin        | 44.8       | PG/G  | U        | 93.7 | 93.7        | U         |
| HWP-FTBSoil-151201 | 8569001 | Soil   | 1,2,3,7,8-Pentachlorodibenzo-p-dioxin      | 84.1       | PG/G  | J        | 468  | 84.1        | J         |
| HWP-FTBSoil-151201 | 8569001 | Soil   | 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin     | 238        | PG/G  | U        | 468  | 468         | U         |
| HWP-FTBSoil-151201 | 8569001 | Soil   | 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin     | 5370       | PG/G  |          | 468  | 5370        |           |
| HWP-FTBSoil-151201 | 8569001 | Soil   | 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin     | 398        | PG/G  | J        | 468  | 398         | J         |
| HWP-FTBSoil-151201 | 8569001 | Soil   | 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin  | 101000     | PG/G  |          | 468  | 101000      |           |
| HWP-FTBSoil-151201 | 8569001 | Soil   | 1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin | 491000     | PG/G  |          | 937  | 491000      |           |
| HWP-FTBSoil-151201 | 8569001 | Soil   | 2,3,7,8-Tetrachlorodibenzofuran            | 76.2       | PG/G  | U        | 93.7 | 93.7        | U         |
| HWP-FTBSoil-151201 | 8569001 | Soil   | 1,2,3,7,8-Pentachlorodibenzofuran          | 69.5       | PG/G  | U        | 468  | 468         | U         |
| HWP-FTBSoil-151201 | 8569001 | Soil   | 2,3,4,7,8-Pentachlorodibenzofuran          | 236        | PG/G  | J        | 468  | 236         | J         |
| HWP-FTBSoil-151201 | 8569001 | Soil   | 1,2,3,4,7,8-Hexachlorodibenzofuran         | 404        | PG/G  | J        | 468  | 404         | J         |
| HWP-FTBSoil-151201 | 8569001 | Soil   | 1,2,3,6,7,8-Hexachlorodibenzofuran         | 324        | PG/G  | J        | 468  | 324         | J         |
| HWP-FTBSoil-151201 | 8569001 | Soil   | 2,3,4,6,7,8-Hexachlorodibenzofuran         | 862        | PG/G  |          | 468  | 862         |           |
| HWP-FTBSoil-151201 | 8569001 | Soil   | 1,2,3,7,8,9-Hexachlorodibenzofuran         | 348        | PG/G  | U        | 468  | 468         | U         |
| HWP-FTBSoil-151201 | 8569001 | Soil   | 1,2,3,4,6,7,8-Heptachlorodibenzofuran      | 16500      | PG/G  |          | 468  | 16500       |           |
| HWP-FTBSoil-151201 | 8569001 | Soil   | 1,2,3,4,7,8,9-Heptachlorodibenzofuran      | 673        | PG/G  |          | 468  | 673         |           |
| HWP-FTBSoil-151201 | 8569001 | Soil   | 1,2,3,4,6,7,8,9-Octachlorodibenzofuran     | 45800      | PG/G  |          | 937  | 45800       |           |
| HWP-FTBSoil-151201 | 8569001 | Soil   | Total Tetrachlorodibenzo-p-dioxin          | 44.8       | PG/G  | U        | 93.7 | 93.7        | U         |
| HWP-FTBSoil-151201 | 8569001 | Soil   | Total Pentachlorodibenzo-p-dioxin          | 84.1       | PG/G  | J        | 468  | 84.1        | J         |
| HWP-FTBSoil-151201 | 8569001 | Soil   | Total Hexachlorodibenzo-p-dioxin           | 11800      | PG/G  |          | 468  | 11800       |           |
| HWP-FTBSoil-151201 | 8569001 | Soil   | Total Heptachlorodibenzo-p-dioxin          | 165000     | PG/G  |          | 468  | 165000      |           |
| HWP-FTBSoil-151201 | 8569001 | Soil   | Total Tetrachlorodibenzofuran              | 76.2       | PG/G  | U        | 93.7 | 93.7        | U         |
| HWP-FTBSoil-151201 | 8569001 | Soil   | Total Pentachlorodibenzofuran              | 4480       | PG/G  |          | 468  | 4480        |           |
| HWP-FTBSoil-151201 | 8569001 | Soil   | Total Hexachlorodibenzofuran               | 37500      | PG/G  |          | 468  | 37500       |           |
| HWP-FTBSoil-151201 | 8569001 | Soil   | Total Heptachlorodibenzofuran              | 75500      | PG/G  |          | 468  | 75500       |           |
| HWP-FTBCon-151201  | 8569002 | Solid  | 2,3,7,8-Tetrachlorodibenzo-p-dioxin        | 3.24       | PG/G  | U        | 9.59 | 9.59        | U         |
| HWP-FTBCon-151201  | 8569002 | Solid  | 1,2,3,7,8-Pentachlorodibenzo-p-dioxin      | 8.35       | PG/G  | J        | 47.9 | 8.35        | J         |
| HWP-FTBCon-151201  | 8569002 | Solid  | 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin     | 18.9       | PG/G  | J        | 47.9 | 18.9        | J         |
| HWP-FTBCon-151201  | 8569002 | Solid  | 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin     | 325        | PG/G  |          | 47.9 | 325         |           |
| HWP-FTBCon-151201  | 8569002 | Solid  | 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin     | 34.6       | PG/G  | JK       | 47.9 | 34.6        | J         |
| HWP-FTBCon-151201  | 8569002 | Solid  | 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin  | 8840       | PG/G  |          | 47.9 | 8840        |           |
| HWP-FTBCon-151201  | 8569002 | Solid  | 1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin | 81200      | PG/G  |          | 95.9 | 81200       |           |
| HWP-FTBCon-151201  | 8569002 | Solid  | 2,3,7,8-Tetrachlorodibenzofuran            | 6.35       | PG/G  | U        | 9.59 | 9.59        | U         |
| HWP-FTBCon-151201  | 8569002 | Solid  | 1,2,3,7,8-Pentachlorodibenzofuran          | 5.85       | PG/G  | JK       | 47.9 | 5.85        | J         |
| HWP-FTBCon-151201  | 8569002 | Solid  | 2,3,4,7,8-Pentachlorodibenzofuran          | 14.6       | PG/G  | J        | 47.9 | 14.6        | J         |
| HWP-FTBCon-151201  | 8569002 | Solid  | 1,2,3,4,7,8-Hexachlorodibenzofuran         | 39.3       | PG/G  | J        | 47.9 | 39.3        | J         |
| HWP-FTBCon-151201  | 8569002 | Solid  | 1,2,3,6,7,8-Hexachlorodibenzofuran         | 17.1       | PG/G  | J        | 47.9 | 17.1        | J         |
| HWP-FTBCon-151201  | 8569002 | Solid  | 2,3,4,6,7,8-Hexachlorodibenzofuran         | 47.1       | PG/G  | J        | 47.9 | 47.1        | J         |
| HWP-FTBCon-151201  | 8569002 | Solid  | 1,2,3,7,8,9-Hexachlorodibenzofuran         | 15.9       | PG/G  | U        | 47.9 | 47.9        | U         |
| HWP-FTBCon-151201  | 8569002 | Solid  | 1,2,3,4,6,7,8-Heptachlorodibenzofuran      | 1200       | PG/G  |          | 47.9 | 1200        |           |
| HWP-FTBCon-151201  | 8569002 | Solid  | 1,2,3,4,7,8,9-Heptachlorodibenzofuran      | 44.4       | PG/G  | J        | 47.9 | 44.4        | J         |
| HWP-FTBCon-151201  | 8569002 | Solid  | 1,2,3,4,6,7,8,9-Octachlorodibenzofuran     | 5100       | PG/G  |          | 95.9 | 5100        |           |
| HWP-FTBCon-151201  | 8569002 | Solid  | Total Tetrachlorodibenzo-p-dioxin          | 3.24       | PG/G  | U        | 9.59 | 9.59        | U         |
| HWP-FTBCon-151201  | 8569002 | Solid  | Total Pentachlorodibenzo-p-dioxin          | 30.9       | PG/G  | J        | 47.9 | 30.9        | J         |
| HWP-FTBCon-151201  | 8569002 | Solid  | Total Hexachlorodibenzo-p-dioxin           | 859        | PG/G  |          | 47.9 | 859         |           |
| HWP-FTBCon-151201  | 8569002 | Solid  | Total Heptachlorodibenzo-p-dioxin          | 14600      | PG/G  |          | 47.9 | 14600       |           |
| HWP-FTBCon-151201  | 8569002 | Solid  | Total Tetrachlorodibenzofuran              | 6.35       | PG/G  | U        | 9.59 | 9.59        | U         |
| HWP-FTBCon-151201  | 8569002 | Solid  | Total Pentachlorodibenzofuran              | 246        | PG/G  |          | 47.9 | 246         |           |
| HWP-FTBCon-151201  | 8569002 | Solid  | Total Hexachlorodibenzofuran               | 2290       | PG/G  |          | 47.9 | 2290        |           |
| HWP-FTBCon-151201  | 8569002 | Solid  | Total Heptachlorodibenzofuran              | 5600       | PG/G  |          | 47.9 | 5600        |           |





March 16, 2016

Ms. Shelly Lam  
On-Scene Coordinator  
U.S. Environmental Protection Agency Region 5  
2525 North Shadeland Avenue  
Indianapolis, Indiana 46219

**Subject: Data Validation Report  
Hoosier Wood Preservers RV  
EPA Contract No. EP-S5-13-01  
Technical Direction Document No. S05-0001-1510-018  
Document Tracking No. 0596I**

Dear Ms. Lam:

Tetra Tech Inc. (Tetra Tech) is submitting this Data Validation Report for one soil sample collected at the Hoosier Wood Preservers RV site. The sample was collected on December 8, 2015, and was analyzed for Resource Conservation and Recovery Act 8 metals by Pace Analytical Services, Inc. Tetra Tech received the final data package on December 15, 2015.

Analytical data were evaluated in general accordance with the EPA *Contract Laboratory Program National Functional Guidelines for Superfund Inorganic Data Review* (August 2014).

The data are acceptable and usable as received.

If you have any questions regarding this data validation report, please call me at (509) 688-5957.

Sincerely,

A handwritten signature in blue ink that reads 'Deb Kutsal'.

Deb Kutsal  
START Chemist

Enclosure

cc: Kevin Scott, Tetra Tech Program Manager  
Josh Randall, Tetra Tech Project Manager  
Lucas Stamps, QEPI  
TDD File

**ATTACHMENT 1**

**DATA VALIDATION REPORT  
SDG 50134102**

**DATA VALIDATION CHECKLIST – STAGE 2A  
EPA REGION 5 START CONTRACT**

|   |  |  |   |
|---|--|--|---|
| <b>Site Name</b>                          | Hoosier Wood Preservers RV   | <b>TDD No.</b>                                 | 0001-1510-018                           |
| <b>Document Tracking No.</b>              | 0596I  | <b>Technical Reviewer (signature and date)</b> | <i>Harry N. Ellis III</i> 14 March 2016 |
| <b>Data Reviewer (signature and date)</b> | <i>Debbie Kuhl</i> March 13, 2016                                  | <b>Laboratory</b>                              | Pace Analytical Services, Inc.          |
| <b>Laboratory Report No.</b>              | 50134102   |  |   |
| <b>Analyses</b>                           | Resource Conservation and Recovery Act 8 metals by EPA SW6010/7471 |  |   |
| <b>Samples and Matrix</b>                 | One soil sample  |  |   |
| <b>Field Duplicate Pairs</b>              | None   |  |   |
| <b>Field Blanks</b>                       | None   |  |   |

**INTRODUCTION**

This checklist summarizes the Stage 2A validation performed on the subject laboratory report, in accordance with the U.S. Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the EPA *Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review* (August 2014).

**OVERALL EVALUATION**

The data are acceptable and usable as qualified.

**Data completeness:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| Y               |                  |

**Sample preservation, receipt, and holding times:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| Y               |                  |



## DATA VALIDATION CHECKLIST – STAGE 2A EPA REGION 5 START CONTRACT

### Method blanks:

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| Y               |                  |

### Field blanks:

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| NA              |                  |

### System monitoring compounds (surrogates and labeled compounds):

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| NA              |                  |

### MS/MSD:

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| Y               |                  |

### Laboratory duplicates:

| Within Criteria | Exceedance/Notes   |
|-----------------|--|
| N               | Percent moisture RPD exceeded control limit. Percent moisture data are not typically qualified because of QC excursions, therefore, no action was taken. |

### Field duplicates:

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| NA              |                  |



**DATA VALIDATION CHECKLIST – STAGE 2A  
EPA REGION 5 START CONTRACT**

**LCS/LCSDs:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| Y               |                  |

**Sample dilutions:**

| Within Criteria | Exceedance/Notes   |
|-----------------|--|
| Y               | Sample HWP-FTB bottom-151208 was analyzed at a 2x dilution for arsenic and a 10x dilution for cadmium. |

**Re-extraction and reanalysis:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| NA              |                  |

**MDLs/RLs:**

| Within Criteria | Exceedance/Notes                              |
|-----------------|---|
| Y               | Detected results below RLs were not reported. |

**Tentatively identified compounds:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| NA              |                  |

**Other (specify):**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| NA              |                  |



## DATA VALIDATION CHECKLIST – STAGE 2A EPA REGION 5 START CONTRACT

### Overall Qualifications:

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

|    |   |
|----|---|
| J  | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.  |
| J+ | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.   |
| J- | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.  |
| NJ | The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated value is the approximate concentration of the analyte in the sample.                    |
| R  | The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample.                                 |
| U  | The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).  |
| UJ | The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria. |

**Hoosier Wood Preservers RV Soil Sample Results**  
**Pace Analytical Services, Inc., 50134102**

| Sample ID             | Analyte          | Lab Sample ID | Matrix | Reporting Limit | Units      | Lab Result | Lab Qual | Val. Result | Val. Qual |
|-----------------------|------------------|---------------|--------|-----------------|------------|------------|----------|-------------|-----------|
| HWP-FTB bottom-151208 | Percent Moisture | 50134102001   | Soil   |                 | 0.1 %      | 8.8        |          | 8.8         |           |
| HWP-FTB bottom-151208 | Arsenic          | 50134102001   | Soil   |                 | 2 mg/kg    | 2670       |          | 2670        |           |
| HWP-FTB bottom-151208 | Barium           | 50134102001   | Soil   |                 | 1 mg/kg    | 27.4       |          | 27.4        |           |
| HWP-FTB bottom-151208 | Cadmium          | 50134102001   | Soil   |                 | 5.1 mg/kg  | U          |          | 5.1 U       |           |
| HWP-FTB bottom-151208 | Chromium         | 50134102001   | Soil   |                 | 1 mg/kg    | 706        |          | 706         |           |
| HWP-FTB bottom-151208 | Lead             | 50134102001   | Soil   |                 | 1 mg/kg    | 13         |          | 13          |           |
| HWP-FTB bottom-151208 | Selenium         | 50134102001   | Soil   |                 | 1 mg/kg    | U          |          | 1 U         |           |
| HWP-FTB bottom-151208 | Silver           | 50134102001   | Soil   |                 | 0.51 mg/kg | U          |          | 0.51 U      |           |
| HWP-FTB bottom-151208 | Mercury          | 50134102001   | Soil   |                 | 0.22 mg/kg | 0.28       |          | 0.28        |           |



March 16, 2016

Ms. Shelly Lam  
On-Scene Coordinator  
U.S. Environmental Protection Agency Region 5  
2525 North Shadeland Avenue  
Indianapolis, Indiana 46219

**Subject: Data Validation Report  
Hoosier Wood Preservers RV  
EPA Contract No. EP-S5-13-01  
Technical Direction Document No. S05-0001-1510-018  
Document Tracking No. 0596H**

Dear Ms. Lam:

Tetra Tech Inc. (Tetra Tech) is submitting this Data Validation Report for one soil sample collected at the Hoosier Wood Preservers RV site. The sample was collected on December 7, 2015, and was analyzed for Toxicity Characteristic Leaching Procedure (TCLP) Resource Conservation and Recovery Act 8 metals, volatile organic compounds (VOC) and TCLP VOCs, and semivolatile organic compounds (SVOC) and TCLP SVOCs by Pace Analytical Services, Inc. Tetra Tech received the final data package on December 10, 2015.

Analytical data were evaluated in general accordance with the EPA *Contract Laboratory Program (CLP) National Functional Guidelines (NFG) for Superfund Organic Methods Data Review* (August 2014) and EPA *Contract Laboratory Program (CLP) National Functional Guidelines (NFG) for Superfund Inorganic Data Review* (August 2014).

One nondetected result was rejected. The rest of the data are acceptable and usable as qualified.

If you have any questions regarding this data validation report, please call me at (509) 688-5957.

Sincerely,

A handwritten signature in blue ink that reads 'Deb Kutsal'.

Deb Kutsal  
START Chemist

Enclosure

cc: Kevin Scott, Tetra Tech Program Manager  
Josh Randall, Tetra Tech Project Manager  
Lucas Stamps, QEPI  
TDD File



**ATTACHMENT 1**

**DATA VALIDATION REPORT  
SDG 50133913**

**DATA VALIDATION CHECKLIST – STAGE 2A  
EPA REGION 5 START CONTRACT**

|   |  |  |   |
|---|--|--|---|
| <b>Site Name</b>                          | Hoosier Wood Preservers RV   | <b>TDD No.</b>                                 | 0001-1510-018                           |
| <b>Document Tracking No.</b>              | 0596H  | <b>Technical Reviewer (signature and date)</b> | <i>Harry N. Ellis III</i> 14 March 2016 |
| <b>Data Reviewer (signature and date)</b> | <i>Debbie Kuhl</i> March 11, 2016  | <b>Laboratory</b>                              | Pace Analytical Services, Inc.          |
| <b>Laboratory Report No.</b>              | 50133913   |  |   |
| <b>Analyses</b>                           | Toxicity Characteristic Leaching Procedure (TCLP) metals by EPA SW1311/SW6010/SW7470, volatile organic compounds (VOC) and TCLP VOCs by EPA SW1311/SW8260, and semivolatile organic compounds (SVOC) and TCLP SVOCs by EPA SW1311/SW8270 |  |   |
| <b>Samples and Matrix</b>                 | One soil sample  |  |   |
| <b>Field Duplicate Pairs</b>              | None   |  |   |
| <b>Field Blanks</b>                       | None   |  |   |

**INTRODUCTION**

This checklist summarizes the Stage 2A validation performed on the subject laboratory report, in accordance with the U.S. Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the EPA *Contract Laboratory Program (CLP) National Functional Guidelines (NFG) for Superfund Organic Methods Data Review* (August 2014) and the EPA *CLP NFG for Inorganic Superfund Data Review* (August 2014).

**OVERALL EVALUATION**

The data are acceptable and usable as qualified with the exception of a non-detect 2,4-dinitrotoluene result for sample HWP-FTB treated-151207, which was rejected due to a low %R from the MS and/or MSD.

**Data completeness:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| Y               |                  |



**DATA VALIDATION CHECKLIST – STAGE 2A**  
**EPA REGION 5 START CONTRACT**

**Sample preservation, receipt, and holding times:**

| Within Criteria | Exceedance/Notes  |
|-----------------|---|
| N               | <p>The sample arrived at the laboratory at a temperature of 0.7 degrees Celsius (°C), below the recommended 4±2 °C. However, sample containers were intact and in good condition, so no data were qualified.</p> <p>The laboratory may have misread the sample ID as HVP-FTB treated-151207. However, it appears that it should be HWP-FTB treated-151207. The latter has been incorporated into this checklist and attachment.</p> |

**Method blanks:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| Y               |                  |

**Field blanks:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| NA              |                  |

**System monitoring compounds (surrogates and labeled compounds):**

| Within Criteria | Exceedance/Notes  |
|-----------------|---|
| N               | %Rs for TCLP VOC surrogates toluene-d8 and 4-bromofluorobenzene from sample HWP-FTB treated-151207 were below control criteria. All TCLP VOC results (none were detected) were qualified as estimated and possibly biased low (UJ). |

## DATA VALIDATION CHECKLIST – STAGE 2A EPA REGION 5 START CONTRACT

### MS/MSD:

| Within Criteria | Exceedance/Notes  |
|-----------------|---|
| N               | <p><b>TCLP VOCs.</b> %R for vinyl chloride from MS exceeded the upper control limit. No vinyl chloride was detected in parent sample HWP-FTB treated-151207, however, so no data were qualified.</p> <p><b>SVOCs.</b> %Rs for 2,4-dinitrotoluene and pentachlorophenol from MS and/or MSD are below lower control limits. The amount of pentachlorophenol in parent sample HWP-FTB treated-151207 was greater than 4x the amount spiked, however, so the pentachlorophenol result was not qualified. The non-detect 2,4-dinitrotoluene result for parent sample HWP-FTB treated-151207 was rejected (R). RPDs for most SVOCs exceeded the control limit; however, none of these SVOCs were detected, so no qualification was required.</p> <p><b>TCLP SVOCs.</b> %Rs for all TCLP SVOCs, except for 3&amp;4-methylphenol and pyridine, from the MS were below lower control limits. None of the affected SVOCs were detected in parent sample HWP-FTB treated-151207. All affected non-detect results were qualified as estimated and possibly biased low (UJ).</p> |

### Laboratory duplicates:

| Within Criteria | Exceedance/Notes  |
|-----------------|---|
| N               | Percent moisture RPD slightly exceeded control limit. Percent moisture data are not typically qualified because of QC excursions, therefore, no action was taken. |

### Field duplicates:

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| NA              |                  |

### LCS/LCSDs:

| Within Criteria | Exceedance/Notes   |
|-----------------|--|
| N               | %R for 2,4-dinitrotoluene from the SVOC LCS was below lower control limit. The associated 2,4-dinitrotoluene sample result was rejected because of a low %R from the MSD, however, so no further qualification was required. |



**DATA VALIDATION CHECKLIST – STAGE 2A**  
**EPA REGION 5 START CONTRACT**

**Sample dilutions:**

| Within Criteria | Exceedance/Notes   |
|-----------------|--|
| Y               | HWP-FTB treated-151207 was diluted 20x for SVOC pentachlorophenol, to bring it into calibration range. |

**Re-extraction and reanalysis:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| NA              |                  |

**MDLs/RLs:**

| Within Criteria | Exceedance/Notes                              |
|-----------------|---|
| Y               | Detected results below RLs were not reported. |

**Tentatively identified compounds:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| NA              |                  |

**Other (specify):**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| NA              |                  |

## DATA VALIDATION CHECKLIST – STAGE 2A EPA REGION 5 START CONTRACT

### Overall Qualifications:

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

|    |   |
|----|---|
| J  | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.  |
| J+ | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.   |
| J- | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.  |
| NJ | The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated value is the approximate concentration of the analyte in the sample.                    |
| R  | The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample.                                 |
| U  | The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).  |
| UJ | The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria. |

**Hoosier Wood Preservers RV Soil Sample Results**  
**Pace Analytical Services, Inc., 50133913**

| Sample ID              | Analyte                     | Lab Sample ID | Matrix | Reporting Limit | Units      | Lab Result | Lab Qual | Val. Result | Val. Qual |
|------------------------|-----------------------------|---------------|--------|-----------------|------------|------------|----------|-------------|-----------|
| HWP-FTB treated-151207 | Percent Moisture            | 50133913001   | Soil   |                 | 0.1 %      | 9.1        |          | 9.1         |           |
| HWP-FTB treated-151208 | Arsenic                     | 50133913001   | Soil   |                 | 0.1 mg/L   | U          |          | 0.1 U       |           |
| HWP-FTB treated-151209 | Barium                      | 50133913001   | Soil   |                 | 5 mg/L     | U          |          | 5 U         |           |
| HWP-FTB treated-151210 | Cadmium                     | 50133913001   | Soil   |                 | 0.05 mg/L  | U          |          | 0.05 U      |           |
| HWP-FTB treated-151211 | Chromium                    | 50133913001   | Soil   |                 | 0.1 mg/L   | U          |          | 0.1 U       |           |
| HWP-FTB treated-151212 | Lead                        | 50133913001   | Soil   |                 | 0.1 mg/L   | U          |          | 0.1 U       |           |
| HWP-FTB treated-151213 | Selenium                    | 50133913001   | Soil   |                 | 0.1 mg/L   | U          |          | 0.1 U       |           |
| HWP-FTB treated-151214 | Silver                      | 50133913001   | Soil   |                 | 0.1 mg/L   | U          |          | 0.1 U       |           |
| HWP-FTB treated-151215 | Mercury                     | 50133913001   | Soil   |                 | 0.002 mg/L | U          |          | 0.002 U     |           |
| HWP-FTB treated-151216 | 1,1,1,2-Tetrachloroethane   | 50133913001   | Soil   |                 | 5.5 ug/kg  | U          |          | 5.5 U       |           |
| HWP-FTB treated-151217 | 1,1,1-Trichloroethane       | 50133913001   | Soil   |                 | 5.5 ug/kg  | U          |          | 5.5 U       |           |
| HWP-FTB treated-151218 | 1,1,2,2-Tetrachloroethane   | 50133913001   | Soil   |                 | 5.5 ug/kg  | U          |          | 5.5 U       |           |
| HWP-FTB treated-151219 | 1,1,2-Trichloroethane       | 50133913001   | Soil   |                 | 5.5 ug/kg  | U          |          | 5.5 U       |           |
| HWP-FTB treated-151220 | 1,1-Dichloroethane          | 50133913001   | Soil   |                 | 5.5 ug/kg  | U          |          | 5.5 U       |           |
| HWP-FTB treated-151221 | 1,1-Dichloroethene          | 50133913001   | Soil   |                 | 5.5 ug/kg  | U          |          | 5.5 U       |           |
| HWP-FTB treated-151222 | 1,1-Dichloroethene          | 50133913001   | Soil   |                 | 50 ug/L    | U          |          | 50 U        |           |
| HWP-FTB treated-151223 | 1,1-Dichloropropene         | 50133913001   | Soil   |                 | 5.5 ug/kg  | U          |          | 5.5 U       |           |
| HWP-FTB treated-151224 | 1,2,3-Trichlorobenzene      | 50133913001   | Soil   |                 | 5.5 ug/kg  | U          |          | 5.5 U       |           |
| HWP-FTB treated-151225 | 1,2,3-Trichloropropane      | 50133913001   | Soil   |                 | 5.5 ug/kg  | U          |          | 5.5 U       |           |
| HWP-FTB treated-151226 | 1,2,4-Trichlorobenzene      | 50133913001   | Soil   |                 | 5.5 ug/kg  | U          |          | 5.5 U       |           |
| HWP-FTB treated-151227 | 1,2,4-Trimethylbenzene      | 50133913001   | Soil   |                 | 5.5 ug/kg  | U          |          | 5.5 U       |           |
| HWP-FTB treated-151228 | 1,2-Dibromoethane (EDB)     | 50133913001   | Soil   |                 | 5.5 ug/kg  | U          |          | 5.5 U       |           |
| HWP-FTB treated-151229 | 1,2-Dichlorobenzene         | 50133913001   | Soil   |                 | 5.5 ug/kg  | U          |          | 5.5 U       |           |
| HWP-FTB treated-151230 | 1,2-Dichloroethane          | 50133913001   | Soil   |                 | 50 ug/L    | U          |          | 50 U        |           |
| HWP-FTB treated-151231 | 1,2-Dichloroethane          | 50133913001   | Soil   |                 | 5.5 ug/kg  | U          |          | 5.5 U       |           |
| HWP-FTB treated-151232 | 1,2-Dichloropropane         | 50133913001   | Soil   |                 | 5.5 ug/kg  | U          |          | 5.5 U       |           |
| HWP-FTB treated-151233 | 1,3,5-Trimethylbenzene      | 50133913001   | Soil   |                 | 5.5 ug/kg  | U          |          | 5.5 U       |           |
| HWP-FTB treated-151234 | 1,3-Dichlorobenzene         | 50133913001   | Soil   |                 | 5.5 ug/kg  | U          |          | 5.5 U       |           |
| HWP-FTB treated-151235 | 1,3-Dichloropropane         | 50133913001   | Soil   |                 | 5.5 ug/kg  | U          |          | 5.5 U       |           |
| HWP-FTB treated-151236 | 1,4-Dichlorobenzene         | 50133913001   | Soil   |                 | 5.5 ug/kg  | U          |          | 5.5 U       |           |
| HWP-FTB treated-151237 | 2,2-Dichloropropane         | 50133913001   | Soil   |                 | 5.5 ug/kg  | U          |          | 5.5 U       |           |
| HWP-FTB treated-151238 | 2-Butanone (MEK)            | 50133913001   | Soil   |                 | 1000 ug/L  | U          |          | 1000 U      |           |
| HWP-FTB treated-151239 | 2-Butanone (MEK)            | 50133913001   | Soil   |                 | 27.5 ug/kg | 56.3       |          | 56.3        |           |
| HWP-FTB treated-151240 | 2-Chlorotoluene             | 50133913001   | Soil   |                 | 5.5 ug/kg  | U          |          | 5.5 U       |           |
| HWP-FTB treated-151241 | 2-Hexanone                  | 50133913001   | Soil   |                 | 110 ug/kg  | U          |          | 110 U       |           |
| HWP-FTB treated-151242 | 4-Chlorotoluene             | 50133913001   | Soil   |                 | 5.5 ug/kg  | U          |          | 5.5 U       |           |
| HWP-FTB treated-151243 | 4-Methyl-2-pentanone (MIBK) | 50133913001   | Soil   |                 | 27.5 ug/kg | U          |          | 27.5 U      |           |

**Hoosier Wood Preservers RV Soil Sample Results**  
**Pace Analytical Services, Inc., 50133913**

| Sample ID              | Analyte                   | Lab Sample ID | Matrix | Reporting Limit | Units | Lab Result | Lab Qual | Val. Result | Val. Qual |
|------------------------|---------------------------|---------------|--------|-----------------|-------|------------|----------|-------------|-----------|
| HWP-FTB treated-151244 | Acetone                   | 50133913001   | Soil   | 110             | ug/kg | 364        |          | 364         |           |
| HWP-FTB treated-151245 | Acrolein                  | 50133913001   | Soil   | 110             | ug/kg | U          |          | 110         | U         |
| HWP-FTB treated-151246 | Acrylonitrile             | 50133913001   | Soil   | 110             | ug/kg | U          |          | 110         | U         |
| HWP-FTB treated-151247 | Benzene                   | 50133913001   | Soil   | 5.5             | ug/kg | U          |          | 5.5         | U         |
| HWP-FTB treated-151248 | Benzene                   | 50133913001   | Soil   | 50              | ug/L  | U          |          | 50          | UJ        |
| HWP-FTB treated-151249 | Bromobenzene              | 50133913001   | Soil   | 5.5             | ug/kg | U          |          | 5.5         | U         |
| HWP-FTB treated-151250 | Bromochloromethane        | 50133913001   | Soil   | 5.5             | ug/kg | U          |          | 5.5         | U         |
| HWP-FTB treated-151251 | Bromodichloromethane      | 50133913001   | Soil   | 5.5             | ug/kg | U          |          | 5.5         | U         |
| HWP-FTB treated-151252 | Bromoform                 | 50133913001   | Soil   | 5.5             | ug/kg | U          |          | 5.5         | U         |
| HWP-FTB treated-151253 | Bromomethane              | 50133913001   | Soil   | 5.5             | ug/kg | U          |          | 5.5         | U         |
| HWP-FTB treated-151254 | Carbon disulfide          | 50133913001   | Soil   | 11              | ug/kg | U          |          | 11          | U         |
| HWP-FTB treated-151255 | Carbon tetrachloride      | 50133913001   | Soil   | 50              | ug/L  | U          |          | 50          | UJ        |
| HWP-FTB treated-151256 | Carbon tetrachloride      | 50133913001   | Soil   | 5.5             | ug/kg | U          |          | 5.5         | U         |
| HWP-FTB treated-151257 | Chlorobenzene             | 50133913001   | Soil   | 50              | ug/L  | U          |          | 50          | UJ        |
| HWP-FTB treated-151258 | Chlorobenzene             | 50133913001   | Soil   | 5.5             | ug/kg | U          |          | 5.5         | U         |
| HWP-FTB treated-151259 | Chloroethane              | 50133913001   | Soil   | 5.5             | ug/kg | U          |          | 5.5         | U         |
| HWP-FTB treated-151260 | Chloroform                | 50133913001   | Soil   | 5.5             | ug/kg | U          |          | 5.5         | U         |
| HWP-FTB treated-151261 | Chloroform                | 50133913001   | Soil   | 50              | ug/L  | U          |          | 50          | UJ        |
| HWP-FTB treated-151262 | Chloromethane             | 50133913001   | Soil   | 5.5             | ug/kg | U          |          | 5.5         | U         |
| HWP-FTB treated-151263 | Dibromochloromethane      | 50133913001   | Soil   | 5.5             | ug/kg | U          |          | 5.5         | U         |
| HWP-FTB treated-151264 | Dibromomethane            | 50133913001   | Soil   | 5.5             | ug/kg | U          |          | 5.5         | U         |
| HWP-FTB treated-151265 | Dichlorodifluoromethane   | 50133913001   | Soil   | 5.5             | ug/kg | U          |          | 5.5         | U         |
| HWP-FTB treated-151266 | Ethyl methacrylate        | 50133913001   | Soil   | 110             | ug/kg | U          |          | 110         | U         |
| HWP-FTB treated-151267 | Ethylbenzene              | 50133913001   | Soil   | 5.5             | ug/kg | U          |          | 5.5         | U         |
| HWP-FTB treated-151268 | Hexachloro-1,3-butadiene  | 50133913001   | Soil   | 5.5             | ug/kg | U          |          | 5.5         | U         |
| HWP-FTB treated-151269 | Iodomethane               | 50133913001   | Soil   | 110             | ug/kg | U          |          | 110         | U         |
| HWP-FTB treated-151270 | Isopropylbenzene (Cumene) | 50133913001   | Soil   | 5.5             | ug/kg | U          |          | 5.5         | U         |
| HWP-FTB treated-151271 | Methyl-tert-butyl ether   | 50133913001   | Soil   | 5.5             | ug/kg | U          |          | 5.5         | U         |
| HWP-FTB treated-151272 | Methylene Chloride        | 50133913001   | Soil   | 22              | ug/kg | U          |          | 22          | U         |
| HWP-FTB treated-151273 | Naphthalene               | 50133913001   | Soil   | 5.5             | ug/kg | 5.6        |          | 5.6         |           |
| HWP-FTB treated-151274 | Styrene                   | 50133913001   | Soil   | 5.5             | ug/kg | U          |          | 5.5         | U         |
| HWP-FTB treated-151275 | Tetrachloroethene         | 50133913001   | Soil   | 50              | ug/L  | U          |          | 50          | UJ        |
| HWP-FTB treated-151276 | Tetrachloroethene         | 50133913001   | Soil   | 5.5             | ug/kg | U          |          | 5.5         | U         |
| HWP-FTB treated-151277 | Toluene                   | 50133913001   | Soil   | 5.5             | ug/kg | U          |          | 5.5         | U         |
| HWP-FTB treated-151278 | Trichloroethene           | 50133913001   | Soil   | 50              | ug/L  | U          |          | 50          | UJ        |
| HWP-FTB treated-151279 | Trichloroethene           | 50133913001   | Soil   | 5.5             | ug/kg | U          |          | 5.5         | U         |
| HWP-FTB treated-151280 | Trichlorofluoromethane    | 50133913001   | Soil   | 5.5             | ug/kg | U          |          | 5.5         | U         |



**Hoosier Wood Preservers RV Soil Sample Results**  
**Pace Analytical Services, Inc., 50133913**

| Sample ID              | Analyte                      | Lab Sample ID | Matrix | Reporting Limit | Units | Lab Result | Lab Qual | Val. Result | Val. Qual |
|------------------------|------------------------------|---------------|--------|-----------------|-------|------------|----------|-------------|-----------|
| HWP-FTB treated-151281 | Vinyl acetate                | 50133913001   | Soil   | 110             | ug/kg | U          |          | 110         | U         |
| HWP-FTB treated-151282 | Vinyl chloride               | 50133913001   | Soil   | 5.5             | ug/kg | U          |          | 5.5         | U         |
| HWP-FTB treated-151283 | Vinyl chloride               | 50133913001   | Soil   | 20              | ug/L  | U          |          | 20          | UJ        |
| HWP-FTB treated-151284 | Xylene (Total)               | 50133913001   | Soil   | 11              | ug/kg | U          |          | 11          | U         |
| HWP-FTB treated-151285 | cis-1,2-Dichloroethene       | 50133913001   | Soil   | 5.5             | ug/kg | U          |          | 5.5         | U         |
| HWP-FTB treated-151286 | cis-1,3-Dichloropropene      | 50133913001   | Soil   | 5.5             | ug/kg | U          |          | 5.5         | U         |
| HWP-FTB treated-151287 | n-Butylbenzene               | 50133913001   | Soil   | 5.5             | ug/kg | U          |          | 5.5         | U         |
| HWP-FTB treated-151288 | n-Hexane                     | 50133913001   | Soil   | 5.5             | ug/kg | U          |          | 5.5         | U         |
| HWP-FTB treated-151289 | n-Propylbenzene              | 50133913001   | Soil   | 5.5             | ug/kg | U          |          | 5.5         | U         |
| HWP-FTB treated-151290 | p-Isopropyltoluene           | 50133913001   | Soil   | 5.5             | ug/kg | U          |          | 5.5         | U         |
| HWP-FTB treated-151291 | sec-Butylbenzene             | 50133913001   | Soil   | 5.5             | ug/kg | U          |          | 5.5         | U         |
| HWP-FTB treated-151292 | tert-Butylbenzene            | 50133913001   | Soil   | 5.5             | ug/kg | U          |          | 5.5         | U         |
| HWP-FTB treated-151293 | trans-1,2-Dichloroethene     | 50133913001   | Soil   | 5.5             | ug/kg | U          |          | 5.5         | U         |
| HWP-FTB treated-151294 | trans-1,3-Dichloropropene    | 50133913001   | Soil   | 5.5             | ug/kg | U          |          | 5.5         | U         |
| HWP-FTB treated-151295 | trans-1,4-Dichloro-2-butene  | 50133913001   | Soil   | 110             | ug/kg | U          |          | 110         | U         |
| HWP-FTB treated-151296 | 1,4-Dichlorobenzene          | 50133913001   | Soil   | 100             | ug/L  | U          |          | 100         | UJ        |
| HWP-FTB treated-151297 | 2,4,5-Trichlorophenol        | 50133913001   | Soil   | 500             | ug/L  | U          |          | 500         | UJ        |
| HWP-FTB treated-151298 | 2,4,5-Trichlorophenol        | 50133913001   | Soil   | 359             | ug/kg | U          |          | 359         | U         |
| HWP-FTB treated-151299 | 2,4,6-Trichlorophenol        | 50133913001   | Soil   | 359             | ug/kg | U          |          | 359         | U         |
| HWP-FTB treated-151300 | 2,4,6-Trichlorophenol        | 50133913001   | Soil   | 100             | ug/L  | U          |          | 100         | UJ        |
| HWP-FTB treated-151301 | 2,4-Dichlorophenol           | 50133913001   | Soil   | 359             | ug/kg | U          |          | 359         | U         |
| HWP-FTB treated-151302 | 2,4-Dimethylphenol           | 50133913001   | Soil   | 359             | ug/kg | U          |          | 359         | U         |
| HWP-FTB treated-151303 | 2,4-Dinitrophenol            | 50133913001   | Soil   | 1740            | ug/kg | U          |          | 1740        | U         |
| HWP-FTB treated-151304 | 2,4-Dinitrotoluene           | 50133913001   | Soil   | 359             | ug/kg | U          |          | 359         | R         |
| HWP-FTB treated-151305 | 2,4-Dinitrotoluene           | 50133913001   | Soil   | 100             | ug/L  | U          |          | 100         | UJ        |
| HWP-FTB treated-151306 | 2,6-Dinitrotoluene           | 50133913001   | Soil   | 359             | ug/kg | U          |          | 359         | U         |
| HWP-FTB treated-151307 | 2-Chloronaphthalene          | 50133913001   | Soil   | 359             | ug/kg | U          |          | 359         | U         |
| HWP-FTB treated-151308 | 2-Chlorophenol               | 50133913001   | Soil   | 359             | ug/kg | U          |          | 359         | U         |
| HWP-FTB treated-151309 | 2-Methylnaphthalene          | 50133913001   | Soil   | 359             | ug/kg | U          |          | 359         | U         |
| HWP-FTB treated-151310 | 2-Methylphenol(o-Cresol)     | 50133913001   | Soil   | 100             | ug/L  | U          |          | 100         | UJ        |
| HWP-FTB treated-151311 | 2-Methylphenol(o-Cresol)     | 50133913001   | Soil   | 359             | ug/kg | U          |          | 359         | U         |
| HWP-FTB treated-151312 | 2-Nitroaniline               | 50133913001   | Soil   | 1740            | ug/kg | U          |          | 1740        | U         |
| HWP-FTB treated-151313 | 2-Nitrophenol                | 50133913001   | Soil   | 359             | ug/kg | U          |          | 359         | U         |
| HWP-FTB treated-151314 | 3&4-Methylphenol(m&p Cresol) | 50133913001   | Soil   | 719             | ug/kg | U          |          | 719         | U         |
| HWP-FTB treated-151315 | 3&4-Methylphenol(m&p Cresol) | 50133913001   | Soil   | 200             | ug/L  | U          |          | 200         | U         |
| HWP-FTB treated-151316 | 3,3'-Dichlorobenzidine       | 50133913001   | Soil   | 719             | ug/kg | U          |          | 719         | U         |
| HWP-FTB treated-151317 | 3-Nitroaniline               | 50133913001   | Soil   | 1740            | ug/kg | U          |          | 1740        | U         |

**Hoosier Wood Preservers RV Soil Sample Results**  
**Pace Analytical Services, Inc., 50133913**

| Sample ID              | Analyte                    | Lab Sample ID | Matrix | Reporting Limit | Units | Lab Result | Lab Qual | Val. Result | Val. Qual |
|------------------------|----------------------------|---------------|--------|-----------------|-------|------------|----------|-------------|-----------|
| HWP-FTB treated-151318 | 4,6-Dinitro-2-methylphenol | 50133913001   | Soil   | 1740            | ug/kg | U          |          | 1740        | U         |
| HWP-FTB treated-151319 | 4-Bromophenylphenyl ether  | 50133913001   | Soil   | 359             | ug/kg | U          |          | 359         | U         |
| HWP-FTB treated-151320 | 4-Chloro-3-methylphenol    | 50133913001   | Soil   | 719             | ug/kg | U          |          | 719         | U         |
| HWP-FTB treated-151321 | 4-Chloroaniline            | 50133913001   | Soil   | 719             | ug/kg | U          |          | 719         | U         |
| HWP-FTB treated-151322 | 4-Chlorophenylphenyl ether | 50133913001   | Soil   | 359             | ug/kg | U          |          | 359         | U         |
| HWP-FTB treated-151323 | 4-Nitroaniline             | 50133913001   | Soil   | 1740            | ug/kg | U          |          | 1740        | U         |
| HWP-FTB treated-151324 | 4-Nitrophenol              | 50133913001   | Soil   | 1740            | ug/kg | U          |          | 1740        | U         |
| HWP-FTB treated-151325 | Acenaphthene               | 50133913001   | Soil   | 359             | ug/kg | U          |          | 359         | U         |
| HWP-FTB treated-151326 | Acenaphthylene             | 50133913001   | Soil   | 359             | ug/kg | U          |          | 359         | U         |
| HWP-FTB treated-151327 | Anthracene                 | 50133913001   | Soil   | 359             | ug/kg | U          |          | 359         | U         |
| HWP-FTB treated-151328 | Benzo(a)anthracene         | 50133913001   | Soil   | 359             | ug/kg | U          |          | 359         | U         |
| HWP-FTB treated-151329 | Benzo(a)pyrene             | 50133913001   | Soil   | 185             | ug/kg | U          |          | 185         | U         |
| HWP-FTB treated-151330 | Benzo(b)fluoranthene       | 50133913001   | Soil   | 359             | ug/kg | U          |          | 359         | U         |
| HWP-FTB treated-151331 | Benzo(g,h,i)perylene       | 50133913001   | Soil   | 359             | ug/kg | U          |          | 359         | U         |
| HWP-FTB treated-151332 | Benzo(k)fluoranthene       | 50133913001   | Soil   | 359             | ug/kg | U          |          | 359         | U         |
| HWP-FTB treated-151333 | Benzyl alcohol             | 50133913001   | Soil   | 719             | ug/kg | U          |          | 719         | U         |
| HWP-FTB treated-151334 | Butylbenzylphthalate       | 50133913001   | Soil   | 359             | ug/kg | U          |          | 359         | U         |
| HWP-FTB treated-151335 | Chrysene                   | 50133913001   | Soil   | 359             | ug/kg | U          |          | 359         | U         |
| HWP-FTB treated-151336 | Di-n-butylphthalate        | 50133913001   | Soil   | 359             | ug/kg | U          |          | 359         | U         |
| HWP-FTB treated-151337 | Di-n-octylphthalate        | 50133913001   | Soil   | 359             | ug/kg | U          |          | 359         | U         |
| HWP-FTB treated-151338 | Dibenz(a,h)anthracene      | 50133913001   | Soil   | 185             | ug/kg | U          |          | 185         | U         |
| HWP-FTB treated-151339 | Dibenzofuran               | 50133913001   | Soil   | 359             | ug/kg | U          |          | 359         | U         |
| HWP-FTB treated-151340 | Diethylphthalate           | 50133913001   | Soil   | 359             | ug/kg | U          |          | 359         | U         |
| HWP-FTB treated-151341 | Dimethylphthalate          | 50133913001   | Soil   | 359             | ug/kg | U          |          | 359         | U         |
| HWP-FTB treated-151342 | Fluoranthene               | 50133913001   | Soil   | 359             | ug/kg | U          |          | 359         | U         |
| HWP-FTB treated-151343 | Fluorene                   | 50133913001   | Soil   | 359             | ug/kg | U          |          | 359         | U         |
| HWP-FTB treated-151344 | Hexachloro-1,3-butadiene   | 50133913001   | Soil   | 100             | ug/L  | U          |          | 100         | UJ        |
| HWP-FTB treated-151345 | Hexachloro-1,3-butadiene   | 50133913001   | Soil   | 359             | ug/kg | U          |          | 359         | U         |
| HWP-FTB treated-151346 | Hexachlorobenzene          | 50133913001   | Soil   | 100             | ug/L  | U          |          | 100         | UJ        |
| HWP-FTB treated-151347 | Hexachlorobenzene          | 50133913001   | Soil   | 359             | ug/kg | U          |          | 359         | U         |
| HWP-FTB treated-151348 | Hexachlorocyclopentadiene  | 50133913001   | Soil   | 359             | ug/kg | U          |          | 359         | U         |
| HWP-FTB treated-151349 | Hexachloroethane           | 50133913001   | Soil   | 100             | ug/L  | U          |          | 100         | UJ        |
| HWP-FTB treated-151350 | Hexachloroethane           | 50133913001   | Soil   | 359             | ug/kg | U          |          | 359         | U         |
| HWP-FTB treated-151351 | Indeno(1,2,3-cd)pyrene     | 50133913001   | Soil   | 359             | ug/kg | U          |          | 359         | U         |
| HWP-FTB treated-151352 | Isophorone                 | 50133913001   | Soil   | 359             | ug/kg | U          |          | 359         | U         |
| HWP-FTB treated-151353 | N-Nitroso-di-n-propylamine | 50133913001   | Soil   | 359             | ug/kg | U          |          | 359         | U         |
| HWP-FTB treated-151354 | N-Nitrosodiphenylamine     | 50133913001   | Soil   | 359             | ug/kg | U          |          | 359         | U         |

**Hoosier Wood Preservers RV Soil Sample Results**  
**Pace Analytical Services, Inc., 50133913**

| Sample ID              | Analyte                        | Lab Sample ID | Matrix | Reporting Limit | Units | Lab Result | Lab Qual | Val. Result | Val. Qual |
|------------------------|--------------------------------|---------------|--------|-----------------|-------|------------|----------|-------------|-----------|
| HWP-FTB treated-151355 | Naphthalene                    | 50133913001   | Soil   | 359             | ug/kg |            | U        | 359         | U         |
| HWP-FTB treated-151356 | Nitrobenzene                   | 50133913001   | Soil   | 359             | ug/kg |            | U        | 359         | U         |
| HWP-FTB treated-151357 | Nitrobenzene                   | 50133913001   | Soil   | 100             | ug/L  |            | U        | 100         | UJ        |
| HWP-FTB treated-151358 | Pentachlorophenol              | 50133913001   | Soil   | 34900           | ug/kg | 43800      |          | 43800       |           |
| HWP-FTB treated-151359 | Pentachlorophenol              | 50133913001   | Soil   | 500             | ug/L  |            | U        | 500         | UJ        |
| HWP-FTB treated-151360 | Phenanthrene                   | 50133913001   | Soil   | 359             | ug/kg |            | U        | 359         | U         |
| HWP-FTB treated-151361 | Phenol                         | 50133913001   | Soil   | 359             | ug/kg |            | U        | 359         | U         |
| HWP-FTB treated-151362 | Pyrene                         | 50133913001   | Soil   | 359             | ug/kg |            | U        | 359         | U         |
| HWP-FTB treated-151363 | Pyridine                       | 50133913001   | Soil   | 100             | ug/L  |            | U        | 100         | U         |
| HWP-FTB treated-151364 | bis(2-Chloroethoxy)methane     | 50133913001   | Soil   | 359             | ug/kg |            | U        | 359         | U         |
| HWP-FTB treated-151365 | bis(2-Chloroethyl) ether       | 50133913001   | Soil   | 359             | ug/kg |            | U        | 359         | U         |
| HWP-FTB treated-151366 | bis(2-Ethylhexyl)phthalate     | 50133913001   | Soil   | 359             | ug/kg |            | U        | 359         | U         |
| HWP-FTB treated-151367 | bis(2chloro1methylethyl) ether | 50133913001   | Soil   | 359             | ug/kg |            | U        | 359         | U         |



March 16, 2016

Ms. Shelly Lam  
On-Scene Coordinator  
U.S. Environmental Protection Agency Region 5  
2525 North Shadeland Avenue  
Indianapolis, Indiana 46219

**Subject: Data Validation Report  
Hoosier Wood Preservers RV  
EPA Contract No. EP-S5-13-01  
Technical Direction Document No. S05-0001-1510-018  
Document Tracking No. 0596G**

Dear Ms. Lam:

Tetra Tech Inc. (Tetra Tech) is submitting this Data Validation Report for one oil and one soil sample collected at the Hoosier Wood Preservers RV site. The samples were collected on December 3 and 4, 2015, and were analyzed for Toxicity Characteristic Leaching Procedure (TCLP) Resource Conservation and Recovery Act 8 metals, volatile organic compounds (VOC) and TCLP VOCs, semivolatile organic compounds (SVOC) and TCLP SVOCs, and polychlorinated biphenyls by Pace Analytical Services, Inc. Tetra Tech received the final data package on December 9, 2015.

Analytical data were evaluated in general accordance with the EPA *Contract Laboratory Program (CLP) National Functional Guidelines (NFG) for Superfund Organic Methods Data Review* (August 2014) and EPA *Contract Laboratory Program (CLP) National Functional Guidelines (NFG) for Superfund Inorganic Data Review* (August 2014).

The data are acceptable and usable as qualified.

If you have any questions regarding this data validation report, please call me at (509) 688-5957.

Sincerely,

A handwritten signature in blue ink that reads 'Deb Kutsal'.

Deb Kutsal  
START Chemist

Enclosure

cc: Kevin Scott, Tetra Tech Program Manager  
Josh Randall, Tetra Tech Project Manager  
Lucas Stamps, QEPI  
TDD File

**ATTACHMENT 1**

**DATA VALIDATION REPORT  
SDG 50133797**

**DATA VALIDATION CHECKLIST – STAGE 2A**  
**EPA REGION 5 START CONTRACT**

|   |   |  |   |
|---|---|--|---|
| <b>Site Name</b>                          | Hoosier Wood Preservers RV  | <b>TDD No.</b>                                 | 0001-1510-018                           |
| <b>Document Tracking No.</b>              | 0596G   | <b>Technical Reviewer (signature and date)</b> | <i>Harry N. Ellis III</i> 14 March 2016 |
| <b>Data Reviewer (signature and date)</b> | <i>Debbie Kuhl</i> March 11, 2016   | <b>Laboratory</b>                              | Pace Analytical Services, Inc.          |
| <b>Laboratory Report No.</b>              | 50133797  |  |   |
| <b>Analyses</b>                           | Toxicity Characteristic Leaching Procedure (TCLP) metals by EPA SW1311/SW6010/SW7470, volatile organic compounds (VOC) and TCLP VOCs by EPA SW1311/SW8260, semivolatile organic compounds (SVOC) and TCLP SVOCs by EPA SW1311/SW8270, and polychlorinated biphenyls by EPA SW8082 |  |   |
| <b>Samples and Matrix</b>                 | One oil and one soil sample   |  |   |
| <b>Field Duplicate Pairs</b>              | None  |  |   |
| <b>Field Blanks</b>                       | None  |  |   |

**INTRODUCTION**

This checklist summarizes the Stage 2A validation performed on the subject laboratory report, in accordance with the U.S. Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the EPA *Contract Laboratory Program (CLP) National Functional Guidelines (NFG) for Superfund Organic Methods Data Review* (August 2014) and the EPA *CLP NFG for Inorganic Superfund Data Review* (August 2014).

**OVERALL EVALUATION**

The data are acceptable and usable as qualified.

**Data completeness:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| Y               |                  |

**Sample preservation, receipt, and holding times:**

| Within Criteria | Exceedance/Notes  |
|-----------------|---|
| N               | Both samples arrived at the laboratory at a temperature of 0.4 degrees Celsius (°C), below the recommended 4±2 °C. However, sample containers were intact and in good condition, so no data were qualified. |



## DATA VALIDATION CHECKLIST – STAGE 2A EPA REGION 5 START CONTRACT

### Method blanks:

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| Y               |                  |

### Field blanks:

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| NA              |                  |

### System monitoring compounds (surrogates and labeled compounds):

| Within Criteria | Exceedance/Notes  |
|-----------------|---|
| N               | <p>%R for SVOC surrogate 2,4,6-tribromophenol from the total analysis of sample HWP-FTB CONC-151204 was below control criteria apparently due to matrix interference. Results for all acid compounds (none were detected) were qualified as estimated and possibly biased low (UJ). All surrogate recoveries from the TCLP extract analysis were within limits.</p> <p>%R for VOC surrogate dibromofluoromethane from the total analysis of sample HWP-FTB CONC-151204 was below control criteria apparently due to matrix interference. All VOC results (none were detected) were qualified as estimated and possibly biased low (UJ). All surrogate recoveries from the TCLP extract analysis were within limits.</p> |

### MS/MSD:

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| Y               |                  |

### Laboratory duplicates:

| Within Criteria | Exceedance/Notes   |
|-----------------|--|
| N               | Percent moisture RPD slightly exceeded control limit. Percent moisture data are not typically qualified because of QC excursions, therefore, no data were qualified. |



**DATA VALIDATION CHECKLIST – STAGE 2A  
EPA REGION 5 START CONTRACT**

**Field duplicates:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| NA              |                  |

**LCS/LCSDs:**

| Within Criteria | Exceedance/Notes   |
|-----------------|--|
| N               | The LCS %R for vinyl chloride exceeded the upper control limit. No vinyl chloride was found in the associated sample, therefore, no action was required. |

**Sample dilutions:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| Y               |                  |

**Re-extraction and reanalysis:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| NA              |                  |

**MDLs/RLs:**

| Within Criteria | Exceedance/Notes                              |
|-----------------|---|
| Y               | Detected results below RLs were not reported. |

**Tentatively identified compounds:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| NA              |                  |





## DATA VALIDATION CHECKLIST – STAGE 2A EPA REGION 5 START CONTRACT

**Other (specify):**

| Within<br>Criteria | Exceedance/Notes |
|--------------------|------------------|
| NA                 |                  |

### Overall Qualifications:

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

|    |   |
|----|---|
| J  | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.  |
| J+ | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.   |
| J- | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.  |
| NJ | The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated value is the approximate concentration of the analyte in the sample.                    |
| R  | The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample.                                 |
| U  | The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).  |
| UJ | The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria. |



**Hoosier Wood Preservers RV Oil and Soil Sample Results**  
**Pace Analytical Services, Inc., 50133797**

| Sample ID           | Analyte                   | Lab Sample ID | Matrix             | Reporting Limit | Units      | Lab Result | Lab Qual | Val. Result | Val. Qual |
|---------------------|---------------------------|---------------|--------------------|-----------------|------------|------------|----------|-------------|-----------|
| HWP-FTBvault-151203 | PCB-1016 (Aroclor 1016)   | 50133797001   | Non Aqueous Liquid |                 | 1 mg/kg    | U          |          | 1 U         |           |
| HWP-FTBvault-151203 | PCB-1221 (Aroclor 1221)   | 50133797001   | Non Aqueous Liquid |                 | 1 mg/kg    | U          |          | 1 U         |           |
| HWP-FTBvault-151203 | PCB-1232 (Aroclor 1232)   | 50133797001   | Non Aqueous Liquid |                 | 1 mg/kg    | U          |          | 1 U         |           |
| HWP-FTBvault-151203 | PCB-1242 (Aroclor 1242)   | 50133797001   | Non Aqueous Liquid |                 | 1 mg/kg    | U          |          | 1 U         |           |
| HWP-FTBvault-151203 | PCB-1248 (Aroclor 1248)   | 50133797001   | Non Aqueous Liquid |                 | 1 mg/kg    | U          |          | 1 U         |           |
| HWP-FTBvault-151203 | PCB-1254 (Aroclor 1254)   | 50133797001   | Non Aqueous Liquid |                 | 1 mg/kg    | U          |          | 1 U         |           |
| HWP-FTBvault-151203 | PCB-1260 (Aroclor 1260)   | 50133797001   | Non Aqueous Liquid |                 | 1 mg/kg    | U          |          | 1 U         |           |
| HWP-FTBCONC-151204  | Percent Moisture          | 50133797002   | Soil               |                 | 0.1 %      | 3.9        |          | 3.9         |           |
| HWP-FTBCONC-151204  | Arsenic                   | 50133797002   | Soil               |                 | 0.1 mg/L   | 0.27       |          | 0.27        |           |
| HWP-FTBCONC-151204  | Barium                    | 50133797002   | Soil               |                 | 5 mg/L     | U          |          | 5 U         |           |
| HWP-FTBCONC-151204  | Cadmium                   | 50133797002   | Soil               |                 | 0.05 mg/L  | U          |          | 0.05 U      |           |
| HWP-FTBCONC-151204  | Chromium                  | 50133797002   | Soil               |                 | 0.1 mg/L   | 30.8       |          | 30.8        |           |
| HWP-FTBCONC-151204  | Lead                      | 50133797002   | Soil               |                 | 0.1 mg/L   | U          |          | 0.1 U       |           |
| HWP-FTBCONC-151204  | Selenium                  | 50133797002   | Soil               |                 | 0.1 mg/L   | U          |          | 0.1 U       |           |
| HWP-FTBCONC-151204  | Silver                    | 50133797002   | Soil               |                 | 0.1 mg/L   | U          |          | 0.1 U       |           |
| HWP-FTBCONC-151204  | Mercury                   | 50133797002   | Soil               |                 | 0.002 mg/L | U          |          | 0.002 U     |           |
| HWP-FTBCONC-151204  | 1,1,1,2-Tetrachloroethane | 50133797002   | Soil               |                 | 5.2 ug/kg  | U          |          | 5.2 UJ      |           |
| HWP-FTBCONC-151204  | 1,1,1-Trichloroethane     | 50133797002   | Soil               |                 | 5.2 ug/kg  | U          |          | 5.2 UJ      |           |
| HWP-FTBCONC-151204  | 1,1,2,2-Tetrachloroethane | 50133797002   | Soil               |                 | 5.2 ug/kg  | U          |          | 5.2 UJ      |           |
| HWP-FTBCONC-151204  | 1,1,2-Trichloroethane     | 50133797002   | Soil               |                 | 5.2 ug/kg  | U          |          | 5.2 UJ      |           |
| HWP-FTBCONC-151204  | 1,1-Dichloroethane        | 50133797002   | Soil               |                 | 5.2 ug/kg  | U          |          | 5.2 UJ      |           |
| HWP-FTBCONC-151204  | 1,1-Dichloroethene        | 50133797002   | Soil               |                 | 5.2 ug/kg  | U          |          | 5.2 UJ      |           |
| HWP-FTBCONC-151204  | 1,1-Dichloroethene        | 50133797002   | Soil               |                 | 50 ug/L    | U          |          | 50 U        |           |
| HWP-FTBCONC-151204  | 1,1-Dichloropropene       | 50133797002   | Soil               |                 | 5.2 ug/kg  | U          |          | 5.2 UJ      |           |
| HWP-FTBCONC-151204  | 1,2,3-Trichlorobenzene    | 50133797002   | Soil               |                 | 5.2 ug/kg  | U          |          | 5.2 UJ      |           |
| HWP-FTBCONC-151204  | 1,2,3-Trichloropropane    | 50133797002   | Soil               |                 | 5.2 ug/kg  | U          |          | 5.2 UJ      |           |
| HWP-FTBCONC-151204  | 1,2,4-Trichlorobenzene    | 50133797002   | Soil               |                 | 5.2 ug/kg  | U          |          | 5.2 UJ      |           |
| HWP-FTBCONC-151204  | 1,2,4-Trimethylbenzene    | 50133797002   | Soil               |                 | 5.2 ug/kg  | U          |          | 5.2 UJ      |           |
| HWP-FTBCONC-151204  | 1,2-Dibromoethane (EDB)   | 50133797002   | Soil               |                 | 5.2 ug/kg  | U          |          | 5.2 UJ      |           |
| HWP-FTBCONC-151204  | 1,2-Dichlorobenzene       | 50133797002   | Soil               |                 | 5.2 ug/kg  | U          |          | 5.2 UJ      |           |
| HWP-FTBCONC-151204  | 1,2-Dichloroethane        | 50133797002   | Soil               |                 | 5.2 ug/kg  | U          |          | 5.2 UJ      |           |
| HWP-FTBCONC-151204  | 1,2-Dichloroethane        | 50133797002   | Soil               |                 | 50 ug/L    | U          |          | 50 U        |           |
| HWP-FTBCONC-151204  | 1,2-Dichloropropane       | 50133797002   | Soil               |                 | 5.2 ug/kg  | U          |          | 5.2 UJ      |           |
| HWP-FTBCONC-151204  | 1,3,5-Trimethylbenzene    | 50133797002   | Soil               |                 | 5.2 ug/kg  | U          |          | 5.2 UJ      |           |
| HWP-FTBCONC-151204  | 1,3-Dichlorobenzene       | 50133797002   | Soil               |                 | 5.2 ug/kg  | U          |          | 5.2 UJ      |           |
| HWP-FTBCONC-151204  | 1,3-Dichloropropane       | 50133797002   | Soil               |                 | 5.2 ug/kg  | U          |          | 5.2 UJ      |           |
| HWP-FTBCONC-151204  | 1,4-Dichlorobenzene       | 50133797002   | Soil               |                 | 5.2 ug/kg  | U          |          | 5.2 UJ      |           |
| HWP-FTBCONC-151204  | 2,2-Dichloropropane       | 50133797002   | Soil               |                 | 5.2 ug/kg  | U          |          | 5.2 UJ      |           |
| HWP-FTBCONC-151204  | 2-Butanone (MEK)          | 50133797002   | Soil               |                 | 1000 ug/L  | U          |          | 1000 U      |           |
| HWP-FTBCONC-151204  | 2-Butanone (MEK)          | 50133797002   | Soil               |                 | 26 ug/kg   | U          |          | 26 UJ       |           |
| HWP-FTBCONC-151204  | 2-Chlorotoluene           | 50133797002   | Soil               |                 | 5.2 ug/kg  | U          |          | 5.2 UJ      |           |
| HWP-FTBCONC-151204  | 2-Hexanone                | 50133797002   | Soil               |                 | 104 ug/kg  | U          |          | 104 UJ      |           |

**Hoosier Wood Preservers RV Oil and Soil Sample Results**  
**Pace Analytical Services, Inc., 50133797**

| Sample ID          | Analyte                     | Lab Sample ID | Matrix | Reporting Limit | Units | Lab Result | Lab Qual | Val. Result | Val. Qual |
|--------------------|-----------------------------|---------------|--------|-----------------|-------|------------|----------|-------------|-----------|
| HWP-FTBCONC-151204 | 4-Chlorotoluene             | 50133797002   | Soil   | 5.2             | ug/kg | U          |          | 5.2         | UJ        |
| HWP-FTBCONC-151204 | 4-Methyl-2-pentanone (MIBK) | 50133797002   | Soil   | 26              | ug/kg | U          |          | 26          | UJ        |
| HWP-FTBCONC-151204 | Acetone                     | 50133797002   | Soil   | 104             | ug/kg | U          |          | 104         | UJ        |
| HWP-FTBCONC-151204 | Acrolein                    | 50133797002   | Soil   | 104             | ug/kg | U          |          | 104         | UJ        |
| HWP-FTBCONC-151204 | Acrylonitrile               | 50133797002   | Soil   | 104             | ug/kg | U          |          | 104         | UJ        |
| HWP-FTBCONC-151204 | Benzene                     | 50133797002   | Soil   | 5.2             | ug/kg | U          |          | 5.2         | UJ        |
| HWP-FTBCONC-151204 | Benzene                     | 50133797002   | Soil   | 50              | ug/L  | U          |          | 50          | U         |
| HWP-FTBCONC-151204 | Bromobenzene                | 50133797002   | Soil   | 5.2             | ug/kg | U          |          | 5.2         | UJ        |
| HWP-FTBCONC-151204 | Bromochloromethane          | 50133797002   | Soil   | 5.2             | ug/kg | U          |          | 5.2         | UJ        |
| HWP-FTBCONC-151204 | Bromodichloromethane        | 50133797002   | Soil   | 5.2             | ug/kg | U          |          | 5.2         | UJ        |
| HWP-FTBCONC-151204 | Bromoform                   | 50133797002   | Soil   | 5.2             | ug/kg | U          |          | 5.2         | UJ        |
| HWP-FTBCONC-151204 | Bromomethane                | 50133797002   | Soil   | 5.2             | ug/kg | U          |          | 5.2         | UJ        |
| HWP-FTBCONC-151204 | Carbon disulfide            | 50133797002   | Soil   | 10.4            | ug/kg | U          |          | 10.4        | UJ        |
| HWP-FTBCONC-151204 | Carbon tetrachloride        | 50133797002   | Soil   | 50              | ug/L  | U          |          | 50          | U         |
| HWP-FTBCONC-151204 | Carbon tetrachloride        | 50133797002   | Soil   | 5.2             | ug/kg | U          |          | 5.2         | UJ        |
| HWP-FTBCONC-151204 | Chlorobenzene               | 50133797002   | Soil   | 5.2             | ug/kg | U          |          | 5.2         | UJ        |
| HWP-FTBCONC-151204 | Chlorobenzene               | 50133797002   | Soil   | 50              | ug/L  | U          |          | 50          | U         |
| HWP-FTBCONC-151204 | Chloroethane                | 50133797002   | Soil   | 5.2             | ug/kg | U          |          | 5.2         | UJ        |
| HWP-FTBCONC-151204 | Chloroform                  | 50133797002   | Soil   | 5.2             | ug/kg | U          |          | 5.2         | UJ        |
| HWP-FTBCONC-151204 | Chloroform                  | 50133797002   | Soil   | 50              | ug/L  | U          |          | 50          | U         |
| HWP-FTBCONC-151204 | Chloromethane               | 50133797002   | Soil   | 5.2             | ug/kg | U          |          | 5.2         | UJ        |
| HWP-FTBCONC-151204 | Dibromochloromethane        | 50133797002   | Soil   | 5.2             | ug/kg | U          |          | 5.2         | UJ        |
| HWP-FTBCONC-151204 | Dibromomethane              | 50133797002   | Soil   | 5.2             | ug/kg | U          |          | 5.2         | UJ        |
| HWP-FTBCONC-151204 | Dichlorodifluoromethane     | 50133797002   | Soil   | 5.2             | ug/kg | U          |          | 5.2         | UJ        |
| HWP-FTBCONC-151204 | Ethyl methacrylate          | 50133797002   | Soil   | 104             | ug/kg | U          |          | 104         | UJ        |
| HWP-FTBCONC-151204 | Ethylbenzene                | 50133797002   | Soil   | 5.2             | ug/kg | U          |          | 5.2         | UJ        |
| HWP-FTBCONC-151204 | Hexachloro-1,3-butadiene    | 50133797002   | Soil   | 5.2             | ug/kg | U          |          | 5.2         | UJ        |
| HWP-FTBCONC-151204 | Iodomethane                 | 50133797002   | Soil   | 104             | ug/kg | U          |          | 104         | UJ        |
| HWP-FTBCONC-151204 | Isopropylbenzene (Cumene)   | 50133797002   | Soil   | 5.2             | ug/kg | U          |          | 5.2         | UJ        |
| HWP-FTBCONC-151204 | Methyl-tert-butyl ether     | 50133797002   | Soil   | 5.2             | ug/kg | U          |          | 5.2         | UJ        |
| HWP-FTBCONC-151204 | Methylene Chloride          | 50133797002   | Soil   | 20.8            | ug/kg | U          |          | 20.8        | UJ        |
| HWP-FTBCONC-151204 | Naphthalene                 | 50133797002   | Soil   | 5.2             | ug/kg | U          |          | 5.2         | UJ        |
| HWP-FTBCONC-151204 | Styrene                     | 50133797002   | Soil   | 5.2             | ug/kg | U          |          | 5.2         | UJ        |
| HWP-FTBCONC-151204 | Tetrachloroethene           | 50133797002   | Soil   | 50              | ug/L  | U          |          | 50          | U         |
| HWP-FTBCONC-151204 | Tetrachloroethene           | 50133797002   | Soil   | 5.2             | ug/kg | U          |          | 5.2         | UJ        |
| HWP-FTBCONC-151204 | Toluene                     | 50133797002   | Soil   | 5.2             | ug/kg | U          |          | 5.2         | UJ        |
| HWP-FTBCONC-151204 | Trichloroethene             | 50133797002   | Soil   | 5.2             | ug/kg | U          |          | 5.2         | UJ        |
| HWP-FTBCONC-151204 | Trichloroethene             | 50133797002   | Soil   | 50              | ug/L  | U          |          | 50          | U         |
| HWP-FTBCONC-151204 | Trichlorofluoromethane      | 50133797002   | Soil   | 5.2             | ug/kg | U          |          | 5.2         | UJ        |
| HWP-FTBCONC-151204 | Vinyl acetate               | 50133797002   | Soil   | 104             | ug/kg | U          |          | 104         | UJ        |
| HWP-FTBCONC-151204 | Vinyl chloride              | 50133797002   | Soil   | 5.2             | ug/kg | U          |          | 5.2         | UJ        |
| HWP-FTBCONC-151204 | Vinyl chloride              | 50133797002   | Soil   | 20              | ug/L  | U          |          | 20          | U         |

**Hoosier Wood Preservers RV Oil and Soil Sample Results**  
**Pace Analytical Services, Inc., 50133797**

| Sample ID          | Analyte                      | Lab Sample ID | Matrix | Reporting Limit | Units | Lab Result | Lab Qual | Val. Result | Val. Qual |
|--------------------|------------------------------|---------------|--------|-----------------|-------|------------|----------|-------------|-----------|
| HWP-FTBCONC-151204 | Xylene (Total)               | 50133797002   | Soil   | 10.4            | ug/kg | U          |          | 10.4        | UJ        |
| HWP-FTBCONC-151204 | cis-1,2-Dichloroethene       | 50133797002   | Soil   | 5.2             | ug/kg | U          |          | 5.2         | UJ        |
| HWP-FTBCONC-151204 | cis-1,3-Dichloropropene      | 50133797002   | Soil   | 5.2             | ug/kg | U          |          | 5.2         | UJ        |
| HWP-FTBCONC-151204 | n-Butylbenzene               | 50133797002   | Soil   | 5.2             | ug/kg | U          |          | 5.2         | UJ        |
| HWP-FTBCONC-151204 | n-Hexane                     | 50133797002   | Soil   | 5.2             | ug/kg | U          |          | 5.2         | UJ        |
| HWP-FTBCONC-151204 | n-Propylbenzene              | 50133797002   | Soil   | 5.2             | ug/kg | U          |          | 5.2         | UJ        |
| HWP-FTBCONC-151204 | p-Isopropyltoluene           | 50133797002   | Soil   | 5.2             | ug/kg | U          |          | 5.2         | UJ        |
| HWP-FTBCONC-151204 | sec-Butylbenzene             | 50133797002   | Soil   | 5.2             | ug/kg | U          |          | 5.2         | UJ        |
| HWP-FTBCONC-151204 | tert-Butylbenzene            | 50133797002   | Soil   | 5.2             | ug/kg | U          |          | 5.2         | UJ        |
| HWP-FTBCONC-151204 | trans-1,2-Dichloroethene     | 50133797002   | Soil   | 5.2             | ug/kg | U          |          | 5.2         | UJ        |
| HWP-FTBCONC-151204 | trans-1,3-Dichloropropene    | 50133797002   | Soil   | 5.2             | ug/kg | U          |          | 5.2         | UJ        |
| HWP-FTBCONC-151204 | trans-1,4-Dichloro-2-butene  | 50133797002   | Soil   | 104             | ug/kg | U          |          | 104         | UJ        |
| HWP-FTBCONC-151204 | 1,4-Dichlorobenzene          | 50133797002   | Soil   | 100             | ug/L  | U          |          | 100         | U         |
| HWP-FTBCONC-151204 | 2,4,5-Trichlorophenol        | 50133797002   | Soil   | 500             | ug/L  | U          |          | 500         | U         |
| HWP-FTBCONC-151204 | 2,4,5-Trichlorophenol        | 50133797002   | Soil   | 1010            | ug/kg | U          |          | 1010        | UJ        |
| HWP-FTBCONC-151204 | 2,4,6-Trichlorophenol        | 50133797002   | Soil   | 100             | ug/L  | U          |          | 100         | U         |
| HWP-FTBCONC-151204 | 2,4,6-Trichlorophenol        | 50133797002   | Soil   | 1010            | ug/kg | U          |          | 1010        | UJ        |
| HWP-FTBCONC-151204 | 2,4-Dichlorophenol           | 50133797002   | Soil   | 1010            | ug/kg | U          |          | 1010        | UJ        |
| HWP-FTBCONC-151204 | 2,4-Dimethylphenol           | 50133797002   | Soil   | 1010            | ug/kg | U          |          | 1010        | UJ        |
| HWP-FTBCONC-151204 | 2,4-Dinitrophenol            | 50133797002   | Soil   | 4900            | ug/kg | U          |          | 4900        | UJ        |
| HWP-FTBCONC-151204 | 2,4-Dinitrotoluene           | 50133797002   | Soil   | 1010            | ug/kg | U          |          | 1010        | U         |
| HWP-FTBCONC-151204 | 2,4-Dinitrotoluene           | 50133797002   | Soil   | 100             | ug/L  | U          |          | 100         | U         |
| HWP-FTBCONC-151204 | 2,6-Dinitrotoluene           | 50133797002   | Soil   | 1010            | ug/kg | U          |          | 1010        | U         |
| HWP-FTBCONC-151204 | 2-Chloronaphthalene          | 50133797002   | Soil   | 1010            | ug/kg | U          |          | 1010        | U         |
| HWP-FTBCONC-151204 | 2-Chlorophenol               | 50133797002   | Soil   | 1010            | ug/kg | U          |          | 1010        | UJ        |
| HWP-FTBCONC-151204 | 2-Methylnaphthalene          | 50133797002   | Soil   | 1010            | ug/kg | U          |          | 1010        | U         |
| HWP-FTBCONC-151204 | 2-Methylphenol(o-Cresol)     | 50133797002   | Soil   | 1010            | ug/kg | U          |          | 1010        | UJ        |
| HWP-FTBCONC-151204 | 2-Methylphenol(o-Cresol)     | 50133797002   | Soil   | 100             | ug/L  | U          |          | 100         | U         |
| HWP-FTBCONC-151204 | 2-Nitroaniline               | 50133797002   | Soil   | 4900            | ug/kg | U          |          | 4900        | U         |
| HWP-FTBCONC-151204 | 2-Nitrophenol                | 50133797002   | Soil   | 1010            | ug/kg | U          |          | 1010        | UJ        |
| HWP-FTBCONC-151204 | 3&4-Methylphenol(m&p Cresol) | 50133797002   | Soil   | 2020            | ug/kg | U          |          | 2020        | UJ        |
| HWP-FTBCONC-151204 | 3&4-Methylphenol(m&p Cresol) | 50133797002   | Soil   | 200             | ug/L  | U          |          | 200         | U         |
| HWP-FTBCONC-151204 | 3,3'-Dichlorobenzidine       | 50133797002   | Soil   | 2020            | ug/kg | U          |          | 2020        | U         |
| HWP-FTBCONC-151204 | 3-Nitroaniline               | 50133797002   | Soil   | 4900            | ug/kg | U          |          | 4900        | U         |
| HWP-FTBCONC-151204 | 4,6-Dinitro-2-methylphenol   | 50133797002   | Soil   | 4900            | ug/kg | U          |          | 4900        | UJ        |
| HWP-FTBCONC-151204 | 4-Bromophenylphenyl ether    | 50133797002   | Soil   | 1010            | ug/kg | U          |          | 1010        | U         |
| HWP-FTBCONC-151204 | 4-Chloro-3-methylphenol      | 50133797002   | Soil   | 2020            | ug/kg | U          |          | 2020        | UJ        |
| HWP-FTBCONC-151204 | 4-Chloroaniline              | 50133797002   | Soil   | 2020            | ug/kg | U          |          | 2020        | U         |
| HWP-FTBCONC-151204 | 4-Chlorophenylphenyl ether   | 50133797002   | Soil   | 1010            | ug/kg | U          |          | 1010        | U         |
| HWP-FTBCONC-151204 | 4-Nitroaniline               | 50133797002   | Soil   | 4900            | ug/kg | U          |          | 4900        | U         |
| HWP-FTBCONC-151204 | 4-Nitrophenol                | 50133797002   | Soil   | 4900            | ug/kg | U          |          | 4900        | UJ        |
| HWP-FTBCONC-151204 | Acenaphthene                 | 50133797002   | Soil   | 1010            | ug/kg | U          |          | 1010        | U         |

**Hoosier Wood Preservers RV Oil and Soil Sample Results**  
**Pace Analytical Services, Inc., 50133797**

| Sample ID          | Analyte                        | Lab Sample ID | Matrix | Reporting Limit | Units | Lab Result | Lab Qual | Val. Result | Val. Qual |
|--------------------|--------------------------------|---------------|--------|-----------------|-------|------------|----------|-------------|-----------|
| HWP-FTBCONC-151204 | Acenaphthylene                 | 50133797002   | Soil   | 1010            | ug/kg | U          |          | 1010        | U         |
| HWP-FTBCONC-151204 | Anthracene                     | 50133797002   | Soil   | 1010            | ug/kg | U          |          | 1010        | U         |
| HWP-FTBCONC-151204 | Benzo(a)anthracene             | 50133797002   | Soil   | 1010            | ug/kg | U          |          | 1010        | U         |
| HWP-FTBCONC-151204 | Benzo(a)pyrene                 | 50133797002   | Soil   | 520             | ug/kg | U          |          | 520         | U         |
| HWP-FTBCONC-151204 | Benzo(b)fluoranthene           | 50133797002   | Soil   | 1010            | ug/kg | U          |          | 1010        | U         |
| HWP-FTBCONC-151204 | Benzo(g,h,i)perylene           | 50133797002   | Soil   | 1010            | ug/kg | U          |          | 1010        | U         |
| HWP-FTBCONC-151204 | Benzo(k)fluoranthene           | 50133797002   | Soil   | 1010            | ug/kg | U          |          | 1010        | U         |
| HWP-FTBCONC-151204 | Benzyl alcohol                 | 50133797002   | Soil   | 2020            | ug/kg | U          |          | 2020        | U         |
| HWP-FTBCONC-151204 | Butylbenzylphthalate           | 50133797002   | Soil   | 1010            | ug/kg | U          |          | 1010        | U         |
| HWP-FTBCONC-151204 | Chrysene                       | 50133797002   | Soil   | 1010            | ug/kg | U          |          | 1010        | U         |
| HWP-FTBCONC-151204 | Di-n-butylphthalate            | 50133797002   | Soil   | 1010            | ug/kg | U          |          | 1010        | U         |
| HWP-FTBCONC-151204 | Di-n-octylphthalate            | 50133797002   | Soil   | 1010            | ug/kg | U          |          | 1010        | U         |
| HWP-FTBCONC-151204 | Dibenz(a,h)anthracene          | 50133797002   | Soil   | 520             | ug/kg | U          |          | 520         | U         |
| HWP-FTBCONC-151204 | Dibenzofuran                   | 50133797002   | Soil   | 1010            | ug/kg | U          |          | 1010        | U         |
| HWP-FTBCONC-151204 | Diethylphthalate               | 50133797002   | Soil   | 1010            | ug/kg | U          |          | 1010        | U         |
| HWP-FTBCONC-151204 | Dimethylphthalate              | 50133797002   | Soil   | 1010            | ug/kg | U          |          | 1010        | U         |
| HWP-FTBCONC-151204 | Fluoranthene                   | 50133797002   | Soil   | 1010            | ug/kg | U          |          | 1010        | U         |
| HWP-FTBCONC-151204 | Fluorene                       | 50133797002   | Soil   | 1010            | ug/kg | U          |          | 1010        | U         |
| HWP-FTBCONC-151204 | Hexachloro-1,3-butadiene       | 50133797002   | Soil   | 1010            | ug/kg | U          |          | 1010        | U         |
| HWP-FTBCONC-151204 | Hexachloro-1,3-butadiene       | 50133797002   | Soil   | 100             | ug/L  | U          |          | 100         | U         |
| HWP-FTBCONC-151204 | Hexachlorobenzene              | 50133797002   | Soil   | 1010            | ug/kg | U          |          | 1010        | U         |
| HWP-FTBCONC-151204 | Hexachlorobenzene              | 50133797002   | Soil   | 100             | ug/L  | U          |          | 100         | U         |
| HWP-FTBCONC-151204 | Hexachlorocyclopentadiene      | 50133797002   | Soil   | 1010            | ug/kg | U          |          | 1010        | U         |
| HWP-FTBCONC-151204 | Hexachloroethane               | 50133797002   | Soil   | 1010            | ug/kg | U          |          | 1010        | U         |
| HWP-FTBCONC-151204 | Hexachloroethane               | 50133797002   | Soil   | 100             | ug/L  | U          |          | 100         | U         |
| HWP-FTBCONC-151204 | Indeno(1,2,3-cd)pyrene         | 50133797002   | Soil   | 1010            | ug/kg | U          |          | 1010        | U         |
| HWP-FTBCONC-151204 | Isophorone                     | 50133797002   | Soil   | 1010            | ug/kg | U          |          | 1010        | U         |
| HWP-FTBCONC-151204 | N-Nitroso-di-n-propylamine     | 50133797002   | Soil   | 1010            | ug/kg | U          |          | 1010        | U         |
| HWP-FTBCONC-151204 | N-Nitrosodiphenylamine         | 50133797002   | Soil   | 1010            | ug/kg | U          |          | 1010        | U         |
| HWP-FTBCONC-151204 | Naphthalene                    | 50133797002   | Soil   | 1010            | ug/kg | U          |          | 1010        | U         |
| HWP-FTBCONC-151204 | Nitrobenzene                   | 50133797002   | Soil   | 1010            | ug/kg | U          |          | 1010        | U         |
| HWP-FTBCONC-151204 | Nitrobenzene                   | 50133797002   | Soil   | 100             | ug/L  | U          |          | 100         | U         |
| HWP-FTBCONC-151204 | Pentachlorophenol              | 50133797002   | Soil   | 500             | ug/L  | U          |          | 500         | U         |
| HWP-FTBCONC-151204 | Pentachlorophenol              | 50133797002   | Soil   | 4900            | ug/kg | U          |          | 4900        | UJ        |
| HWP-FTBCONC-151204 | Phenanthrene                   | 50133797002   | Soil   | 1010            | ug/kg | U          |          | 1010        | U         |
| HWP-FTBCONC-151204 | Phenol                         | 50133797002   | Soil   | 1010            | ug/kg | U          |          | 1010        | UJ        |
| HWP-FTBCONC-151204 | Pyrene                         | 50133797002   | Soil   | 1010            | ug/kg | U          |          | 1010        | U         |
| HWP-FTBCONC-151204 | Pyridine                       | 50133797002   | Soil   | 100             | ug/L  | U          |          | 100         | U         |
| HWP-FTBCONC-151204 | bis(2-Chloroethoxy)methane     | 50133797002   | Soil   | 1010            | ug/kg | U          |          | 1010        | U         |
| HWP-FTBCONC-151204 | bis(2-Chloroethyl) ether       | 50133797002   | Soil   | 1010            | ug/kg | U          |          | 1010        | U         |
| HWP-FTBCONC-151204 | bis(2-Ethylhexyl)phthalate     | 50133797002   | Soil   | 1010            | ug/kg | U          |          | 1010        | U         |
| HWP-FTBCONC-151204 | bis(2chloro1methylethyl) ether | 50133797002   | Soil   | 1010            | ug/kg | U          |          | 1010        | U         |



March 16, 2016

Ms. Shelly Lam  
On-Scene Coordinator  
U.S. Environmental Protection Agency Region 5  
2525 North Shadeland Avenue  
Indianapolis, Indiana 46219

**Subject:       Data Validation Report  
                  Hoosier Wood Preservers RV  
                  EPA Contract No. EP-S5-13-01  
                  Technical Direction Document No. S05-0001-1510-018  
                  Document Tracking No. 0596F**

Dear Ms. Lam:

Tetra Tech Inc. (Tetra Tech) is submitting this Data Validation Report for one soil sample collected at the Hoosier Wood Preservers RV site. The sample was collected on December 2, 2015, and was analyzed for Resource Conservation and Recovery Act 8 metals, volatile organic compounds, and semivolatile organic compounds by Pace Analytical Services, Inc. Tetra Tech received the final data package on December 7, 2015.

Analytical data were evaluated in general accordance with the EPA *Contract Laboratory Program (CLP) National Functional Guidelines (NFG) for Superfund Organic Methods Data Review* (August 2014) and EPA *Contract Laboratory Program (CLP) National Functional Guidelines (NFG) for Superfund Inorganic Data Review* (August 2014).

The data are acceptable and usable as received.

If you have any questions regarding this data validation report, please call me at (509) 688-5957.

Sincerely,

A handwritten signature in blue ink that reads 'Deb Kutsal'.

Deb Kutsal  
START Chemist

Enclosure

cc:     Kevin Scott, Tetra Tech Program Manager  
          Josh Randall, Tetra Tech Project Manager  
          Lucas Stamps, QEPI  
          TDD File

**ATTACHMENT 1**

**DATA VALIDATION REPORT  
SDG 50133561**

**DATA VALIDATION CHECKLIST – STAGE 2A  
EPA REGION 5 START CONTRACT**

|   |  |  |   |
|---|--|--|---|
| <b>Site Name</b>                          | Hoosier Wood Preservers RV   | <b>TDD No.</b>                                 | 0001-1510-018                           |
| <b>Document Tracking No.</b>              | 0596F  | <b>Technical Reviewer (signature and date)</b> | <i>Harry N. Ellis III</i> 14 March 2016 |
| <b>Data Reviewer (signature and date)</b> | <i>Debbie Kuhl</i> March 10, 2016  | <b>Laboratory</b>                              | Pace Analytical Services, Inc.          |
| <b>Laboratory Report No.</b>              | 50133561   |  |   |
| <b>Analyses</b>                           | Resource Conservation and Recovery Act 8 metals by EPA SW6010/7471, volatile organic compounds by EPA SW8260, and semivolatile organic compounds by EPA SW8270 |  |   |
| <b>Samples and Matrix</b>                 | One soil sample  |  |   |
| <b>Field Duplicate Pairs</b>              | None   |  |   |
| <b>Field Blanks</b>                       | None   |  |   |

**INTRODUCTION**

This checklist summarizes the Stage 2A validation performed on the subject laboratory report, in accordance with the U.S. Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the EPA *Contract Laboratory Program (CLP) National Functional Guidelines (NFG) for Superfund Organic Methods Data Review* (August 2014) and the EPA *CLP NFG for Inorganic Superfund Data Review* (August 2014).

**OVERALL EVALUATION**

The data are acceptable and usable as qualified.

**Data completeness:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| Y               |                  |

**Sample preservation, receipt, and holding times:**

| Within Criteria | Exceedance/Notes   |
|-----------------|--|
| N               | The sample arrived at the laboratory at a temperature of 0.3 degrees Celsius (°C), below the recommended 4 ±2 °C. Sample containers were in good condition (intact and not frozen), so no data were qualified. |





**DATA VALIDATION CHECKLIST – STAGE 2A  
EPA REGION 5 START CONTRACT**

**Method blanks:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| Y               |                  |

**Field blanks:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| NA              |                  |

**System monitoring compounds (surrogates and labeled compounds):**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| Y               |                  |

**MS/MSD:**

| Within Criteria | Exceedance/Notes  |
|-----------------|---|
| Y               | Non-project samples were spiked, so were not evaluated. |

**Laboratory duplicates:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| Y               |                  |

**Field duplicates:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| NA              |                  |



**DATA VALIDATION CHECKLIST – STAGE 2A  
EPA REGION 5 START CONTRACT**

**LCS/LCSDs:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| Y               |                  |

**Sample dilutions:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| Y               |                  |

**Re-extraction and reanalysis:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| NA              |                  |

**MDLs/RLs:**

| Within Criteria | Exceedance/Notes                              |
|-----------------|---|
| Y               | Detected results below RLs were not reported. |

**Tentatively identified compounds:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| NA              |                  |

**Other (specify):**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| NA              |                  |



## DATA VALIDATION CHECKLIST – STAGE 2A EPA REGION 5 START CONTRACT

### Overall Qualifications:

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

|    |   |
|----|---|
| J  | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.  |
| J+ | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.   |
| J- | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.  |
| NJ | The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated value is the approximate concentration of the analyte in the sample.                    |
| R  | The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample.                                 |
| U  | The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).  |
| UJ | The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria. |

**Hoosier Wood Preservers RV Soil Sample Results**  
**Pace Analytical Services, Inc., 50133561**

| Sample ID           | Analyte                     | Lab Sample ID | Matrix | Reporting Limit | Units | Lab Result | Lab Qualifier | Val. Result | Val. Qualifier |
|---------------------|-----------------------------|---------------|--------|-----------------|-------|------------|---------------|-------------|----------------|
| HWP-FillSoil-151202 | Percent Moisture            | 50133561001   | Soil   | 0.1             | %     | 3.4        |               | 3.4         |                |
| HWP-FillSoil-151202 | Arsenic                     | 50133561001   | Soil   | 0.93            | mg/kg | 8.1        |               | 8.1         |                |
| HWP-FillSoil-151202 | Barium                      | 50133561001   | Soil   | 0.93            | mg/kg | 12.2       |               | 12.2        |                |
| HWP-FillSoil-151202 | Cadmium                     | 50133561001   | Soil   | 0.46            | mg/kg | U          |               | 0.46        | U              |
| HWP-FillSoil-151202 | Chromium                    | 50133561001   | Soil   | 0.93            | mg/kg | 6.1        |               | 6.1         |                |
| HWP-FillSoil-151202 | Lead                        | 50133561001   | Soil   | 0.93            | mg/kg | 3.2        |               | 3.2         |                |
| HWP-FillSoil-151202 | Selenium                    | 50133561001   | Soil   | 0.93            | mg/kg | U          |               | 0.93        | U              |
| HWP-FillSoil-151202 | Silver                      | 50133561001   | Soil   | 0.46            | mg/kg | U          |               | 0.46        | U              |
| HWP-FillSoil-151202 | Mercury                     | 50133561001   | Soil   | 0.19            | mg/kg | U          |               | 0.19        | U              |
| HWP-FillSoil-151202 | 1,1,1,2-Tetrachloroethane   | 50133561001   | Soil   | 5.2             | ug/kg | U          |               | 5.2         | U              |
| HWP-FillSoil-151202 | 1,1,1-Trichloroethane       | 50133561001   | Soil   | 5.2             | ug/kg | U          |               | 5.2         | U              |
| HWP-FillSoil-151202 | 1,1,2,2-Tetrachloroethane   | 50133561001   | Soil   | 5.2             | ug/kg | U          |               | 5.2         | U              |
| HWP-FillSoil-151202 | 1,1,2-Trichloroethane       | 50133561001   | Soil   | 5.2             | ug/kg | U          |               | 5.2         | U              |
| HWP-FillSoil-151202 | 1,1-Dichloroethane          | 50133561001   | Soil   | 5.2             | ug/kg | U          |               | 5.2         | U              |
| HWP-FillSoil-151202 | 1,1-Dichloroethene          | 50133561001   | Soil   | 5.2             | ug/kg | U          |               | 5.2         | U              |
| HWP-FillSoil-151202 | 1,1-Dichloropropene         | 50133561001   | Soil   | 5.2             | ug/kg | U          |               | 5.2         | U              |
| HWP-FillSoil-151202 | 1,2,3-Trichlorobenzene      | 50133561001   | Soil   | 5.2             | ug/kg | U          |               | 5.2         | U              |
| HWP-FillSoil-151202 | 1,2,3-Trichloropropane      | 50133561001   | Soil   | 5.2             | ug/kg | U          |               | 5.2         | U              |
| HWP-FillSoil-151202 | 1,2,4-Trichlorobenzene      | 50133561001   | Soil   | 5.2             | ug/kg | U          |               | 5.2         | U              |
| HWP-FillSoil-151202 | 1,2,4-Trimethylbenzene      | 50133561001   | Soil   | 5.2             | ug/kg | U          |               | 5.2         | U              |
| HWP-FillSoil-151202 | 1,2-Dibromoethane (EDB)     | 50133561001   | Soil   | 5.2             | ug/kg | U          |               | 5.2         | U              |
| HWP-FillSoil-151202 | 1,2-Dichlorobenzene         | 50133561001   | Soil   | 5.2             | ug/kg | U          |               | 5.2         | U              |
| HWP-FillSoil-151202 | 1,2-Dichloroethane          | 50133561001   | Soil   | 5.2             | ug/kg | U          |               | 5.2         | U              |
| HWP-FillSoil-151202 | 1,2-Dichloropropane         | 50133561001   | Soil   | 5.2             | ug/kg | U          |               | 5.2         | U              |
| HWP-FillSoil-151202 | 1,3,5-Trimethylbenzene      | 50133561001   | Soil   | 5.2             | ug/kg | U          |               | 5.2         | U              |
| HWP-FillSoil-151202 | 1,3-Dichlorobenzene         | 50133561001   | Soil   | 5.2             | ug/kg | U          |               | 5.2         | U              |
| HWP-FillSoil-151202 | 1,3-Dichloropropane         | 50133561001   | Soil   | 5.2             | ug/kg | U          |               | 5.2         | U              |
| HWP-FillSoil-151202 | 1,4-Dichlorobenzene         | 50133561001   | Soil   | 5.2             | ug/kg | U          |               | 5.2         | U              |
| HWP-FillSoil-151202 | 2,2-Dichloropropane         | 50133561001   | Soil   | 5.2             | ug/kg | U          |               | 5.2         | U              |
| HWP-FillSoil-151202 | 2-Butanone (MEK)            | 50133561001   | Soil   | 25.9            | ug/kg | U          |               | 25.9        | U              |
| HWP-FillSoil-151202 | 2-Chlorotoluene             | 50133561001   | Soil   | 5.2             | ug/kg | U          |               | 5.2         | U              |
| HWP-FillSoil-151202 | 2-Hexanone                  | 50133561001   | Soil   | 104             | ug/kg | U          |               | 104         | U              |
| HWP-FillSoil-151202 | 4-Chlorotoluene             | 50133561001   | Soil   | 5.2             | ug/kg | U          |               | 5.2         | U              |
| HWP-FillSoil-151202 | 4-Methyl-2-pentanone (MIBK) | 50133561001   | Soil   | 25.9            | ug/kg | U          |               | 25.9        | U              |
| HWP-FillSoil-151202 | Acetone                     | 50133561001   | Soil   | 104             | ug/kg | U          |               | 104         | U              |
| HWP-FillSoil-151202 | Acrolein                    | 50133561001   | Soil   | 104             | ug/kg | U          |               | 104         | U              |
| HWP-FillSoil-151202 | Acrylonitrile               | 50133561001   | Soil   | 104             | ug/kg | U          |               | 104         | U              |
| HWP-FillSoil-151202 | Benzene                     | 50133561001   | Soil   | 5.2             | ug/kg | U          |               | 5.2         | U              |
| HWP-FillSoil-151202 | Bromobenzene                | 50133561001   | Soil   | 5.2             | ug/kg | U          |               | 5.2         | U              |

**Hoosier Wood Preservers RV Soil Sample Results**  
**Pace Analytical Services, Inc., 50133561**

| Sample ID           | Analyte                   | Lab Sample ID | Matrix | Reporting Limit | Units      | Lab Result | Lab Qualifier | Val. Result | Val. Qualifier |
|---------------------|---------------------------|---------------|--------|-----------------|------------|------------|---------------|-------------|----------------|
| HWP-FillSoil-151202 | Bromochloromethane        | 50133561001   | Soil   |                 | 5.2 ug/kg  |            | U             | 5.2         | U              |
| HWP-FillSoil-151202 | Bromodichloromethane      | 50133561001   | Soil   |                 | 5.2 ug/kg  |            | U             | 5.2         | U              |
| HWP-FillSoil-151202 | Bromoform                 | 50133561001   | Soil   |                 | 5.2 ug/kg  |            | U             | 5.2         | U              |
| HWP-FillSoil-151202 | Bromomethane              | 50133561001   | Soil   |                 | 5.2 ug/kg  |            | U             | 5.2         | U              |
| HWP-FillSoil-151202 | Carbon disulfide          | 50133561001   | Soil   |                 | 10.4 ug/kg |            | U             | 10.4        | U              |
| HWP-FillSoil-151202 | Carbon tetrachloride      | 50133561001   | Soil   |                 | 5.2 ug/kg  |            | U             | 5.2         | U              |
| HWP-FillSoil-151202 | Chlorobenzene             | 50133561001   | Soil   |                 | 5.2 ug/kg  |            | U             | 5.2         | U              |
| HWP-FillSoil-151202 | Chloroethane              | 50133561001   | Soil   |                 | 5.2 ug/kg  |            | U             | 5.2         | U              |
| HWP-FillSoil-151202 | Chloroform                | 50133561001   | Soil   |                 | 5.2 ug/kg  |            | U             | 5.2         | U              |
| HWP-FillSoil-151202 | Chloromethane             | 50133561001   | Soil   |                 | 5.2 ug/kg  |            | U             | 5.2         | U              |
| HWP-FillSoil-151202 | Dibromochloromethane      | 50133561001   | Soil   |                 | 5.2 ug/kg  |            | U             | 5.2         | U              |
| HWP-FillSoil-151202 | Dibromomethane            | 50133561001   | Soil   |                 | 5.2 ug/kg  |            | U             | 5.2         | U              |
| HWP-FillSoil-151202 | Dichlorodifluoromethane   | 50133561001   | Soil   |                 | 5.2 ug/kg  |            | U             | 5.2         | U              |
| HWP-FillSoil-151202 | Ethyl methacrylate        | 50133561001   | Soil   |                 | 104 ug/kg  |            | U             | 104         | U              |
| HWP-FillSoil-151202 | Ethylbenzene              | 50133561001   | Soil   |                 | 5.2 ug/kg  | 12.5       |               | 12.5        |                |
| HWP-FillSoil-151202 | Hexachloro-1,3-butadiene  | 50133561001   | Soil   |                 | 5.2 ug/kg  |            | U             | 5.2         | U              |
| HWP-FillSoil-151202 | Iodomethane               | 50133561001   | Soil   |                 | 104 ug/kg  |            | U             | 104         | U              |
| HWP-FillSoil-151202 | Isopropylbenzene (Cumene) | 50133561001   | Soil   |                 | 5.2 ug/kg  |            | U             | 5.2         | U              |
| HWP-FillSoil-151202 | Methyl-tert-butyl ether   | 50133561001   | Soil   |                 | 5.2 ug/kg  |            | U             | 5.2         | U              |
| HWP-FillSoil-151202 | Methylene Chloride        | 50133561001   | Soil   |                 | 20.7 ug/kg |            | U             | 20.7        | U              |
| HWP-FillSoil-151202 | Naphthalene               | 50133561001   | Soil   |                 | 5.2 ug/kg  |            | U             | 5.2         | U              |
| HWP-FillSoil-151202 | Styrene                   | 50133561001   | Soil   |                 | 5.2 ug/kg  |            | U             | 5.2         | U              |
| HWP-FillSoil-151202 | Tetrachloroethene         | 50133561001   | Soil   |                 | 5.2 ug/kg  |            | U             | 5.2         | U              |
| HWP-FillSoil-151202 | Toluene                   | 50133561001   | Soil   |                 | 5.2 ug/kg  |            | U             | 5.2         | U              |
| HWP-FillSoil-151202 | Trichloroethene           | 50133561001   | Soil   |                 | 5.2 ug/kg  |            | U             | 5.2         | U              |
| HWP-FillSoil-151202 | Trichlorofluoromethane    | 50133561001   | Soil   |                 | 5.2 ug/kg  |            | U             | 5.2         | U              |
| HWP-FillSoil-151202 | Vinyl acetate             | 50133561001   | Soil   |                 | 104 ug/kg  |            | U             | 104         | U              |
| HWP-FillSoil-151202 | Vinyl chloride            | 50133561001   | Soil   |                 | 5.2 ug/kg  |            | U             | 5.2         | U              |
| HWP-FillSoil-151202 | Xylene (Total)            | 50133561001   | Soil   |                 | 10.4 ug/kg | 78.1       |               | 78.1        |                |
| HWP-FillSoil-151202 | cis-1,2-Dichloroethene    | 50133561001   | Soil   |                 | 5.2 ug/kg  |            | U             | 5.2         | U              |
| HWP-FillSoil-151202 | cis-1,3-Dichloropropene   | 50133561001   | Soil   |                 | 5.2 ug/kg  |            | U             | 5.2         | U              |
| HWP-FillSoil-151202 | n-Butylbenzene            | 50133561001   | Soil   |                 | 5.2 ug/kg  |            | U             | 5.2         | U              |
| HWP-FillSoil-151202 | n-Hexane                  | 50133561001   | Soil   |                 | 5.2 ug/kg  |            | U             | 5.2         | U              |
| HWP-FillSoil-151202 | n-Propylbenzene           | 50133561001   | Soil   |                 | 5.2 ug/kg  |            | U             | 5.2         | U              |
| HWP-FillSoil-151202 | p-Isopropyltoluene        | 50133561001   | Soil   |                 | 5.2 ug/kg  |            | U             | 5.2         | U              |
| HWP-FillSoil-151202 | sec-Butylbenzene          | 50133561001   | Soil   |                 | 5.2 ug/kg  |            | U             | 5.2         | U              |
| HWP-FillSoil-151202 | tert-Butylbenzene         | 50133561001   | Soil   |                 | 5.2 ug/kg  |            | U             | 5.2         | U              |
| HWP-FillSoil-151202 | trans-1,2-Dichloroethene  | 50133561001   | Soil   |                 | 5.2 ug/kg  |            | U             | 5.2         | U              |
| HWP-FillSoil-151202 | trans-1,3-Dichloropropene | 50133561001   | Soil   |                 | 5.2 ug/kg  |            | U             | 5.2         | U              |

**Hoosier Wood Preservers RV Soil Sample Results**  
**Pace Analytical Services, Inc., 50133561**

| Sample ID           | Analyte                      | Lab Sample ID | Matrix | Reporting Limit | Units | Lab Result | Lab Qualifier | Val. Result | Val. Qualifier |
|---------------------|------------------------------|---------------|--------|-----------------|-------|------------|---------------|-------------|----------------|
| HWP-FillSoil-151202 | trans-1,4-Dichloro-2-butene  | 50133561001   | Soil   | 104             | ug/kg | U          |               | 104         | U              |
| HWP-FillSoil-151202 | 2,4,5-Trichlorophenol        | 50133561001   | Soil   | 338             | ug/kg | U          |               | 338         | U              |
| HWP-FillSoil-151202 | 2,4,6-Trichlorophenol        | 50133561001   | Soil   | 338             | ug/kg | U          |               | 338         | U              |
| HWP-FillSoil-151202 | 2,4-Dichlorophenol           | 50133561001   | Soil   | 338             | ug/kg | U          |               | 338         | U              |
| HWP-FillSoil-151202 | 2,4-Dimethylphenol           | 50133561001   | Soil   | 338             | ug/kg | U          |               | 338         | U              |
| HWP-FillSoil-151202 | 2,4-Dinitrophenol            | 50133561001   | Soil   | 1640            | ug/kg | U          |               | 1640        | U              |
| HWP-FillSoil-151202 | 2,4-Dinitrotoluene           | 50133561001   | Soil   | 338             | ug/kg | U          |               | 338         | U              |
| HWP-FillSoil-151202 | 2,6-Dinitrotoluene           | 50133561001   | Soil   | 338             | ug/kg | U          |               | 338         | U              |
| HWP-FillSoil-151202 | 2-Chloronaphthalene          | 50133561001   | Soil   | 338             | ug/kg | U          |               | 338         | U              |
| HWP-FillSoil-151202 | 2-Chlorophenol               | 50133561001   | Soil   | 338             | ug/kg | U          |               | 338         | U              |
| HWP-FillSoil-151202 | 2-Methylnaphthalene          | 50133561001   | Soil   | 338             | ug/kg | U          |               | 338         | U              |
| HWP-FillSoil-151202 | 2-Methylphenol(o-Cresol)     | 50133561001   | Soil   | 338             | ug/kg | U          |               | 338         | U              |
| HWP-FillSoil-151202 | 2-Nitroaniline               | 50133561001   | Soil   | 1640            | ug/kg | U          |               | 1640        | U              |
| HWP-FillSoil-151202 | 2-Nitrophenol                | 50133561001   | Soil   | 338             | ug/kg | U          |               | 338         | U              |
| HWP-FillSoil-151202 | 3&4-Methylphenol(m&p Cresol) | 50133561001   | Soil   | 677             | ug/kg | U          |               | 677         | U              |
| HWP-FillSoil-151202 | 3,3'-Dichlorobenzidine       | 50133561001   | Soil   | 677             | ug/kg | U          |               | 677         | U              |
| HWP-FillSoil-151202 | 3-Nitroaniline               | 50133561001   | Soil   | 1640            | ug/kg | U          |               | 1640        | U              |
| HWP-FillSoil-151202 | 4,6-Dinitro-2-methylphenol   | 50133561001   | Soil   | 1640            | ug/kg | U          |               | 1640        | U              |
| HWP-FillSoil-151202 | 4-Bromophenylphenyl ether    | 50133561001   | Soil   | 338             | ug/kg | U          |               | 338         | U              |
| HWP-FillSoil-151202 | 4-Chloro-3-methylphenol      | 50133561001   | Soil   | 677             | ug/kg | U          |               | 677         | U              |
| HWP-FillSoil-151202 | 4-Chloroaniline              | 50133561001   | Soil   | 677             | ug/kg | U          |               | 677         | U              |
| HWP-FillSoil-151202 | 4-Chlorophenylphenyl ether   | 50133561001   | Soil   | 338             | ug/kg | U          |               | 338         | U              |
| HWP-FillSoil-151202 | 4-Nitroaniline               | 50133561001   | Soil   | 1640            | ug/kg | U          |               | 1640        | U              |
| HWP-FillSoil-151202 | 4-Nitrophenol                | 50133561001   | Soil   | 1640            | ug/kg | U          |               | 1640        | U              |
| HWP-FillSoil-151202 | Acenaphthene                 | 50133561001   | Soil   | 338             | ug/kg | U          |               | 338         | U              |
| HWP-FillSoil-151202 | Acenaphthylene               | 50133561001   | Soil   | 338             | ug/kg | U          |               | 338         | U              |
| HWP-FillSoil-151202 | Anthracene                   | 50133561001   | Soil   | 338             | ug/kg | U          |               | 338         | U              |
| HWP-FillSoil-151202 | Benzo(a)anthracene           | 50133561001   | Soil   | 338             | ug/kg | U          |               | 338         | U              |
| HWP-FillSoil-151202 | Benzo(a)pyrene               | 50133561001   | Soil   | 174             | ug/kg | U          |               | 174         | U              |
| HWP-FillSoil-151202 | Benzo(b)fluoranthene         | 50133561001   | Soil   | 338             | ug/kg | U          |               | 338         | U              |
| HWP-FillSoil-151202 | Benzo(g,h,i)perylene         | 50133561001   | Soil   | 338             | ug/kg | U          |               | 338         | U              |
| HWP-FillSoil-151202 | Benzo(k)fluoranthene         | 50133561001   | Soil   | 338             | ug/kg | U          |               | 338         | U              |
| HWP-FillSoil-151202 | Benzyl alcohol               | 50133561001   | Soil   | 677             | ug/kg | U          |               | 677         | U              |
| HWP-FillSoil-151202 | Butylbenzylphthalate         | 50133561001   | Soil   | 338             | ug/kg | U          |               | 338         | U              |
| HWP-FillSoil-151202 | Chrysene                     | 50133561001   | Soil   | 338             | ug/kg | U          |               | 338         | U              |
| HWP-FillSoil-151202 | Di-n-butylphthalate          | 50133561001   | Soil   | 338             | ug/kg | U          |               | 338         | U              |
| HWP-FillSoil-151202 | Di-n-octylphthalate          | 50133561001   | Soil   | 338             | ug/kg | U          |               | 338         | U              |
| HWP-FillSoil-151202 | Dibenz(a,h)anthracene        | 50133561001   | Soil   | 174             | ug/kg | U          |               | 174         | U              |
| HWP-FillSoil-151202 | Dibenzofuran                 | 50133561001   | Soil   | 338             | ug/kg | U          |               | 338         | U              |

**Hoosier Wood Preservers RV Soil Sample Results**  
**Pace Analytical Services, Inc., 50133561**

| Sample ID           | Analyte                        | Lab Sample ID | Matrix | Reporting Limit | Units      | Lab Result | Lab Qualifier | Val. Result | Val. Qualifier |
|---------------------|--------------------------------|---------------|--------|-----------------|------------|------------|---------------|-------------|----------------|
| HWP-FillSoil-151202 | Diethylphthalate               | 50133561001   | Soil   |                 | 338 ug/kg  |            | U             | 338 U       |                |
| HWP-FillSoil-151202 | Dimethylphthalate              | 50133561001   | Soil   |                 | 338 ug/kg  |            | U             | 338 U       |                |
| HWP-FillSoil-151202 | Fluoranthene                   | 50133561001   | Soil   |                 | 338 ug/kg  |            | U             | 338 U       |                |
| HWP-FillSoil-151202 | Fluorene                       | 50133561001   | Soil   |                 | 338 ug/kg  |            | U             | 338 U       |                |
| HWP-FillSoil-151202 | Hexachloro-1,3-butadiene       | 50133561001   | Soil   |                 | 338 ug/kg  |            | U             | 338 U       |                |
| HWP-FillSoil-151202 | Hexachlorobenzene              | 50133561001   | Soil   |                 | 338 ug/kg  |            | U             | 338 U       |                |
| HWP-FillSoil-151202 | Hexachlorocyclopentadiene      | 50133561001   | Soil   |                 | 338 ug/kg  |            | U             | 338 U       |                |
| HWP-FillSoil-151202 | Hexachloroethane               | 50133561001   | Soil   |                 | 338 ug/kg  |            | U             | 338 U       |                |
| HWP-FillSoil-151202 | Indeno(1,2,3-cd)pyrene         | 50133561001   | Soil   |                 | 338 ug/kg  |            | U             | 338 U       |                |
| HWP-FillSoil-151202 | Isophorone                     | 50133561001   | Soil   |                 | 338 ug/kg  |            | U             | 338 U       |                |
| HWP-FillSoil-151202 | N-Nitroso-di-n-propylamine     | 50133561001   | Soil   |                 | 338 ug/kg  |            | U             | 338 U       |                |
| HWP-FillSoil-151202 | N-Nitrosodiphenylamine         | 50133561001   | Soil   |                 | 338 ug/kg  |            | U             | 338 U       |                |
| HWP-FillSoil-151202 | Naphthalene                    | 50133561001   | Soil   |                 | 338 ug/kg  |            | U             | 338 U       |                |
| HWP-FillSoil-151202 | Nitrobenzene                   | 50133561001   | Soil   |                 | 338 ug/kg  |            | U             | 338 U       |                |
| HWP-FillSoil-151202 | Pentachlorophenol              | 50133561001   | Soil   |                 | 1640 ug/kg |            | U             | 1640 U      |                |
| HWP-FillSoil-151202 | Phenanthrene                   | 50133561001   | Soil   |                 | 338 ug/kg  |            | U             | 338 U       |                |
| HWP-FillSoil-151202 | Phenol                         | 50133561001   | Soil   |                 | 338 ug/kg  |            | U             | 338 U       |                |
| HWP-FillSoil-151202 | Pyrene                         | 50133561001   | Soil   |                 | 338 ug/kg  |            | U             | 338 U       |                |
| HWP-FillSoil-151202 | bis(2-Chloroethoxy)methane     | 50133561001   | Soil   |                 | 338 ug/kg  |            | U             | 338 U       |                |
| HWP-FillSoil-151202 | bis(2-Chloroethyl) ether       | 50133561001   | Soil   |                 | 338 ug/kg  |            | U             | 338 U       |                |
| HWP-FillSoil-151202 | bis(2-Ethylhexyl)phthalate     | 50133561001   | Soil   |                 | 338 ug/kg  |            | U             | 338 U       |                |
| HWP-FillSoil-151202 | bis(2chloro1methylethyl) ether | 50133561001   | Soil   |                 | 338 ug/kg  |            | U             | 338 U       |                |



March 16, 2016

Ms. Shelly Lam  
On-Scene Coordinator  
U.S. Environmental Protection Agency Region 5  
2525 North Shadeland Avenue  
Indianapolis, Indiana 46219

**Subject:       Data Validation Report  
                  Hoosier Wood Preservers RV  
                  EPA Contract No. EP-S5-13-01  
                  Technical Direction Document No. S05-0001-1510-018  
                  Document Tracking No. 0596E**

Dear Ms. Lam:

Tetra Tech Inc. (Tetra Tech) is submitting this Data Validation Report for one soil sample collected at the Hoosier Wood Preservers RV site. The sample was collected on December 1, 2015, and was analyzed for Resource Conservation and Recovery Act 8 metals by Pace Analytical Services, Inc. Tetra Tech received the final data package on December 9, 2015.

Analytical data were evaluated in general accordance with the EPA *Contract Laboratory Program National Functional Guidelines for Superfund Inorganic Data Review* (August 2014).

The data are acceptable and usable as received.

If you have any questions regarding this data validation report, please call me at (509) 688-5957.

Sincerely,

A handwritten signature in blue ink that reads 'Deb Kutsal'.

Deb Kutsal  
START Chemist

Enclosure

cc:     Kevin Scott, Tetra Tech Program Manager  
          Josh Randall, Tetra Tech Project Manager  
          Lucas Stamps, QEPI  
          TDD File



**ATTACHMENT 1**

**DATA VALIDATION REPORT  
SDG 50133497**

**DATA VALIDATION CHECKLIST – STAGE 2A  
EPA REGION 5 START CONTRACT**

|   |  |  |   |
|---|--|--|---|
| <b>Site Name</b>                              | Hoosier Wood Preservers RV   | <b>TDD No.</b>                                     | 0001-1510-018                           |
| <b>Document Tracking No.</b>                  | 0596E  | <b>Technical Reviewer<br/>(signature and date)</b> | <i>Harry N. Ellis III</i> 14 March 2016 |
| <b>Data Reviewer<br/>(signature and date)</b> | <i>Debbie Kuhl</i> March 10, 2016                                  | <b>Laboratory</b>                                  | Pace Analytical Services, Inc.          |
| <b>Laboratory Report No.</b>                  | 50133497   |  |   |
| <b>Analyses</b>                               | Resource Conservation and Recovery Act 8 metals by EPA SW6010/7471 |  |   |
| <b>Samples and Matrix</b>                     | One soil sample  |  |   |
| <b>Field Duplicate Pairs</b>                  | None   |  |   |
| <b>Field Blanks</b>                           | None   |  |   |

**INTRODUCTION**

This checklist summarizes the Stage 2A validation performed on the subject laboratory report, in accordance with the U.S. Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the EPA *Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review* (August 2014).

**OVERALL EVALUATION**

The data are acceptable and usable as received.

**Data completeness:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| Y               |                  |

**Sample preservation, receipt, and holding times:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| Y               |                  |



**DATA VALIDATION CHECKLIST – STAGE 2A  
EPA REGION 5 START CONTRACT**

**Method blanks:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| Y               |                  |

**Field blanks:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| NA              |                  |

**System monitoring compounds (surrogates and labeled compounds):**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| NA              |                  |

**MS/MSD:**

| Within Criteria | Exceedance/Notes   |
|-----------------|--|
| NA              | Non-project samples were spiked, and, therefore, were not evaluated. |

**Laboratory duplicates:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| Y               |                  |

**Field duplicates:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| NA              |                  |



**DATA VALIDATION CHECKLIST – STAGE 2A  
EPA REGION 5 START CONTRACT**

**LCS/LCSDs:**

| <b>Within<br/>Criteria</b> | <b>Exceedance/Notes</b> |
|----------------------------|-------------------------|
| Y                          |                         |

**Sample dilutions:**

| <b>Within<br/>Criteria</b> | <b>Exceedance/Notes</b>  |
|----------------------------|--|
| Y                          | Sample HWP-SBsoil-151201 was diluted 10x for mercury analysis. |

**Re-extraction and reanalysis:**

| <b>Within<br/>Criteria</b> | <b>Exceedance/Notes</b> |
|----------------------------|-------------------------|
| NA                         |                         |

**MDLs/RLs:**

| <b>Within<br/>Criteria</b> | <b>Exceedance/Notes</b>                       |
|----------------------------|---|
| Y                          | Detected results below RLs were not reported. |

**Tentatively identified compounds:**

| <b>Within<br/>Criteria</b> | <b>Exceedance/Notes</b> |
|----------------------------|-------------------------|
| NA                         |                         |

**Other (specify):**

| <b>Within<br/>Criteria</b> | <b>Exceedance/Notes</b> |
|----------------------------|-------------------------|
| NA                         |                         |



## DATA VALIDATION CHECKLIST – STAGE 2A EPA REGION 5 START CONTRACT

### Overall Qualifications:

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

|    |   |
|----|---|
| J  | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.  |
| J+ | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.   |
| J- | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.  |
| NJ | The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated value is the approximate concentration of the analyte in the sample.                    |
| R  | The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample.                                 |
| U  | The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).  |
| UJ | The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria. |

**Hoosier Wood Preservers RV Soil Sample Results**  
**Pace Analytical Services, Inc., 50133497**

| Sample ID         | Analyte          | Lab Sample ID | Matrix | Reporting |           | Lab Result | Lab Qual | Val. Result | Val. Qualifier |
|-------------------|------------------|---------------|--------|-----------|-----------|------------|----------|-------------|----------------|
|                   |                  |               |        | Limit     | Units     |            |          |             |                |
| HWP-SBsoil-151201 | Percent Moisture | 50133497001   | Soil   |           | 0.1 %     | 5          |          | 5           |                |
| HWP-SBsoil-151201 | Arsenic          | 50133497001   | Soil   |           | 1 mg/kg   | 15.7       |          | 15.7        |                |
| HWP-SBsoil-151201 | Barium           | 50133497001   | Soil   |           | 1 mg/kg   | 118        |          | 118         |                |
| HWP-SBsoil-151201 | Cadmium          | 50133497001   | Soil   |           | 0.5 mg/kg | 0.91       |          | 0.91        |                |
| HWP-SBsoil-151201 | Chromium         | 50133497001   | Soil   |           | 1 mg/kg   | 64.1       |          | 64.1        |                |
| HWP-SBsoil-151201 | Lead             | 50133497001   | Soil   |           | 1 mg/kg   | 50.3       |          | 50.3        |                |
| HWP-SBsoil-151201 | Selenium         | 50133497001   | Soil   |           | 1 mg/kg   | U          |          | 1 U         |                |
| HWP-SBsoil-151201 | Silver           | 50133497001   | Soil   |           | 0.5 mg/kg | U          |          | 0.5 U       |                |
| HWP-SBsoil-151201 | Mercury          | 50133497001   | Soil   |           | 2.2 mg/kg | 14.4       |          | 14.4        |                |



March 16, 2016

Ms. Shelly Lam  
On-Scene Coordinator  
U.S. Environmental Protection Agency Region 5  
2525 North Shadeland Avenue  
Indianapolis, Indiana 46219

**Subject: Data Validation Report  
Hoosier Wood Preservers RV  
EPA Contract No. EP-S5-13-01  
Technical Direction Document No. S05-0001-1510-018  
Document Tracking No. 0596D**

Dear Ms. Lam:

Tetra Tech Inc. (Tetra Tech) is submitting this Data Validation Report for one soil sample collected at the Hoosier Wood Preservers RV site. The sample were collected on November 24, 2015, and was analyzed for Toxicity Characteristic Leaching Procedure (TCLP) metals, volatile organic compounds, and semivolatile organic compounds by Pace Analytical Services, Inc. Tetra Tech received the final data package on December 4, 2015.

Analytical data were evaluated in general accordance with the EPA *Contract Laboratory Program (CLP) National Functional Guidelines (NFG) for Superfund Organic Methods Data Review* (August 2014) and EPA *Contract Laboratory Program (CLP) National Functional Guidelines (NFG) for Superfund Inorganic Data Review* (August 2014).

The data are acceptable and usable as received.

If you have any questions regarding this data validation report, please call me at (509) 688-5957.

Sincerely,

A handwritten signature in blue ink that reads 'Deb Kutsal'.

Deb Kutsal  
START Chemist

Enclosure

cc: Kevin Scott, Tetra Tech Program Manager  
Josh Randall, Tetra Tech Project Manager  
Lucas Stamps, QEPI  
TDD File

**ATTACHMENT 1**

**DATA VALIDATION REPORT  
SDG 50133180**



**DATA VALIDATION CHECKLIST – STAGE 2A  
EPA REGION 5 START CONTRACT**

|   |  |  |   |
|---|--|--|---|
| <b>Site Name</b>                          | Hoosier Wood Preservers RV   | <b>TDD No.</b>                                 | 0001-1510-018                           |
| <b>Document Tracking No.</b>              | 0596D  | <b>Technical Reviewer (signature and date)</b> | <i>Harry N. Ellis III</i> 14 March 2016 |
| <b>Data Reviewer (signature and date)</b> | <i>Debbie Kuhl</i> March 10, 2016  | <b>Laboratory</b>                              | Pace Analytical Services, Inc.          |
| <b>Laboratory Report No.</b>              | 50133180   |  |   |
| <b>Analyses</b>                           | Toxicity Characteristic Leaching Procedure (TCLP) metals by EPA SW1311/SW6010/7470, volatile organic compounds by EPA SW8260, and semivolatile organic compounds by EPA SW8270 |  |   |
| <b>Samples and Matrix</b>                 | One solid samples  |  |   |
| <b>Field Duplicate Pairs</b>              | None   |  |   |
| <b>Field Blanks</b>                       | None   |  |   |

**INTRODUCTION**

This checklist summarizes the Stage 2A validation performed on the subject laboratory report, in accordance with the U.S. Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the EPA *Contract Laboratory Program (CLP) National Functional Guidelines (NFG) for Superfund Organic Methods Data Review* (August 2014) and the EPA *CLP NFG for Inorganic Superfund Data Review* (August 2014).

**OVERALL EVALUATION**

The data are acceptable and usable as received.

**Data completeness:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| Y               |                  |

**Sample preservation, receipt, and holding times:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| Y               |                  |



# **DATA VALIDATION CHECKLIST – STAGE 2A** **EPA REGION 5 START CONTRACT**

**Method blanks:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| Y               |                  |

**Field blanks:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| NA              |                  |

**System monitoring compounds (surrogates and labeled compounds):**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| Y               |                  |

**MS/MSD:**

| Within Criteria | Exceedance/Notes   |
|-----------------|--|
| N               | MSD %R for 4-nitrophenol exceeded the upper control limit. No 4-nitrophenol was detected in the parent sample, however, so no action was required. |

**Laboratory duplicates:**

| Within Criteria | Exceedance/Notes   |
|-----------------|--|
| N               | Laboratory duplicate RPD for % moisture exceeded the control limit. % Moisture results are not typically qualified because of laboratory QC exceedances, therefore, no action was taken. |

**Field duplicates:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| NA              |                  |



# **DATA VALIDATION CHECKLIST – STAGE 2A** **EPA REGION 5 START CONTRACT**

## **LCS/LCSDs:**

| <b>Within Criteria</b> | <b>Exceedance/Notes</b>   |
|------------------------|---|
| N                      | The LCS %R for 4-nitrophenol exceeded the upper control limit. No 4-nitrophenol was found in the associated sample, therefore no action was required. |

## **Sample dilutions:**

| <b>Within Criteria</b> | <b>Exceedance/Notes</b> |
|------------------------|-------------------------|
| Y                      |                         |

## **Re-extraction and reanalysis:**

| <b>Within Criteria</b> | <b>Exceedance/Notes</b> |
|------------------------|-------------------------|
| NA                     |                         |

## **MDLs/RLs:**

| <b>Within Criteria</b> | <b>Exceedance/Notes</b>                       |
|------------------------|---|
| Y                      | Detected results below RLs were not reported. |

## **Tentatively identified compounds:**

| <b>Within Criteria</b> | <b>Exceedance/Notes</b> |
|------------------------|-------------------------|
| NA                     |                         |

## **Other (specify):**

| <b>Within Criteria</b> | <b>Exceedance/Notes</b> |
|------------------------|-------------------------|
| NA                     |                         |



## DATA VALIDATION CHECKLIST – STAGE 2A EPA REGION 5 START CONTRACT

### Overall Qualifications:

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

|    |   |
|----|---|
| J  | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.  |
| J+ | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.   |
| J- | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.  |
| NJ | The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated value is the approximate concentration of the analyte in the sample.                    |
| R  | The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample.                                 |
| U  | The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).  |
| UJ | The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria. |



**Hoosier Wood Preservers RV Sample Results**  
**Pace Analytical Services, Inc., 50133180**

| Sample ID            | Analyte                     | Result Units | Lab Sample ID | Matrix | Reporting Limit | Lab Result | Lab Result Qualifier | Val. Result | Val. Qualifier |
|----------------------|-----------------------------|--------------|---------------|--------|-----------------|------------|----------------------|-------------|----------------|
| HWP-SBtreated-151124 | Percent Moisture            | %            | 50133180001   | Soil   | 0.1             | 5          |                      | 5           |                |
| HWP-SBtreated-151124 | Arsenic                     | mg/L         | 50133180001   | Soil   | 0.1             | U          |                      | 0.1 U       |                |
| HWP-SBtreated-151124 | Barium                      | mg/L         | 50133180001   | Soil   | 5               | U          |                      | 5 U         |                |
| HWP-SBtreated-151124 | Cadmium                     | mg/L         | 50133180001   | Soil   | 0.05            | U          |                      | 0.05 U      |                |
| HWP-SBtreated-151124 | Chromium                    | mg/L         | 50133180001   | Soil   | 0.1             | U          |                      | 0.1 U       |                |
| HWP-SBtreated-151124 | Lead                        | mg/L         | 50133180001   | Soil   | 0.1             | U          |                      | 0.1 U       |                |
| HWP-SBtreated-151124 | Selenium                    | mg/L         | 50133180001   | Soil   | 0.1             | U          |                      | 0.1 U       |                |
| HWP-SBtreated-151124 | Silver                      | mg/L         | 50133180001   | Soil   | 0.1             | U          |                      | 0.1 U       |                |
| HWP-SBtreated-151124 | Mercury                     | mg/L         | 50133180001   | Soil   | 0.002           | U          |                      | 0.002 U     |                |
| HWP-SBtreated-151124 | 1,1,1,2-Tetrachloroethane   | ug/kg        | 50133180001   | Soil   | 5.3             | U          |                      | 5.3 U       |                |
| HWP-SBtreated-151124 | 1,1,1-Trichloroethane       | ug/kg        | 50133180001   | Soil   | 5.3             | U          |                      | 5.3 U       |                |
| HWP-SBtreated-151124 | 1,1,2,2-Tetrachloroethane   | ug/kg        | 50133180001   | Soil   | 5.3             | U          |                      | 5.3 U       |                |
| HWP-SBtreated-151124 | 1,1,2-Trichloroethane       | ug/kg        | 50133180001   | Soil   | 5.3             | U          |                      | 5.3 U       |                |
| HWP-SBtreated-151124 | 1,1-Dichloroethane          | ug/kg        | 50133180001   | Soil   | 5.3             | U          |                      | 5.3 U       |                |
| HWP-SBtreated-151124 | 1,1-Dichloroethene          | ug/kg        | 50133180001   | Soil   | 5.3             | U          |                      | 5.3 U       |                |
| HWP-SBtreated-151124 | 1,1-Dichloropropene         | ug/kg        | 50133180001   | Soil   | 5.3             | U          |                      | 5.3 U       |                |
| HWP-SBtreated-151124 | 1,2,3-Trichlorobenzene      | ug/kg        | 50133180001   | Soil   | 5.3             | U          |                      | 5.3 U       |                |
| HWP-SBtreated-151124 | 1,2,3-Trichloropropane      | ug/kg        | 50133180001   | Soil   | 5.3             | U          |                      | 5.3 U       |                |
| HWP-SBtreated-151124 | 1,2,4-Trichlorobenzene      | ug/kg        | 50133180001   | Soil   | 5.3             | U          |                      | 5.3 U       |                |
| HWP-SBtreated-151124 | 1,2,4-Trimethylbenzene      | ug/kg        | 50133180001   | Soil   | 5.3             | U          |                      | 5.3 U       |                |
| HWP-SBtreated-151124 | 1,2-Dibromoethane (EDB)     | ug/kg        | 50133180001   | Soil   | 5.3             | U          |                      | 5.3 U       |                |
| HWP-SBtreated-151124 | 1,2-Dichlorobenzene         | ug/kg        | 50133180001   | Soil   | 5.3             | U          |                      | 5.3 U       |                |
| HWP-SBtreated-151124 | 1,2-Dichloroethane          | ug/kg        | 50133180001   | Soil   | 5.3             | U          |                      | 5.3 U       |                |
| HWP-SBtreated-151124 | 1,2-Dichloropropane         | ug/kg        | 50133180001   | Soil   | 5.3             | U          |                      | 5.3 U       |                |
| HWP-SBtreated-151124 | 1,3,5-Trimethylbenzene      | ug/kg        | 50133180001   | Soil   | 5.3             | U          |                      | 5.3 U       |                |
| HWP-SBtreated-151124 | 1,3-Dichlorobenzene         | ug/kg        | 50133180001   | Soil   | 5.3             | U          |                      | 5.3 U       |                |
| HWP-SBtreated-151124 | 1,3-Dichloropropane         | ug/kg        | 50133180001   | Soil   | 5.3             | U          |                      | 5.3 U       |                |
| HWP-SBtreated-151124 | 1,4-Dichlorobenzene         | ug/kg        | 50133180001   | Soil   | 5.3             | U          |                      | 5.3 U       |                |
| HWP-SBtreated-151124 | 2,2-Dichloropropane         | ug/kg        | 50133180001   | Soil   | 5.3             | U          |                      | 5.3 U       |                |
| HWP-SBtreated-151124 | 2-Butanone (MEK)            | ug/kg        | 50133180001   | Soil   | 26.3            | U          |                      | 26.3 U      |                |
| HWP-SBtreated-151124 | 2-Chlorotoluene             | ug/kg        | 50133180001   | Soil   | 5.3             | U          |                      | 5.3 U       |                |
| HWP-SBtreated-151124 | 2-Hexanone                  | ug/kg        | 50133180001   | Soil   | 105             | U          |                      | 105 U       |                |
| HWP-SBtreated-151124 | 4-Chlorotoluene             | ug/kg        | 50133180001   | Soil   | 5.3             | U          |                      | 5.3 U       |                |
| HWP-SBtreated-151124 | 4-Methyl-2-pentanone (MIBK) | ug/kg        | 50133180001   | Soil   | 26.3            | U          |                      | 26.3 U      |                |
| HWP-SBtreated-151124 | Acetone                     | ug/kg        | 50133180001   | Soil   | 105             | 202        |                      | 202         |                |
| HWP-SBtreated-151124 | Acrolein                    | ug/kg        | 50133180001   | Soil   | 105             | U          |                      | 105 U       |                |
| HWP-SBtreated-151124 | Acrylonitrile               | ug/kg        | 50133180001   | Soil   | 105             | U          |                      | 105 U       |                |
| HWP-SBtreated-151124 | Benzene                     | ug/kg        | 50133180001   | Soil   | 5.3             | U          |                      | 5.3 U       |                |
| HWP-SBtreated-151124 | Bromobenzene                | ug/kg        | 50133180001   | Soil   | 5.3             | U          |                      | 5.3 U       |                |
| HWP-SBtreated-151124 | Bromochloromethane          | ug/kg        | 50133180001   | Soil   | 5.3             | U          |                      | 5.3 U       |                |
| HWP-SBtreated-151124 | Bromodichloromethane        | ug/kg        | 50133180001   | Soil   | 5.3             | U          |                      | 5.3 U       |                |
| HWP-SBtreated-151124 | Bromoform                   | ug/kg        | 50133180001   | Soil   | 5.3             | U          |                      | 5.3 U       |                |
| HWP-SBtreated-151124 | Bromomethane                | ug/kg        | 50133180001   | Soil   | 5.3             | U          |                      | 5.3 U       |                |

**Hoosier Wood Preservers RV Sample Results**  
**Pace Analytical Services, Inc., 50133180**

| Sample ID            | Analyte                     | Result Units | Lab Sample ID | Matrix | Reporting Limit | Lab Result | Lab Result Qualifier | Val. Result | Val. Qualifier |
|----------------------|-----------------------------|--------------|---------------|--------|-----------------|------------|----------------------|-------------|----------------|
| HWP-SBtreated-151124 | Carbon disulfide            | ug/kg        | 50133180001   | Soil   | 10.5            | U          |                      | 10.5        | U              |
| HWP-SBtreated-151124 | Carbon tetrachloride        | ug/kg        | 50133180001   | Soil   | 5.3             | U          |                      | 5.3         | U              |
| HWP-SBtreated-151124 | Chlorobenzene               | ug/kg        | 50133180001   | Soil   | 5.3             | U          |                      | 5.3         | U              |
| HWP-SBtreated-151124 | Chloroethane                | ug/kg        | 50133180001   | Soil   | 5.3             | U          |                      | 5.3         | U              |
| HWP-SBtreated-151124 | Chloroform                  | ug/kg        | 50133180001   | Soil   | 5.3             | U          |                      | 5.3         | U              |
| HWP-SBtreated-151124 | Chloromethane               | ug/kg        | 50133180001   | Soil   | 5.3             | U          |                      | 5.3         | U              |
| HWP-SBtreated-151124 | Dibromochloromethane        | ug/kg        | 50133180001   | Soil   | 5.3             | U          |                      | 5.3         | U              |
| HWP-SBtreated-151124 | Dibromomethane              | ug/kg        | 50133180001   | Soil   | 5.3             | U          |                      | 5.3         | U              |
| HWP-SBtreated-151124 | Dichlorodifluoromethane     | ug/kg        | 50133180001   | Soil   | 5.3             | U          |                      | 5.3         | U              |
| HWP-SBtreated-151124 | Ethyl methacrylate          | ug/kg        | 50133180001   | Soil   | 105             | U          |                      | 105         | U              |
| HWP-SBtreated-151124 | Ethylbenzene                | ug/kg        | 50133180001   | Soil   | 5.3             | U          |                      | 5.3         | U              |
| HWP-SBtreated-151124 | Hexachloro-1,3-butadiene    | ug/kg        | 50133180001   | Soil   | 5.3             | U          |                      | 5.3         | U              |
| HWP-SBtreated-151124 | Iodomethane                 | ug/kg        | 50133180001   | Soil   | 105             | U          |                      | 105         | U              |
| HWP-SBtreated-151124 | Isopropylbenzene (Cumene)   | ug/kg        | 50133180001   | Soil   | 5.3             | U          |                      | 5.3         | U              |
| HWP-SBtreated-151124 | Methyl-tert-butyl ether     | ug/kg        | 50133180001   | Soil   | 5.3             | U          |                      | 5.3         | U              |
| HWP-SBtreated-151124 | Methylene Chloride          | ug/kg        | 50133180001   | Soil   | 21.1            | U          |                      | 21.1        | U              |
| HWP-SBtreated-151124 | Naphthalene                 | ug/kg        | 50133180001   | Soil   | 5.3             | U          |                      | 5.3         | U              |
| HWP-SBtreated-151124 | Styrene                     | ug/kg        | 50133180001   | Soil   | 5.3             | U          |                      | 5.3         | U              |
| HWP-SBtreated-151124 | Tetrachloroethene           | ug/kg        | 50133180001   | Soil   | 5.3             | U          |                      | 5.3         | U              |
| HWP-SBtreated-151124 | Toluene                     | ug/kg        | 50133180001   | Soil   | 5.3             | U          |                      | 5.3         | U              |
| HWP-SBtreated-151124 | Trichloroethene             | ug/kg        | 50133180001   | Soil   | 5.3             | U          |                      | 5.3         | U              |
| HWP-SBtreated-151124 | Trichlorofluoromethane      | ug/kg        | 50133180001   | Soil   | 5.3             | U          |                      | 5.3         | U              |
| HWP-SBtreated-151124 | Vinyl acetate               | ug/kg        | 50133180001   | Soil   | 105             | U          |                      | 105         | U              |
| HWP-SBtreated-151124 | Vinyl chloride              | ug/kg        | 50133180001   | Soil   | 5.3             | U          |                      | 5.3         | U              |
| HWP-SBtreated-151124 | Xylene (Total)              | ug/kg        | 50133180001   | Soil   | 10.5            | U          |                      | 10.5        | U              |
| HWP-SBtreated-151124 | cis-1,2-Dichloroethene      | ug/kg        | 50133180001   | Soil   | 5.3             | U          |                      | 5.3         | U              |
| HWP-SBtreated-151124 | cis-1,3-Dichloropropene     | ug/kg        | 50133180001   | Soil   | 5.3             | U          |                      | 5.3         | U              |
| HWP-SBtreated-151124 | n-Butylbenzene              | ug/kg        | 50133180001   | Soil   | 5.3             | U          |                      | 5.3         | U              |
| HWP-SBtreated-151124 | n-Hexane                    | ug/kg        | 50133180001   | Soil   | 5.3             | U          |                      | 5.3         | U              |
| HWP-SBtreated-151124 | n-Propylbenzene             | ug/kg        | 50133180001   | Soil   | 5.3             | U          |                      | 5.3         | U              |
| HWP-SBtreated-151124 | p-Isopropyltoluene          | ug/kg        | 50133180001   | Soil   | 5.3             | U          |                      | 5.3         | U              |
| HWP-SBtreated-151124 | sec-Butylbenzene            | ug/kg        | 50133180001   | Soil   | 5.3             | U          |                      | 5.3         | U              |
| HWP-SBtreated-151124 | tert-Butylbenzene           | ug/kg        | 50133180001   | Soil   | 5.3             | U          |                      | 5.3         | U              |
| HWP-SBtreated-151124 | trans-1,2-Dichloroethene    | ug/kg        | 50133180001   | Soil   | 5.3             | U          |                      | 5.3         | U              |
| HWP-SBtreated-151124 | trans-1,3-Dichloropropene   | ug/kg        | 50133180001   | Soil   | 5.3             | U          |                      | 5.3         | U              |
| HWP-SBtreated-151124 | trans-1,4-Dichloro-2-butene | ug/kg        | 50133180001   | Soil   | 105             | U          |                      | 105         | U              |
| HWP-SBtreated-151124 | 2,4,5-Trichlorophenol       | ug/kg        | 50133180001   | Soil   | 1040            | U          |                      | 1040        | U              |
| HWP-SBtreated-151124 | 2,4,6-Trichlorophenol       | ug/kg        | 50133180001   | Soil   | 1040            | U          |                      | 1040        | U              |
| HWP-SBtreated-151124 | 2,4-Dichlorophenol          | ug/kg        | 50133180001   | Soil   | 1040            | U          |                      | 1040        | U              |
| HWP-SBtreated-151124 | 2,4-Dimethylphenol          | ug/kg        | 50133180001   | Soil   | 1040            | U          |                      | 1040        | U              |
| HWP-SBtreated-151124 | 2,4-Dinitrophenol           | ug/kg        | 50133180001   | Soil   | 5050            | U          |                      | 5050        | U              |
| HWP-SBtreated-151124 | 2,4-Dinitrotoluene          | ug/kg        | 50133180001   | Soil   | 1040            | U          |                      | 1040        | U              |
| HWP-SBtreated-151124 | 2,6-Dinitrotoluene          | ug/kg        | 50133180001   | Soil   | 1040            | U          |                      | 1040        | U              |

**Hoosier Wood Preservers RV Sample Results**  
**Pace Analytical Services, Inc., 50133180**

| Sample ID            | Analyte                      | Result Units | Lab Sample ID | Matrix | Reporting Limit | Lab Result | Lab Result Qualifier | Val. Result | Val. Qualifier |
|----------------------|------------------------------|--------------|---------------|--------|-----------------|------------|----------------------|-------------|----------------|
| HWP-SBtreated-151124 | 2-Chloronaphthalene          | ug/kg        | 50133180001   | Soil   | 1040            | U          |                      | 1040        | U              |
| HWP-SBtreated-151124 | 2-Chlorophenol               | ug/kg        | 50133180001   | Soil   | 1040            | U          |                      | 1040        | U              |
| HWP-SBtreated-151124 | 2-Methylnaphthalene          | ug/kg        | 50133180001   | Soil   | 1040            | U          |                      | 1040        | U              |
| HWP-SBtreated-151124 | 2-Methylphenol(o-Cresol)     | ug/kg        | 50133180001   | Soil   | 1040            | U          |                      | 1040        | U              |
| HWP-SBtreated-151124 | 2-Nitroaniline               | ug/kg        | 50133180001   | Soil   | 5050            | U          |                      | 5050        | U              |
| HWP-SBtreated-151124 | 2-Nitrophenol                | ug/kg        | 50133180001   | Soil   | 1040            | U          |                      | 1040        | U              |
| HWP-SBtreated-151124 | 3&4-Methylphenol(m&p Cresol) | ug/kg        | 50133180001   | Soil   | 2090            | U          |                      | 2090        | U              |
| HWP-SBtreated-151124 | 3,3'-Dichlorobenzidine       | ug/kg        | 50133180001   | Soil   | 2090            | U          |                      | 2090        | U              |
| HWP-SBtreated-151124 | 3-Nitroaniline               | ug/kg        | 50133180001   | Soil   | 5050            | U          |                      | 5050        | U              |
| HWP-SBtreated-151124 | 4,6-Dinitro-2-methylphenol   | ug/kg        | 50133180001   | Soil   | 5050            | U          |                      | 5050        | U              |
| HWP-SBtreated-151124 | 4-Bromophenylphenyl ether    | ug/kg        | 50133180001   | Soil   | 1040            | U          |                      | 1040        | U              |
| HWP-SBtreated-151124 | 4-Chloro-3-methylphenol      | ug/kg        | 50133180001   | Soil   | 2090            | U          |                      | 2090        | U              |
| HWP-SBtreated-151124 | 4-Chloroaniline              | ug/kg        | 50133180001   | Soil   | 2090            | U          |                      | 2090        | U              |
| HWP-SBtreated-151124 | 4-Chlorophenylphenyl ether   | ug/kg        | 50133180001   | Soil   | 1040            | U          |                      | 1040        | U              |
| HWP-SBtreated-151124 | 4-Nitroaniline               | ug/kg        | 50133180001   | Soil   | 5050            | U          |                      | 5050        | U              |
| HWP-SBtreated-151124 | 4-Nitrophenol                | ug/kg        | 50133180001   | Soil   | 5050            | U          |                      | 5050        | U              |
| HWP-SBtreated-151124 | Acenaphthene                 | ug/kg        | 50133180001   | Soil   | 1040            | U          |                      | 1040        | U              |
| HWP-SBtreated-151124 | Acenaphthylene               | ug/kg        | 50133180001   | Soil   | 1040            | U          |                      | 1040        | U              |
| HWP-SBtreated-151124 | Anthracene                   | ug/kg        | 50133180001   | Soil   | 1040            | U          |                      | 1040        | U              |
| HWP-SBtreated-151124 | Benzo(a)anthracene           | ug/kg        | 50133180001   | Soil   | 1040            | U          |                      | 1040        | U              |
| HWP-SBtreated-151124 | Benzo(a)pyrene               | ug/kg        | 50133180001   | Soil   | 537             | U          |                      | 537         | U              |
| HWP-SBtreated-151124 | Benzo(b)fluoranthene         | ug/kg        | 50133180001   | Soil   | 1040            | U          |                      | 1040        | U              |
| HWP-SBtreated-151124 | Benzo(g,h,i)perylene         | ug/kg        | 50133180001   | Soil   | 1040            | U          |                      | 1040        | U              |
| HWP-SBtreated-151124 | Benzo(k)fluoranthene         | ug/kg        | 50133180001   | Soil   | 1040            | U          |                      | 1040        | U              |
| HWP-SBtreated-151124 | Benzyl alcohol               | ug/kg        | 50133180001   | Soil   | 2090            | U          |                      | 2090        | U              |
| HWP-SBtreated-151124 | Butylbenzylphthalate         | ug/kg        | 50133180001   | Soil   | 1040            | U          |                      | 1040        | U              |
| HWP-SBtreated-151124 | Chrysene                     | ug/kg        | 50133180001   | Soil   | 1040            | U          |                      | 1040        | U              |
| HWP-SBtreated-151124 | Di-n-butylphthalate          | ug/kg        | 50133180001   | Soil   | 1040            | U          |                      | 1040        | U              |
| HWP-SBtreated-151124 | Di-n-octylphthalate          | ug/kg        | 50133180001   | Soil   | 1040            | U          |                      | 1040        | U              |
| HWP-SBtreated-151124 | Dibenz(a,h)anthracene        | ug/kg        | 50133180001   | Soil   | 537             | U          |                      | 537         | U              |
| HWP-SBtreated-151124 | Dibenzofuran                 | ug/kg        | 50133180001   | Soil   | 1040            | U          |                      | 1040        | U              |
| HWP-SBtreated-151124 | Diethylphthalate             | ug/kg        | 50133180001   | Soil   | 1040            | U          |                      | 1040        | U              |
| HWP-SBtreated-151124 | Dimethylphthalate            | ug/kg        | 50133180001   | Soil   | 1040            | U          |                      | 1040        | U              |
| HWP-SBtreated-151124 | Fluoranthene                 | ug/kg        | 50133180001   | Soil   | 1040            | U          |                      | 1040        | U              |
| HWP-SBtreated-151124 | Fluorene                     | ug/kg        | 50133180001   | Soil   | 1040            | U          |                      | 1040        | U              |
| HWP-SBtreated-151124 | Hexachloro-1,3-butadiene     | ug/kg        | 50133180001   | Soil   | 1040            | U          |                      | 1040        | U              |
| HWP-SBtreated-151124 | Hexachlorobenzene            | ug/kg        | 50133180001   | Soil   | 1040            | U          |                      | 1040        | U              |
| HWP-SBtreated-151124 | Hexachlorocyclopentadiene    | ug/kg        | 50133180001   | Soil   | 1040            | U          |                      | 1040        | U              |
| HWP-SBtreated-151124 | Hexachloroethane             | ug/kg        | 50133180001   | Soil   | 1040            | U          |                      | 1040        | U              |
| HWP-SBtreated-151124 | Indeno(1,2,3-cd)pyrene       | ug/kg        | 50133180001   | Soil   | 1040            | U          |                      | 1040        | U              |
| HWP-SBtreated-151124 | Isophorone                   | ug/kg        | 50133180001   | Soil   | 1040            | U          |                      | 1040        | U              |
| HWP-SBtreated-151124 | N-Nitroso-di-n-propylamine   | ug/kg        | 50133180001   | Soil   | 1040            | U          |                      | 1040        | U              |
| HWP-SBtreated-151124 | N-Nitrosodiphenylamine       | ug/kg        | 50133180001   | Soil   | 1040            | U          |                      | 1040        | U              |

**Hoosier Wood Preservers RV Sample Results**  
**Pace Analytical Services, Inc., 50133180**

| <b>Sample ID</b>     | <b>Analyte</b>                 | <b>Result Units</b> | <b>Lab Sample ID</b> | <b>Matrix</b> | <b>Reporting Limit</b> | <b>Lab Result</b> | <b>Lab Result Qualifier</b> | <b>Val. Result</b> | <b>Val. Qualifier</b> |
|----------------------|--------------------------------|---------------------|----------------------|---------------|------------------------|-------------------|-----------------------------|--------------------|-----------------------|
| HWP-SBtreated-151124 | Naphthalene                    | ug/kg               | 50133180001          | Soil          | 1040                   | U                 |                             | 1040               | U                     |
| HWP-SBtreated-151124 | Nitrobenzene                   | ug/kg               | 50133180001          | Soil          | 1040                   | U                 |                             | 1040               | U                     |
| HWP-SBtreated-151124 | Pentachlorophenol              | ug/kg               | 50133180001          | Soil          | 5050                   | U                 |                             | 5050               | U                     |
| HWP-SBtreated-151124 | Phenanthrene                   | ug/kg               | 50133180001          | Soil          | 1040                   | U                 |                             | 1040               | U                     |
| HWP-SBtreated-151124 | Phenol                         | ug/kg               | 50133180001          | Soil          | 1040                   | U                 |                             | 1040               | U                     |
| HWP-SBtreated-151124 | Pyrene                         | ug/kg               | 50133180001          | Soil          | 1040                   | U                 |                             | 1040               | U                     |
| HWP-SBtreated-151124 | bis(2-Chloroethoxy)methane     | ug/kg               | 50133180001          | Soil          | 1040                   | U                 |                             | 1040               | U                     |
| HWP-SBtreated-151124 | bis(2-Chloroethyl) ether       | ug/kg               | 50133180001          | Soil          | 1040                   | U                 |                             | 1040               | U                     |
| HWP-SBtreated-151124 | bis(2-Ethylhexyl)phthalate     | ug/kg               | 50133180001          | Soil          | 1040                   | U                 |                             | 1040               | U                     |
| HWP-SBtreated-151124 | bis(2chloro1methylethyl) ether | ug/kg               | 50133180001          | Soil          | 1040                   | U                 |                             | 1040               | U                     |





March 16, 2016

Ms. Shelly Lam  
On-Scene Coordinator  
U.S. Environmental Protection Agency Region 5  
2525 North Shadeland Avenue  
Indianapolis, Indiana 46219

**Subject: Data Validation Report  
Hoosier Wood Preservers RV  
EPA Contract No. EP-S5-13-01  
Technical Direction Document No. S05-0001-1510-018  
Document Tracking No. 0596C**

Dear Ms. Lam:

Tetra Tech Inc. (Tetra Tech) is submitting this Data Validation Report for one soil and one water sample collected at the Hoosier Wood Preservers RV site. The samples were collected on November 16, 2015, and were analyzed for total metals, Toxicity Characteristic Leaching Procedure (TCLP) metals, volatile organic compounds, semivolatile organic compounds, and flash point by Pace Analytical Services, Inc. Tetra Tech received the final data package on November 24, 2015.

Analytical data were evaluated in general accordance with the EPA *Contract Laboratory Program (CLP) National Functional Guidelines (NFG) for Superfund Organic Methods Data Review* (August 2014) and EPA *Contract Laboratory Program (CLP) National Functional Guidelines (NFG) for Superfund Inorganic Data Review* (August 2014).

The data are acceptable and usable as qualified.

If you have any questions regarding this data validation report, please call me at (509) 688-5957.

Sincerely,

A handwritten signature in blue ink that reads 'Deb Kutsal'.

Deb Kutsal  
START Chemist

Enclosure

cc: Kevin Scott, Tetra Tech Program Manager  
Josh Randall, Tetra Tech Project Manager  
Lucas Stamps, QEPI  
TDD File

**ATTACHMENT 1**

**DATA VALIDATION REPORT  
SDG 50132570**

**DATA VALIDATION CHECKLIST – STAGE 2A**  
**EPA REGION 5 START CONTRACT**

|   |  |  |   |
|---|--|--|---|
| <b>Site Name</b>                          | Hoosier Wood Preservers RV   | <b>TDD No.</b>                                 | 0001-1510-018                           |
| <b>Document Tracking No.</b>              | 0596C  | <b>Technical Reviewer (signature and date)</b> | <i>Harry N. Ellis III</i> 14 March 2016 |
| <b>Data Reviewer (signature and date)</b> | <i>Debbie Kuhl</i> March 9, 2016   | <b>Laboratory</b>                              | Pace Analytical Services, Inc.          |
| <b>Laboratory Report No.</b>              | 50132570   |  |   |
| <b>Analyses</b>                           | Total metals by EPA SW6010/SW7471, Toxicity Characteristic Leaching Procedure (TCLP) metals by EPA SW1311/SW6010/SW7470, volatile organic compounds by EPA SW8260, and semivolatile organic compounds by EPA SW8270. Also flash point by SW1010. |  |   |
| <b>Samples and Matrix</b>                 | One soil and one water sample  |  |   |
| <b>Field Duplicate Pairs</b>              | None   |  |   |
| <b>Field Blanks</b>                       | None   |  |   |

**INTRODUCTION**

This checklist summarizes the Stage 2A validation performed on the subject laboratory report, in accordance with the U.S. Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the EPA *Contract Laboratory Program (CLP) National Functional Guidelines (NFG) for Superfund Organic Methods Data Review* (August 2014) and the EPA *CLP NFG for Inorganic Superfund Data Review* (August 2014).

**OVERALL EVALUATION**

The data are acceptable and usable as qualified.

**Data completeness:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| Y               |                  |

**Sample preservation, receipt, and holding times:**

| Within Criteria | Exceedance/Notes  |
|-----------------|---|
| N               | Water sample HWP-A2UST-151116 was collected on November 16, in an unpreserved 1-liter amber glass jar, arrived at the laboratory on November 17 at a temperature of 0.4 degrees Celsius, and was analyzed for VOCs on November 22. Due to the lack of proper preservation, all VOC results for this sample were qualified as estimated and possibly biased low (J-/UJ). |



**DATA VALIDATION CHECKLIST – STAGE 2A  
EPA REGION 5 START CONTRACT**

**Method blanks:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| Y               |                  |

**Field blanks:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| NA              |                  |

**System monitoring compounds (surrogates and labeled compounds):**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| Y               |                  |

**MS/MSD:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| Y               |                  |

**Laboratory duplicates:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| Y               |                  |

**Field duplicates:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| NA              |                  |



**DATA VALIDATION CHECKLIST – STAGE 2A**  
**EPA REGION 5 START CONTRACT**

**LCS/LCSDs:**

| Within Criteria | Exceedance/Notes   |
|-----------------|--|
| N               | <p><b>VOCs (soil).</b> The LCS %R for 1,1-dichloroethene exceeded the upper control limit. No 1,1-dichloroethene was found in the associated sample, therefore, no action was required.</p> <p><b>SVOCs (soil):</b> The LCS %R for 2-methylnaphthalene exceeded the upper control limit. No 2-methylnaphthalene was found in the associated sample, therefore, no action was required.</p> |

**Sample dilutions:**

| Within Criteria | Exceedance/Notes   |
|-----------------|--|
| Y               | <p>Sample HWP-A2UST-151116 was analyzed at a 2x dilution for arsenic to bring result into calibration range.</p> <p>Sample HWP-FTBsoil-151116 was analyzed at a 50x dilution for pentachlorophenol to bring result into calibration range.</p> |

**Re-extraction and reanalysis:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| NA              |                  |

**MDLs/RLs:**

| Within Criteria | Exceedance/Notes                              |
|-----------------|---|
| Y               | Detected results below RLs were not reported. |

**Tentatively identified compounds:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| NA              |                  |



**DATA VALIDATION CHECKLIST – STAGE 2A  
EPA REGION 5 START CONTRACT**

**Other (specify):**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| NA              |                  |

**Overall Qualifications:**

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

|    |   |
|----|---|
| J  | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.  |
| J+ | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.   |
| J- | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.  |
| NJ | The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated value is the approximate concentration of the analyte in the sample.                    |
| R  | The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample.                                 |
| U  | The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).  |
| UJ | The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria. |

Hoosier Wood Preservers RV Sample Results  
Pace Analytical Services, Inc. Report No. 50132570

| Samp_No          | Analyte                     | Result_Units | Lab_Result_Qual | Lab_Samp_No | Matrix | Reporting_Limit | Result | Result_Qual | Final_Result | Final_Qual |
|------------------|-----------------------------|--------------|-----------------|-------------|--------|-----------------|--------|-------------|--------------|------------|
| HWP-A2UST-151116 | Flashpoint                  | deg F        |                 | 50132570001 | Water  |                 | >200   |             | >200         |            |
| HWP-A2UST-151116 | Arsenic                     | ug/L         |                 | 50132570001 | Water  | 20              | 50200  |             | 50200        |            |
| HWP-A2UST-151116 | Barium                      | ug/L         |                 | 50132570001 | Water  | 10              | 83.4   |             | 83.4         |            |
| HWP-A2UST-151116 | Cadmium                     | ug/L         |                 | 50132570001 | Water  | 2               | 153    |             | 153          |            |
| HWP-A2UST-151116 | Chromium                    | ug/L         |                 | 50132570001 | Water  | 10              | 2480   |             | 2480         |            |
| HWP-A2UST-151116 | Lead                        | ug/L         |                 | 50132570001 | Water  | 10              | 47.5   |             | 47.5         |            |
| HWP-A2UST-151116 | Selenium                    | ug/L         | U               | 50132570001 | Water  | 10              | U      |             | 10 U         |            |
| HWP-A2UST-151116 | Silver                      | ug/L         | U               | 50132570001 | Water  | 10              | U      |             | 10 U         |            |
| HWP-A2UST-151116 | Mercury                     | ug/L         | U               | 50132570001 | Water  | 2               | U      |             | 2 U          |            |
| HWP-A2UST-151116 | 1,1,1,2-Tetrachloroethane   | ug/L         | U               | 50132570001 | Water  | 5               | U      |             | 5 UJ         |            |
| HWP-A2UST-151116 | 1,1,1-Trichloroethane       | ug/L         | U               | 50132570001 | Water  | 5               | U      |             | 5 UJ         |            |
| HWP-A2UST-151116 | 1,1,2,2-Tetrachloroethane   | ug/L         | U               | 50132570001 | Water  | 5               | U      |             | 5 UJ         |            |
| HWP-A2UST-151116 | 1,1,2-Trichloroethane       | ug/L         | U               | 50132570001 | Water  | 5               | U      |             | 5 UJ         |            |
| HWP-A2UST-151116 | 1,1-Dichloroethane          | ug/L         | U               | 50132570001 | Water  | 5               | U      |             | 5 UJ         |            |
| HWP-A2UST-151116 | 1,1-Dichloroethene          | ug/L         | U               | 50132570001 | Water  | 5               | U      |             | 5 UJ         |            |
| HWP-A2UST-151116 | 1,1-Dichloropropene         | ug/L         | U               | 50132570001 | Water  | 5               | U      |             | 5 UJ         |            |
| HWP-A2UST-151116 | 1,2,3-Trichlorobenzene      | ug/L         | U               | 50132570001 | Water  | 5               | U      |             | 5 UJ         |            |
| HWP-A2UST-151116 | 1,2,3-Trichloropropane      | ug/L         | U               | 50132570001 | Water  | 5               | U      |             | 5 UJ         |            |
| HWP-A2UST-151116 | 1,2,4-Trichlorobenzene      | ug/L         | U               | 50132570001 | Water  | 5               | U      |             | 5 UJ         |            |
| HWP-A2UST-151116 | 1,2,4-Trimethylbenzene      | ug/L         | U               | 50132570001 | Water  | 5               | U      |             | 5 UJ         |            |
| HWP-A2UST-151116 | 1,2-Dibromoethane (EDB)     | ug/L         | U               | 50132570001 | Water  | 5               | U      |             | 5 UJ         |            |
| HWP-A2UST-151116 | 1,2-Dichlorobenzene         | ug/L         | U               | 50132570001 | Water  | 5               | U      |             | 5 UJ         |            |
| HWP-A2UST-151116 | 1,2-Dichloroethane          | ug/L         | U               | 50132570001 | Water  | 5               | U      |             | 5 UJ         |            |
| HWP-A2UST-151116 | 1,2-Dichloropropane         | ug/L         | U               | 50132570001 | Water  | 5               | U      |             | 5 UJ         |            |
| HWP-A2UST-151116 | 1,3,5-Trimethylbenzene      | ug/L         | U               | 50132570001 | Water  | 5               | U      |             | 5 UJ         |            |
| HWP-A2UST-151116 | 1,3-Dichlorobenzene         | ug/L         | U               | 50132570001 | Water  | 5               | U      |             | 5 UJ         |            |
| HWP-A2UST-151116 | 1,3-Dichloropropane         | ug/L         | U               | 50132570001 | Water  | 5               | U      |             | 5 UJ         |            |
| HWP-A2UST-151116 | 1,4-Dichlorobenzene         | ug/L         | U               | 50132570001 | Water  | 5               | U      |             | 5 UJ         |            |
| HWP-A2UST-151116 | 2,2-Dichloropropane         | ug/L         | U               | 50132570001 | Water  | 5               | U      |             | 5 UJ         |            |
| HWP-A2UST-151116 | 2-Butanone (MEK)            | ug/L         | U               | 50132570001 | Water  | 25              | U      |             | 25 UJ        |            |
| HWP-A2UST-151116 | 2-Chlorotoluene             | ug/L         | U               | 50132570001 | Water  | 5               | U      |             | 5 UJ         |            |
| HWP-A2UST-151116 | 2-Hexanone                  | ug/L         | U               | 50132570001 | Water  | 25              | U      |             | 25 UJ        |            |
| HWP-A2UST-151116 | 4-Chlorotoluene             | ug/L         | U               | 50132570001 | Water  | 5               | U      |             | 5 UJ         |            |
| HWP-A2UST-151116 | 4-Methyl-2-pentanone (MIBK) | ug/L         | U               | 50132570001 | Water  | 25              | U      |             | 25 UJ        |            |
| HWP-A2UST-151116 | Acetone                     | ug/L         | U               | 50132570001 | Water  | 100             | U      |             | 100 UJ       |            |
| HWP-A2UST-151116 | Acrolein                    | ug/L         | U               | 50132570001 | Water  | 50              | U      |             | 50 UJ        |            |
| HWP-A2UST-151116 | Acrylonitrile               | ug/L         | U               | 50132570001 | Water  | 100             | U      |             | 100 UJ       |            |
| HWP-A2UST-151116 | Benzene                     | ug/L         | U               | 50132570001 | Water  | 5               | U      |             | 5 UJ         |            |
| HWP-A2UST-151116 | Bromobenzene                | ug/L         | U               | 50132570001 | Water  | 5               | U      |             | 5 UJ         |            |
| HWP-A2UST-151116 | Bromochloromethane          | ug/L         | U               | 50132570001 | Water  | 5               | U      |             | 5 UJ         |            |
| HWP-A2UST-151116 | Bromodichloromethane        | ug/L         | U               | 50132570001 | Water  | 5               | U      |             | 5 UJ         |            |
| HWP-A2UST-151116 | Bromoform                   | ug/L         | U               | 50132570001 | Water  | 5               | U      |             | 5 UJ         |            |
| HWP-A2UST-151116 | Bromomethane                | ug/L         | U               | 50132570001 | Water  | 5               | U      |             | 5 UJ         |            |

Hoosier Wood Preservers RV Sample Results  
Pace Analytical Services, Inc. Report No. 50132570

| Samp_No          | Analyte                     | Result_Units | Lab_Result_Qual | Lab_Samp_No | Matrix | Reporting_Limit | Result | Result_Qual | Final_Result | Final_Qual |
|------------------|-----------------------------|--------------|-----------------|-------------|--------|-----------------|--------|-------------|--------------|------------|
| HWP-A2UST-151116 | Carbon disulfide            | ug/L         | U               | 50132570001 | Water  | 10              | U      |             | 10 UJ        |            |
| HWP-A2UST-151116 | Carbon tetrachloride        | ug/L         | U               | 50132570001 | Water  | 5               | U      |             | 5 UJ         |            |
| HWP-A2UST-151116 | Chlorobenzene               | ug/L         | U               | 50132570001 | Water  | 5               | U      |             | 5 UJ         |            |
| HWP-A2UST-151116 | Chloroethane                | ug/L         | U               | 50132570001 | Water  | 5               | U      |             | 5 UJ         |            |
| HWP-A2UST-151116 | Chloroform                  | ug/L         | U               | 50132570001 | Water  | 5               | U      |             | 5 UJ         |            |
| HWP-A2UST-151116 | Chloromethane               | ug/L         | U               | 50132570001 | Water  | 5               | U      |             | 5 UJ         |            |
| HWP-A2UST-151116 | Dibromochloromethane        | ug/L         | U               | 50132570001 | Water  | 5               | U      |             | 5 UJ         |            |
| HWP-A2UST-151116 | Dibromomethane              | ug/L         | U               | 50132570001 | Water  | 5               | U      |             | 5 UJ         |            |
| HWP-A2UST-151116 | Dichlorodifluoromethane     | ug/L         | U               | 50132570001 | Water  | 5               | U      |             | 5 UJ         |            |
| HWP-A2UST-151116 | Ethyl methacrylate          | ug/L         | U               | 50132570001 | Water  | 100             | U      |             | 100 UJ       |            |
| HWP-A2UST-151116 | Ethylbenzene                | ug/L         | U               | 50132570001 | Water  | 5               | U      |             | 5 UJ         |            |
| HWP-A2UST-151116 | Hexachloro-1,3-butadiene    | ug/L         | U               | 50132570001 | Water  | 5               | U      |             | 5 UJ         |            |
| HWP-A2UST-151116 | Iodomethane                 | ug/L         | U               | 50132570001 | Water  | 10              | U      |             | 10 UJ        |            |
| HWP-A2UST-151116 | Isopropylbenzene (Cumene)   | ug/L         | U               | 50132570001 | Water  | 5               | U      |             | 5 UJ         |            |
| HWP-A2UST-151116 | Methyl-tert-butyl ether     | ug/L         | U               | 50132570001 | Water  | 4               | U      |             | 4 UJ         |            |
| HWP-A2UST-151116 | Methylene Chloride          | ug/L         |                 | 50132570001 | Water  | 5               | 293    |             | 293 J-       |            |
| HWP-A2UST-151116 | Naphthalene                 | ug/L         | U               | 50132570001 | Water  | 5               | U      |             | 5 UJ         |            |
| HWP-A2UST-151116 | Styrene                     | ug/L         | U               | 50132570001 | Water  | 5               | U      |             | 5 UJ         |            |
| HWP-A2UST-151116 | Tetrachloroethene           | ug/L         | U               | 50132570001 | Water  | 5               | U      |             | 5 UJ         |            |
| HWP-A2UST-151116 | Toluene                     | ug/L         | U               | 50132570001 | Water  | 5               | U      |             | 5 UJ         |            |
| HWP-A2UST-151116 | Trichloroethene             | ug/L         | U               | 50132570001 | Water  | 5               | U      |             | 5 UJ         |            |
| HWP-A2UST-151116 | Trichlorofluoromethane      | ug/L         | U               | 50132570001 | Water  | 5               | U      |             | 5 UJ         |            |
| HWP-A2UST-151116 | Vinyl acetate               | ug/L         | U               | 50132570001 | Water  | 50              | U      |             | 50 UJ        |            |
| HWP-A2UST-151116 | Vinyl chloride              | ug/L         | U               | 50132570001 | Water  | 2               | U      |             | 2 UJ         |            |
| HWP-A2UST-151116 | Xylene (Total)              | ug/L         | U               | 50132570001 | Water  | 10              | U      |             | 10 UJ        |            |
| HWP-A2UST-151116 | cis-1,2-Dichloroethene      | ug/L         | U               | 50132570001 | Water  | 5               | U      |             | 5 UJ         |            |
| HWP-A2UST-151116 | cis-1,3-Dichloropropene     | ug/L         | U               | 50132570001 | Water  | 5               | U      |             | 5 UJ         |            |
| HWP-A2UST-151116 | n-Butylbenzene              | ug/L         | U               | 50132570001 | Water  | 5               | U      |             | 5 UJ         |            |
| HWP-A2UST-151116 | n-Hexane                    | ug/L         | U               | 50132570001 | Water  | 5               | U      |             | 5 UJ         |            |
| HWP-A2UST-151116 | n-Propylbenzene             | ug/L         | U               | 50132570001 | Water  | 5               | U      |             | 5 UJ         |            |
| HWP-A2UST-151116 | p-Isopropyltoluene          | ug/L         | U               | 50132570001 | Water  | 5               | U      |             | 5 UJ         |            |
| HWP-A2UST-151116 | sec-Butylbenzene            | ug/L         | U               | 50132570001 | Water  | 5               | U      |             | 5 UJ         |            |
| HWP-A2UST-151116 | tert-Butylbenzene           | ug/L         | U               | 50132570001 | Water  | 5               | U      |             | 5 UJ         |            |
| HWP-A2UST-151116 | trans-1,2-Dichloroethene    | ug/L         | U               | 50132570001 | Water  | 5               | U      |             | 5 UJ         |            |
| HWP-A2UST-151116 | trans-1,3-Dichloropropene   | ug/L         | U               | 50132570001 | Water  | 5               | U      |             | 5 UJ         |            |
| HWP-A2UST-151116 | trans-1,4-Dichloro-2-butene | ug/L         | U               | 50132570001 | Water  | 100             | U      |             | 100 UJ       |            |
| HWP-A2UST-151116 | 2,4,5-Trichlorophenol       | ug/L         | U               | 50132570001 | Water  | 10              | U      |             | 10 U         |            |
| HWP-A2UST-151116 | 2,4,6-Trichlorophenol       | ug/L         | U               | 50132570001 | Water  | 10              | U      |             | 10 U         |            |
| HWP-A2UST-151116 | 2,4-Dichlorophenol          | ug/L         | U               | 50132570001 | Water  | 10              | U      |             | 10 U         |            |
| HWP-A2UST-151116 | 2,4-Dimethylphenol          | ug/L         | U               | 50132570001 | Water  | 10              | U      |             | 10 U         |            |
| HWP-A2UST-151116 | 2,4-Dinitrophenol           | ug/L         | U               | 50132570001 | Water  | 50              | U      |             | 50 U         |            |
| HWP-A2UST-151116 | 2,4-Dinitrotoluene          | ug/L         | U               | 50132570001 | Water  | 10              | U      |             | 10 U         |            |
| HWP-A2UST-151116 | 2,6-Dinitrotoluene          | ug/L         | U               | 50132570001 | Water  | 10              | U      |             | 10 U         |            |



Hoosier Wood Preservers RV Sample Results  
Pace Analytical Services, Inc. Report No. 50132570

| Samp_No          | Analyte                      | Result_Units | Lab_Result_Qual | Lab_Samp_No | Matrix | Reporting_Limit | Result | Result_Qual | Final_Result | Final_Qual |
|------------------|------------------------------|--------------|-----------------|-------------|--------|-----------------|--------|-------------|--------------|------------|
| HWP-A2UST-151116 | 2-Chloronaphthalene          | ug/L         | U               | 50132570001 | Water  | 10              |        | U           | 10           | U          |
| HWP-A2UST-151116 | 2-Chlorophenol               | ug/L         | U               | 50132570001 | Water  | 10              |        | U           | 10           | U          |
| HWP-A2UST-151116 | 2-Methylnaphthalene          | ug/L         | U               | 50132570001 | Water  | 10              |        | U           | 10           | U          |
| HWP-A2UST-151116 | 2-Methylphenol(o-Cresol)     | ug/L         | U               | 50132570001 | Water  | 10              |        | U           | 10           | U          |
| HWP-A2UST-151116 | 2-Nitroaniline               | ug/L         | U               | 50132570001 | Water  | 50              |        | U           | 50           | U          |
| HWP-A2UST-151116 | 2-Nitrophenol                | ug/L         | U               | 50132570001 | Water  | 10              |        | U           | 10           | U          |
| HWP-A2UST-151116 | 3&4-Methylphenol(m&p Cresol) | ug/L         | U               | 50132570001 | Water  | 10              |        | U           | 10           | U          |
| HWP-A2UST-151116 | 3,3'-Dichlorobenzidine       | ug/L         | U               | 50132570001 | Water  | 20              |        | U           | 20           | U          |
| HWP-A2UST-151116 | 3-Nitroaniline               | ug/L         | U               | 50132570001 | Water  | 50              |        | U           | 50           | U          |
| HWP-A2UST-151116 | 4,6-Dinitro-2-methylphenol   | ug/L         | U               | 50132570001 | Water  | 50              |        | U           | 50           | U          |
| HWP-A2UST-151116 | 4-Bromophenylphenyl ether    | ug/L         | U               | 50132570001 | Water  | 10              |        | U           | 10           | U          |
| HWP-A2UST-151116 | 4-Chloro-3-methylphenol      | ug/L         | U               | 50132570001 | Water  | 10              |        | U           | 10           | U          |
| HWP-A2UST-151116 | 4-Chloroaniline              | ug/L         | U               | 50132570001 | Water  | 10              |        | U           | 10           | U          |
| HWP-A2UST-151116 | 4-Chlorophenylphenyl ether   | ug/L         | U               | 50132570001 | Water  | 10              |        | U           | 10           | U          |
| HWP-A2UST-151116 | 4-Nitroaniline               | ug/L         | U               | 50132570001 | Water  | 50              |        | U           | 50           | U          |
| HWP-A2UST-151116 | 4-Nitrophenol                | ug/L         | U               | 50132570001 | Water  | 50              |        | U           | 50           | U          |
| HWP-A2UST-151116 | Acenaphthene                 | ug/L         | U               | 50132570001 | Water  | 10              |        | U           | 10           | U          |
| HWP-A2UST-151116 | Acenaphthylene               | ug/L         | U               | 50132570001 | Water  | 10              |        | U           | 10           | U          |
| HWP-A2UST-151116 | Anthracene                   | ug/L         | U               | 50132570001 | Water  | 10              |        | U           | 10           | U          |
| HWP-A2UST-151116 | Benzo(a)anthracene           | ug/L         | U               | 50132570001 | Water  | 10              |        | U           | 10           | U          |
| HWP-A2UST-151116 | Benzo(a)pyrene               | ug/L         | U               | 50132570001 | Water  | 10              |        | U           | 10           | U          |
| HWP-A2UST-151116 | Benzo(b)fluoranthene         | ug/L         | U               | 50132570001 | Water  | 10              |        | U           | 10           | U          |
| HWP-A2UST-151116 | Benzo(g,h,i)perylene         | ug/L         | U               | 50132570001 | Water  | 10              |        | U           | 10           | U          |
| HWP-A2UST-151116 | Benzo(k)fluoranthene         | ug/L         | U               | 50132570001 | Water  | 10              |        | U           | 10           | U          |
| HWP-A2UST-151116 | Benzyl alcohol               | ug/L         | U               | 50132570001 | Water  | 10              |        | U           | 10           | U          |
| HWP-A2UST-151116 | Butylbenzylphthalate         | ug/L         | U               | 50132570001 | Water  | 10              |        | U           | 10           | U          |
| HWP-A2UST-151116 | Chrysene                     | ug/L         | U               | 50132570001 | Water  | 10              |        | U           | 10           | U          |
| HWP-A2UST-151116 | Di-n-butylphthalate          | ug/L         | U               | 50132570001 | Water  | 10              |        | U           | 10           | U          |
| HWP-A2UST-151116 | Di-n-octylphthalate          | ug/L         | U               | 50132570001 | Water  | 10              |        | U           | 10           | U          |
| HWP-A2UST-151116 | Dibenz(a,h)anthracene        | ug/L         | U               | 50132570001 | Water  | 10              |        | U           | 10           | U          |
| HWP-A2UST-151116 | Dibenzofuran                 | ug/L         | U               | 50132570001 | Water  | 10              |        | U           | 10           | U          |
| HWP-A2UST-151116 | Diethylphthalate             | ug/L         | U               | 50132570001 | Water  | 10              |        | U           | 10           | U          |
| HWP-A2UST-151116 | Dimethylphthalate            | ug/L         | U               | 50132570001 | Water  | 10              |        | U           | 10           | U          |
| HWP-A2UST-151116 | Fluoranthene                 | ug/L         | U               | 50132570001 | Water  | 10              |        | U           | 10           | U          |
| HWP-A2UST-151116 | Fluorene                     | ug/L         | U               | 50132570001 | Water  | 10              |        | U           | 10           | U          |
| HWP-A2UST-151116 | Hexachloro-1,3-butadiene     | ug/L         | U               | 50132570001 | Water  | 10              |        | U           | 10           | U          |
| HWP-A2UST-151116 | Hexachlorobenzene            | ug/L         | U               | 50132570001 | Water  | 10              |        | U           | 10           | U          |
| HWP-A2UST-151116 | Hexachlorocyclopentadiene    | ug/L         | U               | 50132570001 | Water  | 10              |        | U           | 10           | U          |
| HWP-A2UST-151116 | Hexachloroethane             | ug/L         | U               | 50132570001 | Water  | 10              |        | U           | 10           | U          |
| HWP-A2UST-151116 | Indeno(1,2,3-cd)pyrene       | ug/L         | U               | 50132570001 | Water  | 10              |        | U           | 10           | U          |
| HWP-A2UST-151116 | Isophorone                   | ug/L         | U               | 50132570001 | Water  | 10              |        | U           | 10           | U          |
| HWP-A2UST-151116 | N-Nitroso-di-n-propylamine   | ug/L         | U               | 50132570001 | Water  | 50              |        | U           | 50           | U          |
| HWP-A2UST-151116 | N-Nitrosodiphenylamine       | ug/L         | U               | 50132570001 | Water  | 10              |        | U           | 10           | U          |

Hoosier Wood Preservers RV Sample Results  
Pace Analytical Services, Inc. Report No. 50132570

| Samp_No            | Analyte                        | Result_Units | Lab_Result_Qual | Lab_Samp_No | Matrix | Reporting_Limit | Result | Result_Qual | Final_Result | Final_Qual |
|--------------------|--------------------------------|--------------|-----------------|-------------|--------|-----------------|--------|-------------|--------------|------------|
| HWP-A2UST-151116   | Naphthalene                    | ug/L         | U               | 50132570001 | Water  | 10              |        | U           | 10           | U          |
| HWP-A2UST-151116   | Nitrobenzene                   | ug/L         | U               | 50132570001 | Water  | 10              |        | U           | 10           | U          |
| HWP-A2UST-151116   | Pentachlorophenol              | ug/L         | U               | 50132570001 | Water  | 50              |        | U           | 50           | U          |
| HWP-A2UST-151116   | Phenanthrene                   | ug/L         | U               | 50132570001 | Water  | 10              |        | U           | 10           | U          |
| HWP-A2UST-151116   | Phenol                         | ug/L         | U               | 50132570001 | Water  | 10              |        | U           | 10           | U          |
| HWP-A2UST-151116   | Pyrene                         | ug/L         | U               | 50132570001 | Water  | 10              |        | U           | 10           | U          |
| HWP-A2UST-151116   | bis(2-Chloroethoxy)methane     | ug/L         | U               | 50132570001 | Water  | 10              |        | U           | 10           | U          |
| HWP-A2UST-151116   | bis(2-Chloroethyl) ether       | ug/L         | U               | 50132570001 | Water  | 10              |        | U           | 10           | U          |
| HWP-A2UST-151116   | bis(2-Ethylhexyl)phthalate     | ug/L         | U               | 50132570001 | Water  | 10              |        | U           | 10           | U          |
| HWP-A2UST-151116   | bis(2chloro1methylethyl) ether | ug/L         | U               | 50132570001 | Water  | 10              |        | U           | 10           | U          |
| HWP-FTBsoil-151116 | Percent Moisture               | %            |                 | 50132570002 | Soil   | 0.1             | 10.7   |             | 10.7         |            |
| HWP-FTBsoil-151116 | Arsenic                        | ug/L         |                 | 50132570002 | Soil   | 100             | 16200  |             | 16200        |            |
| HWP-FTBsoil-151116 | Barium                         | ug/L         | U               | 50132570002 | Soil   | 5000            |        | U           | 5000         | U          |
| HWP-FTBsoil-151116 | Cadmium                        | ug/L         |                 | 50132570002 | Soil   | 50              | 54.8   |             | 54.8         |            |
| HWP-FTBsoil-151116 | Chromium                       | ug/L         |                 | 50132570002 | Soil   | 100             | 131    |             | 131          |            |
| HWP-FTBsoil-151116 | Lead                           | mg/L         | U               | 50132570002 | Soil   | 0.1             |        | U           | 0.1          | U          |
| HWP-FTBsoil-151116 | Selenium                       | ug/L         | U               | 50132570002 | Soil   | 100             |        | U           | 100          | U          |
| HWP-FTBsoil-151116 | Silver                         | ug/L         | U               | 50132570002 | Soil   | 100             |        | U           | 100          | U          |
| HWP-FTBsoil-151116 | Mercury                        | mg/L         | U               | 50132570002 | Soil   | 0.002           |        | U           | 0.002        | U          |
| HWP-FTBsoil-151116 | 1,1,1,2-Tetrachloroethane      | ug/kg        | U               | 50132570002 | Soil   | 5.6             |        | U           | 5.6          | U          |
| HWP-FTBsoil-151116 | 1,1,1-Trichloroethane          | ug/kg        | U               | 50132570002 | Soil   | 5.6             |        | U           | 5.6          | U          |
| HWP-FTBsoil-151116 | 1,1,2,2-Tetrachloroethane      | ug/kg        | U               | 50132570002 | Soil   | 5.6             |        | U           | 5.6          | U          |
| HWP-FTBsoil-151116 | 1,1,2-Trichloroethane          | ug/kg        | U               | 50132570002 | Soil   | 5.6             |        | U           | 5.6          | U          |
| HWP-FTBsoil-151116 | 1,1-Dichloroethane             | ug/kg        | U               | 50132570002 | Soil   | 5.6             |        | U           | 5.6          | U          |
| HWP-FTBsoil-151116 | 1,1-Dichloroethene             | ug/kg        | U               | 50132570002 | Soil   | 5.6             |        | U           | 5.6          | U          |
| HWP-FTBsoil-151116 | 1,1-Dichloropropene            | ug/kg        | U               | 50132570002 | Soil   | 5.6             |        | U           | 5.6          | U          |
| HWP-FTBsoil-151116 | 1,2,3-Trichlorobenzene         | ug/kg        | U               | 50132570002 | Soil   | 5.6             |        | U           | 5.6          | U          |
| HWP-FTBsoil-151116 | 1,2,3-Trichloropropane         | ug/kg        | U               | 50132570002 | Soil   | 5.6             |        | U           | 5.6          | U          |
| HWP-FTBsoil-151116 | 1,2,4-Trichlorobenzene         | ug/kg        | U               | 50132570002 | Soil   | 5.6             |        | U           | 5.6          | U          |
| HWP-FTBsoil-151116 | 1,2,4-Trimethylbenzene         | ug/kg        | U               | 50132570002 | Soil   | 5.6             |        | U           | 5.6          | U          |
| HWP-FTBsoil-151116 | 1,2-Dibromoethane (EDB)        | ug/kg        | U               | 50132570002 | Soil   | 5.6             |        | U           | 5.6          | U          |
| HWP-FTBsoil-151116 | 1,2-Dichlorobenzene            | ug/kg        | U               | 50132570002 | Soil   | 5.6             |        | U           | 5.6          | U          |
| HWP-FTBsoil-151116 | 1,2-Dichloroethane             | ug/kg        | U               | 50132570002 | Soil   | 5.6             |        | U           | 5.6          | U          |
| HWP-FTBsoil-151116 | 1,2-Dichloropropane            | ug/kg        | U               | 50132570002 | Soil   | 5.6             |        | U           | 5.6          | U          |
| HWP-FTBsoil-151116 | 1,3,5-Trimethylbenzene         | ug/kg        | U               | 50132570002 | Soil   | 5.6             |        | U           | 5.6          | U          |
| HWP-FTBsoil-151116 | 1,3-Dichlorobenzene            | ug/kg        | U               | 50132570002 | Soil   | 5.6             |        | U           | 5.6          | U          |
| HWP-FTBsoil-151116 | 1,3-Dichloropropane            | ug/kg        | U               | 50132570002 | Soil   | 5.6             |        | U           | 5.6          | U          |
| HWP-FTBsoil-151116 | 1,4-Dichlorobenzene            | ug/kg        | U               | 50132570002 | Soil   | 5.6             |        | U           | 5.6          | U          |
| HWP-FTBsoil-151116 | 2,2-Dichloropropane            | ug/kg        | U               | 50132570002 | Soil   | 5.6             |        | U           | 5.6          | U          |
| HWP-FTBsoil-151116 | 2-Butanone (MEK)               | ug/kg        | U               | 50132570002 | Soil   | 28              |        | U           | 28           | U          |
| HWP-FTBsoil-151116 | 2-Chlorotoluene                | ug/kg        | U               | 50132570002 | Soil   | 5.6             |        | U           | 5.6          | U          |
| HWP-FTBsoil-151116 | 2-Hexanone                     | ug/kg        | U               | 50132570002 | Soil   | 112             |        | U           | 112          | U          |
| HWP-FTBsoil-151116 | 4-Chlorotoluene                | ug/kg        | U               | 50132570002 | Soil   | 5.6             |        | U           | 5.6          | U          |

Hoosier Wood Preservers RV Sample Results  
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| Samp_No            | Analyte                     | Result_Units | Lab_Result_Qual | Lab_Samp_No | Matrix | Reporting_Limit | Result | Result_Qual | Final_Result | Final_Qual |
|--------------------|-----------------------------|--------------|-----------------|-------------|--------|-----------------|--------|-------------|--------------|------------|
| HWP-FTBsoil-151116 | 4-Methyl-2-pentanone (MIBK) | ug/kg        | U               | 50132570002 | Soil   | 28              |        | U           | 28           | U          |
| HWP-FTBsoil-151116 | Acetone                     | ug/kg        | U               | 50132570002 | Soil   | 112             |        | U           | 112          | U          |
| HWP-FTBsoil-151116 | Acrolein                    | ug/kg        | U               | 50132570002 | Soil   | 112             |        | U           | 112          | U          |
| HWP-FTBsoil-151116 | Acrylonitrile               | ug/kg        | U               | 50132570002 | Soil   | 112             |        | U           | 112          | U          |
| HWP-FTBsoil-151116 | Benzene                     | ug/kg        | U               | 50132570002 | Soil   | 5.6             |        | U           | 5.6          | U          |
| HWP-FTBsoil-151116 | Bromobenzene                | ug/kg        | U               | 50132570002 | Soil   | 5.6             |        | U           | 5.6          | U          |
| HWP-FTBsoil-151116 | Bromochloromethane          | ug/kg        | U               | 50132570002 | Soil   | 5.6             |        | U           | 5.6          | U          |
| HWP-FTBsoil-151116 | Bromodichloromethane        | ug/kg        | U               | 50132570002 | Soil   | 5.6             |        | U           | 5.6          | U          |
| HWP-FTBsoil-151116 | Bromoform                   | ug/kg        | U               | 50132570002 | Soil   | 5.6             |        | U           | 5.6          | U          |
| HWP-FTBsoil-151116 | Bromomethane                | ug/kg        | U               | 50132570002 | Soil   | 5.6             |        | U           | 5.6          | U          |
| HWP-FTBsoil-151116 | Carbon disulfide            | ug/kg        | U               | 50132570002 | Soil   | 11.2            |        | U           | 11.2         | U          |
| HWP-FTBsoil-151116 | Carbon tetrachloride        | ug/kg        | U               | 50132570002 | Soil   | 5.6             |        | U           | 5.6          | U          |
| HWP-FTBsoil-151116 | Chlorobenzene               | ug/kg        | U               | 50132570002 | Soil   | 5.6             |        | U           | 5.6          | U          |
| HWP-FTBsoil-151116 | Chloroethane                | ug/kg        | U               | 50132570002 | Soil   | 5.6             |        | U           | 5.6          | U          |
| HWP-FTBsoil-151116 | Chloroform                  | ug/kg        | U               | 50132570002 | Soil   | 5.6             |        | U           | 5.6          | U          |
| HWP-FTBsoil-151116 | Chloromethane               | ug/kg        | U               | 50132570002 | Soil   | 5.6             |        | U           | 5.6          | U          |
| HWP-FTBsoil-151116 | Dibromochloromethane        | ug/kg        | U               | 50132570002 | Soil   | 5.6             |        | U           | 5.6          | U          |
| HWP-FTBsoil-151116 | Dibromomethane              | ug/kg        | U               | 50132570002 | Soil   | 5.6             |        | U           | 5.6          | U          |
| HWP-FTBsoil-151116 | Dichlorodifluoromethane     | ug/kg        | U               | 50132570002 | Soil   | 5.6             |        | U           | 5.6          | U          |
| HWP-FTBsoil-151116 | Ethyl methacrylate          | ug/kg        | U               | 50132570002 | Soil   | 112             |        | U           | 112          | U          |
| HWP-FTBsoil-151116 | Ethylbenzene                | ug/kg        | U               | 50132570002 | Soil   | 5.6             |        | U           | 5.6          | U          |
| HWP-FTBsoil-151116 | Hexachloro-1,3-butadiene    | ug/kg        | U               | 50132570002 | Soil   | 5.6             |        | U           | 5.6          | U          |
| HWP-FTBsoil-151116 | Iodomethane                 | ug/kg        | U               | 50132570002 | Soil   | 112             |        | U           | 112          | U          |
| HWP-FTBsoil-151116 | Isopropylbenzene (Cumene)   | ug/kg        | U               | 50132570002 | Soil   | 5.6             |        | U           | 5.6          | U          |
| HWP-FTBsoil-151116 | Methyl-tert-butyl ether     | ug/kg        | U               | 50132570002 | Soil   | 5.6             |        | U           | 5.6          | U          |
| HWP-FTBsoil-151116 | Methylene Chloride          | ug/kg        | U               | 50132570002 | Soil   | 22.4            |        | U           | 22.4         | U          |
| HWP-FTBsoil-151116 | Naphthalene                 | ug/kg        | U               | 50132570002 | Soil   | 5.6             |        | U           | 5.6          | U          |
| HWP-FTBsoil-151116 | Styrene                     | ug/kg        | U               | 50132570002 | Soil   | 5.6             |        | U           | 5.6          | U          |
| HWP-FTBsoil-151116 | Tetrachloroethene           | ug/kg        | U               | 50132570002 | Soil   | 5.6             |        | U           | 5.6          | U          |
| HWP-FTBsoil-151116 | Toluene                     | ug/kg        | U               | 50132570002 | Soil   | 5.6             |        | U           | 5.6          | U          |
| HWP-FTBsoil-151116 | Trichloroethene             | ug/kg        | U               | 50132570002 | Soil   | 5.6             |        | U           | 5.6          | U          |
| HWP-FTBsoil-151116 | Trichlorofluoromethane      | ug/kg        | U               | 50132570002 | Soil   | 5.6             |        | U           | 5.6          | U          |
| HWP-FTBsoil-151116 | Vinyl acetate               | ug/kg        | U               | 50132570002 | Soil   | 112             |        | U           | 112          | U          |
| HWP-FTBsoil-151116 | Vinyl chloride              | ug/kg        | U               | 50132570002 | Soil   | 5.6             |        | U           | 5.6          | U          |
| HWP-FTBsoil-151116 | Xylene (Total)              | ug/kg        | U               | 50132570002 | Soil   | 11.2            |        | U           | 11.2         | U          |
| HWP-FTBsoil-151116 | cis-1,2-Dichloroethene      | ug/kg        | U               | 50132570002 | Soil   | 5.6             |        | U           | 5.6          | U          |
| HWP-FTBsoil-151116 | cis-1,3-Dichloropropene     | ug/kg        | U               | 50132570002 | Soil   | 5.6             |        | U           | 5.6          | U          |
| HWP-FTBsoil-151116 | n-Butylbenzene              | ug/kg        | U               | 50132570002 | Soil   | 5.6             |        | U           | 5.6          | U          |
| HWP-FTBsoil-151116 | n-Hexane                    | ug/kg        | U               | 50132570002 | Soil   | 5.6             |        | U           | 5.6          | U          |
| HWP-FTBsoil-151116 | n-Propylbenzene             | ug/kg        | U               | 50132570002 | Soil   | 5.6             |        | U           | 5.6          | U          |
| HWP-FTBsoil-151116 | p-Isopropyltoluene          | ug/kg        | U               | 50132570002 | Soil   | 5.6             |        | U           | 5.6          | U          |
| HWP-FTBsoil-151116 | sec-Butylbenzene            | ug/kg        | U               | 50132570002 | Soil   | 5.6             |        | U           | 5.6          | U          |
| HWP-FTBsoil-151116 | tert-Butylbenzene           | ug/kg        | U               | 50132570002 | Soil   | 5.6             |        | U           | 5.6          | U          |

Hoosier Wood Preservers RV Sample Results  
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| Samp_No            | Analyte                      | Result_Units | Lab_Result_Qual | Lab_Samp_No | Matrix | Reporting_Limit | Result | Result_Qual | Final_Result | Final_Qual |
|--------------------|------------------------------|--------------|-----------------|-------------|--------|-----------------|--------|-------------|--------------|------------|
| HWP-FTBsoil-151116 | trans-1,2-Dichloroethene     | ug/kg        | U               | 50132570002 | Soil   | 5.6             |        | U           | 5.6          | U          |
| HWP-FTBsoil-151116 | trans-1,3-Dichloropropene    | ug/kg        | U               | 50132570002 | Soil   | 5.6             |        | U           | 5.6          | U          |
| HWP-FTBsoil-151116 | trans-1,4-Dichloro-2-butene  | ug/kg        | U               | 50132570002 | Soil   | 112             |        | U           | 112          | U          |
| HWP-FTBsoil-151116 | 2,4,5-Trichlorophenol        | ug/kg        | U               | 50132570002 | Soil   | 370             |        | U           | 370          | U          |
| HWP-FTBsoil-151116 | 2,4,6-Trichlorophenol        | ug/kg        | U               | 50132570002 | Soil   | 370             |        | U           | 370          | U          |
| HWP-FTBsoil-151116 | 2,4-Dichlorophenol           | ug/kg        | U               | 50132570002 | Soil   | 370             |        | U           | 370          | U          |
| HWP-FTBsoil-151116 | 2,4-Dimethylphenol           | ug/kg        | U               | 50132570002 | Soil   | 370             |        | U           | 370          | U          |
| HWP-FTBsoil-151116 | 2,4-Dinitrophenol            | ug/kg        | U               | 50132570002 | Soil   | 1790            |        | U           | 1790         | U          |
| HWP-FTBsoil-151116 | 2,4-Dinitrotoluene           | ug/kg        | U               | 50132570002 | Soil   | 370             |        | U           | 370          | U          |
| HWP-FTBsoil-151116 | 2,6-Dinitrotoluene           | ug/kg        | U               | 50132570002 | Soil   | 370             |        | U           | 370          | U          |
| HWP-FTBsoil-151116 | 2-Chloronaphthalene          | ug/kg        | U               | 50132570002 | Soil   | 370             |        | U           | 370          | U          |
| HWP-FTBsoil-151116 | 2-Chlorophenol               | ug/kg        | U               | 50132570002 | Soil   | 370             |        | U           | 370          | U          |
| HWP-FTBsoil-151116 | 2-Methylnaphthalene          | ug/kg        | U               | 50132570002 | Soil   | 370             |        | U           | 370          | U          |
| HWP-FTBsoil-151116 | 2-Methylphenol(o-Cresol)     | ug/kg        | U               | 50132570002 | Soil   | 370             |        | U           | 370          | U          |
| HWP-FTBsoil-151116 | 2-Nitroaniline               | ug/kg        | U               | 50132570002 | Soil   | 1790            |        | U           | 1790         | U          |
| HWP-FTBsoil-151116 | 2-Nitrophenol                | ug/kg        | U               | 50132570002 | Soil   | 370             |        | U           | 370          | U          |
| HWP-FTBsoil-151116 | 3&4-Methylphenol(m&p Cresol) | ug/kg        | U               | 50132570002 | Soil   | 739             |        | U           | 739          | U          |
| HWP-FTBsoil-151116 | 3,3'-Dichlorobenzidine       | ug/kg        | U               | 50132570002 | Soil   | 739             |        | U           | 739          | U          |
| HWP-FTBsoil-151116 | 3-Nitroaniline               | ug/kg        | U               | 50132570002 | Soil   | 1790            |        | U           | 1790         | U          |
| HWP-FTBsoil-151116 | 4,6-Dinitro-2-methylphenol   | ug/kg        | U               | 50132570002 | Soil   | 1790            |        | U           | 1790         | U          |
| HWP-FTBsoil-151116 | 4-Bromophenylphenyl ether    | ug/kg        | U               | 50132570002 | Soil   | 370             |        | U           | 370          | U          |
| HWP-FTBsoil-151116 | 4-Chloro-3-methylphenol      | ug/kg        | U               | 50132570002 | Soil   | 739             |        | U           | 739          | U          |
| HWP-FTBsoil-151116 | 4-Chloroaniline              | ug/kg        | U               | 50132570002 | Soil   | 739             |        | U           | 739          | U          |
| HWP-FTBsoil-151116 | 4-Chlorophenylphenyl ether   | ug/kg        | U               | 50132570002 | Soil   | 370             |        | U           | 370          | U          |
| HWP-FTBsoil-151116 | 4-Nitroaniline               | ug/kg        | U               | 50132570002 | Soil   | 1790            |        | U           | 1790         | U          |
| HWP-FTBsoil-151116 | 4-Nitrophenol                | ug/kg        | U               | 50132570002 | Soil   | 1790            |        | U           | 1790         | U          |
| HWP-FTBsoil-151116 | Acenaphthene                 | ug/kg        | U               | 50132570002 | Soil   | 370             |        | U           | 370          | U          |
| HWP-FTBsoil-151116 | Acenaphthylene               | ug/kg        | U               | 50132570002 | Soil   | 370             |        | U           | 370          | U          |
| HWP-FTBsoil-151116 | Anthracene                   | ug/kg        | U               | 50132570002 | Soil   | 370             |        | U           | 370          | U          |
| HWP-FTBsoil-151116 | Benzo(a)anthracene           | ug/kg        | U               | 50132570002 | Soil   | 370             |        | U           | 370          | U          |
| HWP-FTBsoil-151116 | Benzo(a)pyrene               | ug/kg        | U               | 50132570002 | Soil   | 190             |        | U           | 190          | U          |
| HWP-FTBsoil-151116 | Benzo(b)fluoranthene         | ug/kg        | U               | 50132570002 | Soil   | 370             |        | U           | 370          | U          |
| HWP-FTBsoil-151116 | Benzo(g,h,i)perylene         | ug/kg        | U               | 50132570002 | Soil   | 370             |        | U           | 370          | U          |
| HWP-FTBsoil-151116 | Benzo(k)fluoranthene         | ug/kg        | U               | 50132570002 | Soil   | 370             |        | U           | 370          | U          |
| HWP-FTBsoil-151116 | Benzyl alcohol               | ug/kg        | U               | 50132570002 | Soil   | 739             |        | U           | 739          | U          |
| HWP-FTBsoil-151116 | Butylbenzylphthalate         | ug/kg        | U               | 50132570002 | Soil   | 370             |        | U           | 370          | U          |
| HWP-FTBsoil-151116 | Chrysene                     | ug/kg        | U               | 50132570002 | Soil   | 370             |        | U           | 370          | U          |
| HWP-FTBsoil-151116 | Di-n-butylphthalate          | ug/kg        | U               | 50132570002 | Soil   | 370             |        | U           | 370          | U          |
| HWP-FTBsoil-151116 | Di-n-octylphthalate          | ug/kg        | U               | 50132570002 | Soil   | 370             |        | U           | 370          | U          |
| HWP-FTBsoil-151116 | Dibenz(a,h)anthracene        | ug/kg        | U               | 50132570002 | Soil   | 190             |        | U           | 190          | U          |
| HWP-FTBsoil-151116 | Dibenzofuran                 | ug/kg        | U               | 50132570002 | Soil   | 370             |        | U           | 370          | U          |
| HWP-FTBsoil-151116 | Diethylphthalate             | ug/kg        | U               | 50132570002 | Soil   | 370             |        | U           | 370          | U          |
| HWP-FTBsoil-151116 | Dimethylphthalate            | ug/kg        | U               | 50132570002 | Soil   | 370             |        | U           | 370          | U          |

Hoosier Wood Preservers RV Sample Results  
Pace Analytical Services, Inc. Report No. 50132570

| Samp_No            | Analyte                        | Result_Units | Lab_Result_Qual | Lab_Samp_No | Matrix | Reporting_Limit | Result | Result_Qual | Final_Result | Final_Qual |
|--------------------|--------------------------------|--------------|-----------------|-------------|--------|-----------------|--------|-------------|--------------|------------|
| HWP-FTBsoil-151116 | Fluoranthene                   | ug/kg        | U               | 50132570002 | Soil   | 370             |        | U           | 370          | U          |
| HWP-FTBsoil-151116 | Fluorene                       | ug/kg        | U               | 50132570002 | Soil   | 370             |        | U           | 370          | U          |
| HWP-FTBsoil-151116 | Hexachloro-1,3-butadiene       | ug/kg        | U               | 50132570002 | Soil   | 370             |        | U           | 370          | U          |
| HWP-FTBsoil-151116 | Hexachlorobenzene              | ug/kg        | U               | 50132570002 | Soil   | 370             |        | U           | 370          | U          |
| HWP-FTBsoil-151116 | Hexachlorocyclopentadiene      | ug/kg        | U               | 50132570002 | Soil   | 370             |        | U           | 370          | U          |
| HWP-FTBsoil-151116 | Hexachloroethane               | ug/kg        | U               | 50132570002 | Soil   | 370             |        | U           | 370          | U          |
| HWP-FTBsoil-151116 | Indeno(1,2,3-cd)pyrene         | ug/kg        | U               | 50132570002 | Soil   | 370             |        | U           | 370          | U          |
| HWP-FTBsoil-151116 | Isophorone                     | ug/kg        | U               | 50132570002 | Soil   | 370             |        | U           | 370          | U          |
| HWP-FTBsoil-151116 | N-Nitroso-di-n-propylamine     | ug/kg        | U               | 50132570002 | Soil   | 370             |        | U           | 370          | U          |
| HWP-FTBsoil-151116 | N-Nitrosodiphenylamine         | ug/kg        | U               | 50132570002 | Soil   | 370             |        | U           | 370          | U          |
| HWP-FTBsoil-151116 | Naphthalene                    | ug/kg        | U               | 50132570002 | Soil   | 370             |        | U           | 370          | U          |
| HWP-FTBsoil-151116 | Nitrobenzene                   | ug/kg        | U               | 50132570002 | Soil   | 370             |        | U           | 370          | U          |
| HWP-FTBsoil-151116 | Pentachlorophenol              | ug/kg        |                 | 50132570002 | Soil   | 89600           | 107000 |             | 107000       |            |
| HWP-FTBsoil-151116 | Phenanthrene                   | ug/kg        | U               | 50132570002 | Soil   | 370             |        | U           | 370          | U          |
| HWP-FTBsoil-151116 | Phenol                         | ug/kg        | U               | 50132570002 | Soil   | 370             |        | U           | 370          | U          |
| HWP-FTBsoil-151116 | Pyrene                         | ug/kg        | U               | 50132570002 | Soil   | 370             |        | U           | 370          | U          |
| HWP-FTBsoil-151116 | bis(2-Chloroethoxy)methane     | ug/kg        | U               | 50132570002 | Soil   | 370             |        | U           | 370          | U          |
| HWP-FTBsoil-151116 | bis(2-Chloroethyl) ether       | ug/kg        | U               | 50132570002 | Soil   | 370             |        | U           | 370          | U          |
| HWP-FTBsoil-151116 | bis(2-Ethylhexyl)phthalate     | ug/kg        | U               | 50132570002 | Soil   | 370             |        | U           | 370          | U          |
| HWP-FTBsoil-151116 | bis(2chloro1methylethyl) ether | ug/kg        | U               | 50132570002 | Soil   | 370             |        | U           | 370          | U          |



March 16, 2016

Ms. Shelly Lam  
On-Scene Coordinator  
U.S. Environmental Protection Agency Region 5  
2525 North Shadeland Avenue  
Indianapolis, Indiana 46219

**Subject: Data Validation Report  
Hoosier Wood Preservers RV  
EPA Contract No. EP-S5-13-01  
Technical Direction Document No. S05-0001-1510-018  
Document Tracking No. 0596B**

Dear Ms. Lam:

Tetra Tech Inc. (Tetra Tech) is submitting this Data Validation Report for four solid samples collected at the Hoosier Wood Preservers RV site. The samples were collected on November 12 and 13, 2015, and were analyzed for Resource Conservation and Recovery Act (RCRA) 8 metals, Toxicity Characteristic Leaching Procedure (TCLP) RCRA 8 metals, volatile organic compounds, and semivolatile organic compounds by Pace Analytical Services, Inc. Tetra Tech received the final data package on November 23, 2015.

Analytical data were evaluated in general accordance with the EPA *Contract Laboratory Program (CLP) National Functional Guidelines (NFG) for Superfund Organic Methods Data Review* (August 2014) and EPA *Contract Laboratory Program (CLP) National Functional Guidelines (NFG) for Superfund Inorganic Data Review* (August 2014).

The data are acceptable and usable as qualified.

If you have any questions regarding this data validation report, please call me at (509) 688-5957.

Sincerely,

A handwritten signature in blue ink that reads 'Deb Kutsal'.

Deb Kutsal  
START Chemist

Enclosure

cc: Kevin Scott, Tetra Tech Program Manager  
Josh Randall, Tetra Tech Project Manager  
Lucas Stamps, QEPI  
TDD File

**ATTACHMENT 1**

**DATA VALIDATION REPORT  
SDG 50132394**

**DATA VALIDATION CHECKLIST – STAGE 2A  
EPA REGION 5 START CONTRACT**

|   |   |  |   |
|---|---|--|---|
| <b>Site Name</b>                          | Hoosier Wood Preservers RV  | <b>TDD No.</b>                                 | 0001-1510-018                           |
| <b>Document Tracking No.</b>              | 0596B   | <b>Technical Reviewer (signature and date)</b> | <i>Harry N. Ellis III</i> 14 March 2016 |
| <b>Data Reviewer (signature and date)</b> | <i>Debbie Kuhl</i> March 8, 2016  | <b>Laboratory</b>                              | Pace Analytical Services, Inc.          |
| <b>Laboratory Report No.</b>              | 50132394  |  |   |
| <b>Analyses</b>                           | Metals by EPA SW6010/7471, Toxicity Characteristic Leaching Procedure (TCLP) metals by EPA SW1311/SW6010/7470, volatile organic compounds by EPA SW8260, and semivolatile organic compounds by EPA SW8270 |  |   |
| <b>Samples and Matrix</b>                 | Four solid samples (soil and bulk)  |  |   |
| <b>Field Duplicate Pairs</b>              | None  |  |   |
| <b>Field Blanks</b>                       | None  |  |   |

**INTRODUCTION**

This checklist summarizes the Stage 2A validation performed on the subject laboratory report, in accordance with the U.S. Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the EPA *Contract Laboratory Program (CLP) National Functional Guidelines (NFG) for Superfund Organic Methods Data Review* (August 2014) and the EPA *CLP NFG for Inorganic Superfund Data Review* (August 2014).

**OVERALL EVALUATION**

The data are acceptable and usable as qualified.

**Data completeness:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| Y               |                  |

**Sample preservation, receipt, and holding times:**

| Within Criteria | Exceedance/Notes   |
|-----------------|--|
| N               | The sample container for HWP-DPconcrete-151113 was cracked when received at the laboratory. The sample was analyzed for both VOCs and SVOCs from the cracked container. All VOC and SVOC results were qualified as estimated (UJ). |





## DATA VALIDATION CHECKLIST – STAGE 2A EPA REGION 5 START CONTRACT

### Method blanks:

| Within Criteria | Exceedance/Notes  |
|-----------------|---|
| N               | Chromium was detected above the RL in the method blank associated with the solid samples. Associated sample results were greater than 10x the amount in the blank, so no action was required. |

### Field blanks:

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| NA              |                  |

### System monitoring compounds (surrogates and labeled compounds):

| Within Criteria | Exceedance/Notes  |
|-----------------|---|
| N               | The %R for SVOC surrogate 2,4,6-tribromophenol from sample HWP-DPconcrete-151113 was below the lower control limit. Since the %Rs for the other two acid surrogate compounds were in control, no data were qualified due to the low surrogate recovery. |

### MS/MSD:

| Within Criteria | Exceedance/Notes   |
|-----------------|--|
| NA              | Non-project samples were used for MS/MSD, so were not evaluated. |

### Laboratory duplicates:

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| Y               |                  |

## DATA VALIDATION CHECKLIST – STAGE 2A EPA REGION 5 START CONTRACT

### Field duplicates:

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| NA              |                  |

### LCS/LCSDs:

| Within Criteria | Exceedance/Notes   |
|-----------------|--|
| N               | The LCS %R for trans-1,3-dichloropropene exceeded the upper control limit. No trans-1,3-dichloropropene was found in the associated samples, therefore no action was required. |

### Sample dilutions:

| Within Criteria | Exceedance/Notes  |
|-----------------|---|
| Y               | Sample HWP-Trench-151113 was diluted five-fold for silver due to matrix interference. This resulted in an elevated RL for silver, which was not detected. |

### Re-extraction and reanalysis:

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| NA              |                  |

### MDLs/RLs:

| Within Criteria | Exceedance/Notes                              |
|-----------------|---|
| Y               | Detected results below RLs were not reported. |



## DATA VALIDATION CHECKLIST – STAGE 2A EPA REGION 5 START CONTRACT

### Tentatively identified compounds:

| Within<br>Criteria | Exceedance/Notes |
|--------------------|------------------|
| NA                 |                  |

### Other (specify):

| Within<br>Criteria | Exceedance/Notes |
|--------------------|------------------|
| NA                 |                  |

### Overall Qualifications:

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

|    |   |
|----|---|
| J  | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.  |
| J+ | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.   |
| J- | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.  |
| NJ | The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated value is the approximate concentration of the analyte in the sample.                    |
| R  | The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample.                                 |
| U  | The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).  |
| UJ | The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria. |



Hoosier Wood Preservers RV Sample Results  
Pace Analytical Services, Inc. Report No. 50132394

| Samp_No               | Analyte                     | Result_Units | Lab Result Qualifier | Lab_Samp_No | Matrix_ID | Reporting Limit | Reporting Limit Units | Result | Result Qualifier | Final Result | Final Qualifier |
|-----------------------|-----------------------------|--------------|----------------------|-------------|-----------|-----------------|-----------------------|--------|------------------|--------------|-----------------|
| HWP-B1Exc-151112      | Arsenic                     | mg/kg        |                      | 50132394001 | Soil      | 1.1             | mg/kg                 | 8.6    |                  | 8.6          |                 |
| HWP-B1Exc-151112      | Barium                      | mg/kg        |                      | 50132394001 | Soil      | 1.1             | mg/kg                 | 68.4   |                  | 68.4         |                 |
| HWP-B1Exc-151112      | Cadmium                     | mg/kg        | U                    | 50132394001 | Soil      | 0.55            | mg/kg                 |        | U                | 0.55         | U               |
| HWP-B1Exc-151112      | Chromium                    | mg/kg        |                      | 50132394001 | Soil      | 1.1             | mg/kg                 | 31     |                  | 31           |                 |
| HWP-B1Exc-151112      | Lead                        | mg/kg        |                      | 50132394001 | Soil      | 1.1             | mg/kg                 | 21.8   |                  | 21.8         |                 |
| HWP-B1Exc-151112      | Selenium                    | mg/kg        | U                    | 50132394001 | Soil      | 1.1             | mg/kg                 |        | U                | 1.1          | U               |
| HWP-B1Exc-151112      | Silver                      | mg/kg        | U                    | 50132394001 | Soil      | 0.55            | mg/kg                 |        | U                | 0.55         | U               |
| HWP-B1Exc-151112      | Mercury                     | mg/kg        | U                    | 50132394001 | Soil      | 0.24            | mg/kg                 |        | U                | 0.24         | U               |
| HWP-DPconcrete-151113 | Arsenic                     | mg/L         |                      | 50132394004 | Soil      | 0.1             | mg/L                  | 6.3    |                  | 6.3          |                 |
| HWP-DPconcrete-151113 | Barium                      | mg/L         | U                    | 50132394004 | Soil      | 5               | mg/L                  |        | U                | 5            | U               |
| HWP-DPconcrete-151113 | Cadmium                     | mg/L         | U                    | 50132394004 | Soil      | 0.05            | mg/L                  |        | U                | 0.05         | U               |
| HWP-DPconcrete-151113 | Chromium                    | mg/L         |                      | 50132394004 | Soil      | 0.1             | mg/L                  | 23.8   |                  | 23.8         |                 |
| HWP-DPconcrete-151113 | Lead                        | mg/L         | U                    | 50132394004 | Soil      | 0.1             | mg/L                  |        | U                | 0.1          | U               |
| HWP-DPconcrete-151113 | Selenium                    | mg/L         | U                    | 50132394004 | Soil      | 0.1             | mg/L                  |        | U                | 0.1          | U               |
| HWP-DPconcrete-151113 | Silver                      | mg/L         | U                    | 50132394004 | Soil      | 0.1             | mg/L                  |        | U                | 0.1          | U               |
| HWP-DPconcrete-151113 | Mercury                     | mg/L         | U                    | 50132394004 | Soil      | 0.002           | mg/L                  |        | U                | 0.002        | U               |
| HWP-DPconcrete-151113 | 1,1,1,2-Tetrachloroethane   | ug/kg        | U                    | 50132394004 | Soil      | 5.4             | ug/kg                 |        | U                | 5.4          | UJ              |
| HWP-DPconcrete-151113 | 1,1,1-Trichloroethane       | ug/kg        | U                    | 50132394004 | Soil      | 5.4             | ug/kg                 |        | U                | 5.4          | UJ              |
| HWP-DPconcrete-151113 | 1,1,2,2-Tetrachloroethane   | ug/kg        | U                    | 50132394004 | Soil      | 5.4             | ug/kg                 |        | U                | 5.4          | UJ              |
| HWP-DPconcrete-151113 | 1,1,2-Trichloroethane       | ug/kg        | U                    | 50132394004 | Soil      | 5.4             | ug/kg                 |        | U                | 5.4          | UJ              |
| HWP-DPconcrete-151113 | 1,1-Dichloroethane          | ug/kg        | U                    | 50132394004 | Soil      | 5.4             | ug/kg                 |        | U                | 5.4          | UJ              |
| HWP-DPconcrete-151113 | 1,1-Dichloroethene          | ug/kg        | U                    | 50132394004 | Soil      | 5.4             | ug/kg                 |        | U                | 5.4          | UJ              |
| HWP-DPconcrete-151113 | 1,1-Dichloropropene         | ug/kg        | U                    | 50132394004 | Soil      | 5.4             | ug/kg                 |        | U                | 5.4          | UJ              |
| HWP-DPconcrete-151113 | 1,2,3-Trichlorobenzene      | ug/kg        | U                    | 50132394004 | Soil      | 5.4             | ug/kg                 |        | U                | 5.4          | UJ              |
| HWP-DPconcrete-151113 | 1,2,3-Trichloropropane      | ug/kg        | U                    | 50132394004 | Soil      | 5.4             | ug/kg                 |        | U                | 5.4          | UJ              |
| HWP-DPconcrete-151113 | 1,2,4-Trichlorobenzene      | ug/kg        | U                    | 50132394004 | Soil      | 5.4             | ug/kg                 |        | U                | 5.4          | UJ              |
| HWP-DPconcrete-151113 | 1,2,4-Trimethylbenzene      | ug/kg        | U                    | 50132394004 | Soil      | 5.4             | ug/kg                 |        | U                | 5.4          | UJ              |
| HWP-DPconcrete-151113 | 1,2-Dibromoethane (EDB)     | ug/kg        | U                    | 50132394004 | Soil      | 5.4             | ug/kg                 |        | U                | 5.4          | UJ              |
| HWP-DPconcrete-151113 | 1,2-Dichlorobenzene         | ug/kg        | U                    | 50132394004 | Soil      | 5.4             | ug/kg                 |        | U                | 5.4          | UJ              |
| HWP-DPconcrete-151113 | 1,2-Dichloroethane          | ug/kg        | U                    | 50132394004 | Soil      | 5.4             | ug/kg                 |        | U                | 5.4          | UJ              |
| HWP-DPconcrete-151113 | 1,2-Dichloropropane         | ug/kg        | U                    | 50132394004 | Soil      | 5.4             | ug/kg                 |        | U                | 5.4          | UJ              |
| HWP-DPconcrete-151113 | 1,3,5-Trimethylbenzene      | ug/kg        | U                    | 50132394004 | Soil      | 5.4             | ug/kg                 |        | U                | 5.4          | UJ              |
| HWP-DPconcrete-151113 | 1,3-Dichlorobenzene         | ug/kg        | U                    | 50132394004 | Soil      | 5.4             | ug/kg                 |        | U                | 5.4          | UJ              |
| HWP-DPconcrete-151113 | 1,3-Dichloropropane         | ug/kg        | U                    | 50132394004 | Soil      | 5.4             | ug/kg                 |        | U                | 5.4          | UJ              |
| HWP-DPconcrete-151113 | 1,4-Dichlorobenzene         | ug/kg        | U                    | 50132394004 | Soil      | 5.4             | ug/kg                 |        | U                | 5.4          | UJ              |
| HWP-DPconcrete-151113 | 2,2-Dichloropropane         | ug/kg        | U                    | 50132394004 | Soil      | 5.4             | ug/kg                 |        | U                | 5.4          | UJ              |
| HWP-DPconcrete-151113 | 2-Butanone (MEK)            | ug/kg        | U                    | 50132394004 | Soil      | 27.2            | ug/kg                 |        | U                | 27.2         | UJ              |
| HWP-DPconcrete-151113 | 2-Chlorotoluene             | ug/kg        | U                    | 50132394004 | Soil      | 5.4             | ug/kg                 |        | U                | 5.4          | UJ              |
| HWP-DPconcrete-151113 | 2-Hexanone                  | ug/kg        | U                    | 50132394004 | Soil      | 109             | ug/kg                 |        | U                | 109          | UJ              |
| HWP-DPconcrete-151113 | 4-Chlorotoluene             | ug/kg        | U                    | 50132394004 | Soil      | 5.4             | ug/kg                 |        | U                | 5.4          | UJ              |
| HWP-DPconcrete-151113 | 4-Methyl-2-pentanone (MIBK) | ug/kg        | U                    | 50132394004 | Soil      | 27.2            | ug/kg                 |        | U                | 27.2         | UJ              |
| HWP-DPconcrete-151113 | Acetone                     | ug/kg        | U                    | 50132394004 | Soil      | 109             | ug/kg                 |        | U                | 109          | UJ              |
| HWP-DPconcrete-151113 | Acrolein                    | ug/kg        | U                    | 50132394004 | Soil      | 109             | ug/kg                 |        | U                | 109          | UJ              |

Hoosier Wood Preservers RV Sample Results  
Pace Analytical Services, Inc. Report No. 50132394

| Samp_No               | Analyte                     | Result_Units | Lab Result Qualifier | Lab_Samp_No | Matrix_ID | Reporting Limit | Reporting Limit Units | Result | Result Qualifier | Final Result | Final Qualifier |
|-----------------------|-----------------------------|--------------|----------------------|-------------|-----------|-----------------|-----------------------|--------|------------------|--------------|-----------------|
| HWP-DPconcrete-151113 | Acrylonitrile               | ug/kg        | U                    | 50132394004 | Soil      | 109             | ug/kg                 |        | U                | 109          | UJ              |
| HWP-DPconcrete-151113 | Benzene                     | ug/kg        | U                    | 50132394004 | Soil      | 5.4             | ug/kg                 |        | U                | 5.4          | UJ              |
| HWP-DPconcrete-151113 | Bromobenzene                | ug/kg        | U                    | 50132394004 | Soil      | 5.4             | ug/kg                 |        | U                | 5.4          | UJ              |
| HWP-DPconcrete-151113 | Bromochloromethane          | ug/kg        | U                    | 50132394004 | Soil      | 5.4             | ug/kg                 |        | U                | 5.4          | UJ              |
| HWP-DPconcrete-151113 | Bromodichloromethane        | ug/kg        | U                    | 50132394004 | Soil      | 5.4             | ug/kg                 |        | U                | 5.4          | UJ              |
| HWP-DPconcrete-151113 | Bromoform                   | ug/kg        | U                    | 50132394004 | Soil      | 5.4             | ug/kg                 |        | U                | 5.4          | UJ              |
| HWP-DPconcrete-151113 | Bromomethane                | ug/kg        | U                    | 50132394004 | Soil      | 5.4             | ug/kg                 |        | U                | 5.4          | UJ              |
| HWP-DPconcrete-151113 | Carbon disulfide            | ug/kg        | U                    | 50132394004 | Soil      | 10.9            | ug/kg                 |        | U                | 10.9         | UJ              |
| HWP-DPconcrete-151113 | Carbon tetrachloride        | ug/kg        | U                    | 50132394004 | Soil      | 5.4             | ug/kg                 |        | U                | 5.4          | UJ              |
| HWP-DPconcrete-151113 | Chlorobenzene               | ug/kg        | U                    | 50132394004 | Soil      | 5.4             | ug/kg                 |        | U                | 5.4          | UJ              |
| HWP-DPconcrete-151113 | Chloroethane                | ug/kg        | U                    | 50132394004 | Soil      | 5.4             | ug/kg                 |        | U                | 5.4          | UJ              |
| HWP-DPconcrete-151113 | Chloroform                  | ug/kg        | U                    | 50132394004 | Soil      | 5.4             | ug/kg                 |        | U                | 5.4          | UJ              |
| HWP-DPconcrete-151113 | Chloromethane               | ug/kg        | U                    | 50132394004 | Soil      | 5.4             | ug/kg                 |        | U                | 5.4          | UJ              |
| HWP-DPconcrete-151113 | Dibromochloromethane        | ug/kg        | U                    | 50132394004 | Soil      | 5.4             | ug/kg                 |        | U                | 5.4          | UJ              |
| HWP-DPconcrete-151113 | Dibromomethane              | ug/kg        | U                    | 50132394004 | Soil      | 5.4             | ug/kg                 |        | U                | 5.4          | UJ              |
| HWP-DPconcrete-151113 | Dichlorodifluoromethane     | ug/kg        | U                    | 50132394004 | Soil      | 5.4             | ug/kg                 |        | U                | 5.4          | UJ              |
| HWP-DPconcrete-151113 | Ethyl methacrylate          | ug/kg        | U                    | 50132394004 | Soil      | 109             | ug/kg                 |        | U                | 109          | UJ              |
| HWP-DPconcrete-151113 | Ethylbenzene                | ug/kg        | U                    | 50132394004 | Soil      | 5.4             | ug/kg                 |        | U                | 5.4          | UJ              |
| HWP-DPconcrete-151113 | Hexachloro-1,3-butadiene    | ug/kg        | U                    | 50132394004 | Soil      | 5.4             | ug/kg                 |        | U                | 5.4          | UJ              |
| HWP-DPconcrete-151113 | Iodomethane                 | ug/kg        | U                    | 50132394004 | Soil      | 109             | ug/kg                 |        | U                | 109          | UJ              |
| HWP-DPconcrete-151113 | Isopropylbenzene (Cumene)   | ug/kg        | U                    | 50132394004 | Soil      | 5.4             | ug/kg                 |        | U                | 5.4          | UJ              |
| HWP-DPconcrete-151113 | Methyl-tert-butyl ether     | ug/kg        | U                    | 50132394004 | Soil      | 5.4             | ug/kg                 |        | U                | 5.4          | UJ              |
| HWP-DPconcrete-151113 | Methylene Chloride          | ug/kg        | U                    | 50132394004 | Soil      | 21.8            | ug/kg                 |        | U                | 21.8         | UJ              |
| HWP-DPconcrete-151113 | Naphthalene                 | ug/kg        | U                    | 50132394004 | Soil      | 5.4             | ug/kg                 |        | U                | 5.4          | UJ              |
| HWP-DPconcrete-151113 | Styrene                     | ug/kg        | U                    | 50132394004 | Soil      | 5.4             | ug/kg                 |        | U                | 5.4          | UJ              |
| HWP-DPconcrete-151113 | Tetrachloroethene           | ug/kg        | U                    | 50132394004 | Soil      | 5.4             | ug/kg                 |        | U                | 5.4          | UJ              |
| HWP-DPconcrete-151113 | Toluene                     | ug/kg        | U                    | 50132394004 | Soil      | 5.4             | ug/kg                 |        | U                | 5.4          | UJ              |
| HWP-DPconcrete-151113 | Trichloroethene             | ug/kg        | U                    | 50132394004 | Soil      | 5.4             | ug/kg                 |        | U                | 5.4          | UJ              |
| HWP-DPconcrete-151113 | Trichlorofluoromethane      | ug/kg        | U                    | 50132394004 | Soil      | 5.4             | ug/kg                 |        | U                | 5.4          | UJ              |
| HWP-DPconcrete-151113 | Vinyl acetate               | ug/kg        | U                    | 50132394004 | Soil      | 109             | ug/kg                 |        | U                | 109          | UJ              |
| HWP-DPconcrete-151113 | Vinyl chloride              | ug/kg        | U                    | 50132394004 | Soil      | 5.4             | ug/kg                 |        | U                | 5.4          | UJ              |
| HWP-DPconcrete-151113 | Xylene (Total)              | ug/kg        | U                    | 50132394004 | Soil      | 10.9            | ug/kg                 |        | U                | 10.9         | UJ              |
| HWP-DPconcrete-151113 | cis-1,2-Dichloroethene      | ug/kg        | U                    | 50132394004 | Soil      | 5.4             | ug/kg                 |        | U                | 5.4          | UJ              |
| HWP-DPconcrete-151113 | cis-1,3-Dichloropropene     | ug/kg        | U                    | 50132394004 | Soil      | 5.4             | ug/kg                 |        | U                | 5.4          | UJ              |
| HWP-DPconcrete-151113 | n-Butylbenzene              | ug/kg        | U                    | 50132394004 | Soil      | 5.4             | ug/kg                 |        | U                | 5.4          | UJ              |
| HWP-DPconcrete-151113 | n-Hexane                    | ug/kg        | U                    | 50132394004 | Soil      | 5.4             | ug/kg                 |        | U                | 5.4          | UJ              |
| HWP-DPconcrete-151113 | n-Propylbenzene             | ug/kg        | U                    | 50132394004 | Soil      | 5.4             | ug/kg                 |        | U                | 5.4          | UJ              |
| HWP-DPconcrete-151113 | p-Isopropyltoluene          | ug/kg        | U                    | 50132394004 | Soil      | 5.4             | ug/kg                 |        | U                | 5.4          | UJ              |
| HWP-DPconcrete-151113 | sec-Butylbenzene            | ug/kg        | U                    | 50132394004 | Soil      | 5.4             | ug/kg                 |        | U                | 5.4          | UJ              |
| HWP-DPconcrete-151113 | tert-Butylbenzene           | ug/kg        | U                    | 50132394004 | Soil      | 5.4             | ug/kg                 |        | U                | 5.4          | UJ              |
| HWP-DPconcrete-151113 | trans-1,2-Dichloroethene    | ug/kg        | U                    | 50132394004 | Soil      | 5.4             | ug/kg                 |        | U                | 5.4          | UJ              |
| HWP-DPconcrete-151113 | trans-1,3-Dichloropropene   | ug/kg        | U                    | 50132394004 | Soil      | 5.4             | ug/kg                 |        | U                | 5.4          | UJ              |
| HWP-DPconcrete-151113 | trans-1,4-Dichloro-2-butene | ug/kg        | U                    | 50132394004 | Soil      | 109             | ug/kg                 |        | U                | 109          | UJ              |

Hoosier Wood Preservers RV Sample Results  
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| Samp_No               | Analyte                      | Result_Units | Lab Result Qualifier | Lab_Samp_No | Matrix_ID | Reporting Limit | Reporting Limit Units | Result | Result Qualifier | Final Result | Final Qualifier |
|-----------------------|------------------------------|--------------|----------------------|-------------|-----------|-----------------|-----------------------|--------|------------------|--------------|-----------------|
| HWP-DPconcrete-151113 | 2,4,5-Trichlorophenol        | ug/kg        | U                    | 50132394004 | Soil      | 357             | ug/kg                 |        | U                | 357          | UJ              |
| HWP-DPconcrete-151113 | 2,4,6-Trichlorophenol        | ug/kg        | U                    | 50132394004 | Soil      | 357             | ug/kg                 |        | U                | 357          | UJ              |
| HWP-DPconcrete-151113 | 2,4-Dichlorophenol           | ug/kg        | U                    | 50132394004 | Soil      | 357             | ug/kg                 |        | U                | 357          | UJ              |
| HWP-DPconcrete-151113 | 2,4-Dimethylphenol           | ug/kg        | U                    | 50132394004 | Soil      | 357             | ug/kg                 |        | U                | 357          | UJ              |
| HWP-DPconcrete-151113 | 2,4-Dinitrophenol            | ug/kg        | U                    | 50132394004 | Soil      | 1730            | ug/kg                 |        | U                | 1730         | UJ              |
| HWP-DPconcrete-151113 | 2,4-Dinitrotoluene           | ug/kg        | U                    | 50132394004 | Soil      | 357             | ug/kg                 |        | U                | 357          | UJ              |
| HWP-DPconcrete-151113 | 2,6-Dinitrotoluene           | ug/kg        | U                    | 50132394004 | Soil      | 357             | ug/kg                 |        | U                | 357          | UJ              |
| HWP-DPconcrete-151113 | 2-Chloronaphthalene          | ug/kg        | U                    | 50132394004 | Soil      | 357             | ug/kg                 |        | U                | 357          | UJ              |
| HWP-DPconcrete-151113 | 2-Chlorophenol               | ug/kg        | U                    | 50132394004 | Soil      | 357             | ug/kg                 |        | U                | 357          | UJ              |
| HWP-DPconcrete-151113 | 2-Methylnaphthalene          | ug/kg        | U                    | 50132394004 | Soil      | 357             | ug/kg                 |        | U                | 357          | UJ              |
| HWP-DPconcrete-151113 | 2-Methylphenol(o-Cresol)     | ug/kg        | U                    | 50132394004 | Soil      | 357             | ug/kg                 |        | U                | 357          | UJ              |
| HWP-DPconcrete-151113 | 2-Nitroaniline               | ug/kg        | U                    | 50132394004 | Soil      | 1730            | ug/kg                 |        | U                | 1730         | UJ              |
| HWP-DPconcrete-151113 | 2-Nitrophenol                | ug/kg        | U                    | 50132394004 | Soil      | 357             | ug/kg                 |        | U                | 357          | UJ              |
| HWP-DPconcrete-151113 | 3&4-Methylphenol(m&p Cresol) | ug/kg        | U                    | 50132394004 | Soil      | 715             | ug/kg                 |        | U                | 715          | UJ              |
| HWP-DPconcrete-151113 | 3,3'-Dichlorobenzidine       | ug/kg        | U                    | 50132394004 | Soil      | 715             | ug/kg                 |        | U                | 715          | UJ              |
| HWP-DPconcrete-151113 | 3-Nitroaniline               | ug/kg        | U                    | 50132394004 | Soil      | 1730            | ug/kg                 |        | U                | 1730         | UJ              |
| HWP-DPconcrete-151113 | 4,6-Dinitro-2-methylphenol   | ug/kg        | U                    | 50132394004 | Soil      | 1730            | ug/kg                 |        | U                | 1730         | UJ              |
| HWP-DPconcrete-151113 | 4-Bromophenylphenyl ether    | ug/kg        | U                    | 50132394004 | Soil      | 357             | ug/kg                 |        | U                | 357          | UJ              |
| HWP-DPconcrete-151113 | 4-Chloro-3-methylphenol      | ug/kg        | U                    | 50132394004 | Soil      | 715             | ug/kg                 |        | U                | 715          | UJ              |
| HWP-DPconcrete-151113 | 4-Chloroaniline              | ug/kg        | U                    | 50132394004 | Soil      | 715             | ug/kg                 |        | U                | 715          | UJ              |
| HWP-DPconcrete-151113 | 4-Chlorophenylphenyl ether   | ug/kg        | U                    | 50132394004 | Soil      | 357             | ug/kg                 |        | U                | 357          | UJ              |
| HWP-DPconcrete-151113 | 4-Nitroaniline               | ug/kg        | U                    | 50132394004 | Soil      | 1730            | ug/kg                 |        | U                | 1730         | UJ              |
| HWP-DPconcrete-151113 | 4-Nitrophenol                | ug/kg        | U                    | 50132394004 | Soil      | 1730            | ug/kg                 |        | U                | 1730         | UJ              |
| HWP-DPconcrete-151113 | Acenaphthene                 | ug/kg        | U                    | 50132394004 | Soil      | 357             | ug/kg                 |        | U                | 357          | UJ              |
| HWP-DPconcrete-151113 | Acenaphthylene               | ug/kg        | U                    | 50132394004 | Soil      | 357             | ug/kg                 |        | U                | 357          | UJ              |
| HWP-DPconcrete-151113 | Anthracene                   | ug/kg        | U                    | 50132394004 | Soil      | 357             | ug/kg                 |        | U                | 357          | UJ              |
| HWP-DPconcrete-151113 | Benzo(a)anthracene           | ug/kg        | U                    | 50132394004 | Soil      | 357             | ug/kg                 |        | U                | 357          | UJ              |
| HWP-DPconcrete-151113 | Benzo(a)pyrene               | ug/kg        | U                    | 50132394004 | Soil      | 184             | ug/kg                 |        | U                | 184          | UJ              |
| HWP-DPconcrete-151113 | Benzo(b)fluoranthene         | ug/kg        | U                    | 50132394004 | Soil      | 357             | ug/kg                 |        | U                | 357          | UJ              |
| HWP-DPconcrete-151113 | Benzo(g,h,i)perylene         | ug/kg        | U                    | 50132394004 | Soil      | 357             | ug/kg                 |        | U                | 357          | UJ              |
| HWP-DPconcrete-151113 | Benzo(k)fluoranthene         | ug/kg        | U                    | 50132394004 | Soil      | 357             | ug/kg                 |        | U                | 357          | UJ              |
| HWP-DPconcrete-151113 | Benzyl alcohol               | ug/kg        | U                    | 50132394004 | Soil      | 715             | ug/kg                 |        | U                | 715          | UJ              |
| HWP-DPconcrete-151113 | Butylbenzylphthalate         | ug/kg        | U                    | 50132394004 | Soil      | 357             | ug/kg                 |        | U                | 357          | UJ              |
| HWP-DPconcrete-151113 | Chrysene                     | ug/kg        | U                    | 50132394004 | Soil      | 357             | ug/kg                 |        | U                | 357          | UJ              |
| HWP-DPconcrete-151113 | Di-n-butylphthalate          | ug/kg        | U                    | 50132394004 | Soil      | 357             | ug/kg                 |        | U                | 357          | UJ              |
| HWP-DPconcrete-151113 | Di-n-octylphthalate          | ug/kg        | U                    | 50132394004 | Soil      | 357             | ug/kg                 |        | U                | 357          | UJ              |
| HWP-DPconcrete-151113 | Dibenz(a,h)anthracene        | ug/kg        | U                    | 50132394004 | Soil      | 184             | ug/kg                 |        | U                | 184          | UJ              |
| HWP-DPconcrete-151113 | Dibenzofuran                 | ug/kg        | U                    | 50132394004 | Soil      | 357             | ug/kg                 |        | U                | 357          | UJ              |
| HWP-DPconcrete-151113 | Diethylphthalate             | ug/kg        | U                    | 50132394004 | Soil      | 357             | ug/kg                 |        | U                | 357          | UJ              |
| HWP-DPconcrete-151113 | Dimethylphthalate            | ug/kg        | U                    | 50132394004 | Soil      | 357             | ug/kg                 |        | U                | 357          | UJ              |
| HWP-DPconcrete-151113 | Fluoranthene                 | ug/kg        | U                    | 50132394004 | Soil      | 357             | ug/kg                 |        | U                | 357          | UJ              |
| HWP-DPconcrete-151113 | Fluorene                     | ug/kg        | U                    | 50132394004 | Soil      | 357             | ug/kg                 |        | U                | 357          | UJ              |
| HWP-DPconcrete-151113 | Hexachloro-1,3-butadiene     | ug/kg        | U                    | 50132394004 | Soil      | 357             | ug/kg                 |        | U                | 357          | UJ              |

Hoosier Wood Preservers RV Sample Results  
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| Samp_No               | Analyte                        | Result_Units | Lab Result Qualifier | Lab_Samp_No | Matrix_ID | Reporting Limit | Reporting Limit Units | Result | Result Qualifier | Final Result | Final Qualifier |
|-----------------------|--------------------------------|--------------|----------------------|-------------|-----------|-----------------|-----------------------|--------|------------------|--------------|-----------------|
| HWP-DPconcrete-151113 | Hexachlorobenzene              | ug/kg        | U                    | 50132394004 | Soil      | 357             | ug/kg                 |        | U                | 357          | UJ              |
| HWP-DPconcrete-151113 | Hexachlorocyclopentadiene      | ug/kg        | U                    | 50132394004 | Soil      | 357             | ug/kg                 |        | U                | 357          | UJ              |
| HWP-DPconcrete-151113 | Hexachloroethane               | ug/kg        | U                    | 50132394004 | Soil      | 357             | ug/kg                 |        | U                | 357          | UJ              |
| HWP-DPconcrete-151113 | Indeno(1,2,3-cd)pyrene         | ug/kg        | U                    | 50132394004 | Soil      | 357             | ug/kg                 |        | U                | 357          | UJ              |
| HWP-DPconcrete-151113 | Isophorone                     | ug/kg        | U                    | 50132394004 | Soil      | 357             | ug/kg                 |        | U                | 357          | UJ              |
| HWP-DPconcrete-151113 | N-Nitroso-di-n-propylamine     | ug/kg        | U                    | 50132394004 | Soil      | 357             | ug/kg                 |        | U                | 357          | UJ              |
| HWP-DPconcrete-151113 | N-Nitrosodiphenylamine         | ug/kg        | U                    | 50132394004 | Soil      | 357             | ug/kg                 |        | U                | 357          | UJ              |
| HWP-DPconcrete-151113 | Naphthalene                    | ug/kg        | U                    | 50132394004 | Soil      | 357             | ug/kg                 |        | U                | 357          | UJ              |
| HWP-DPconcrete-151113 | Nitrobenzene                   | ug/kg        | U                    | 50132394004 | Soil      | 357             | ug/kg                 |        | U                | 357          | UJ              |
| HWP-DPconcrete-151113 | Pentachlorophenol              | ug/kg        | U                    | 50132394004 | Soil      | 1730            | ug/kg                 |        | U                | 1730         | UJ              |
| HWP-DPconcrete-151113 | Phenanthrene                   | ug/kg        | U                    | 50132394004 | Soil      | 357             | ug/kg                 |        | U                | 357          | UJ              |
| HWP-DPconcrete-151113 | Phenol                         | ug/kg        | U                    | 50132394004 | Soil      | 357             | ug/kg                 |        | U                | 357          | UJ              |
| HWP-DPconcrete-151113 | Pyrene                         | ug/kg        | U                    | 50132394004 | Soil      | 357             | ug/kg                 |        | U                | 357          | UJ              |
| HWP-DPconcrete-151113 | bis(2-Chloroethoxy)methane     | ug/kg        | U                    | 50132394004 | Soil      | 357             | ug/kg                 |        | U                | 357          | UJ              |
| HWP-DPconcrete-151113 | bis(2-Chloroethyl) ether       | ug/kg        | U                    | 50132394004 | Soil      | 357             | ug/kg                 |        | U                | 357          | UJ              |
| HWP-DPconcrete-151113 | bis(2-Ethylhexyl)phthalate     | ug/kg        | U                    | 50132394004 | Soil      | 357             | ug/kg                 |        | U                | 357          | UJ              |
| HWP-DPconcrete-151113 | bis(2chloro1methylethyl) ether | ug/kg        | U                    | 50132394004 | Soil      | 357             | ug/kg                 |        | U                | 357          | UJ              |
| HWP-Exsoil-151113     | Arsenic                        | mg/L         |                      | 50132394003 | Soil      | 0.1             | mg/L                  | 0.46   |                  | 0.46         |                 |
| HWP-Exsoil-151113     | Barium                         | mg/L         | U                    | 50132394003 | Soil      | 5               | mg/L                  |        | U                | 5            | U               |
| HWP-Exsoil-151113     | Cadmium                        | mg/L         | U                    | 50132394003 | Soil      | 0.05            | mg/L                  |        | U                | 0.05         | U               |
| HWP-Exsoil-151113     | Chromium                       | mg/L         | U                    | 50132394003 | Soil      | 0.1             | mg/L                  |        | U                | 0.1          | U               |
| HWP-Exsoil-151113     | Lead                           | mg/L         | U                    | 50132394003 | Soil      | 0.1             | mg/L                  |        | U                | 0.1          | U               |
| HWP-Exsoil-151113     | Selenium                       | mg/L         | U                    | 50132394003 | Soil      | 0.1             | mg/L                  |        | U                | 0.1          | U               |
| HWP-Exsoil-151113     | Silver                         | mg/L         | U                    | 50132394003 | Soil      | 0.1             | mg/L                  |        | U                | 0.1          | U               |
| HWP-Exsoil-151113     | Mercury                        | mg/L         | U                    | 50132394003 | Soil      | 0.002           | mg/L                  |        | U                | 0.002        | U               |
| HWP-Exsoil-151113     | 1,1,1,2-Tetrachloroethane      | ug/kg        | U                    | 50132394003 | Soil      | 5.3             | ug/kg                 |        | U                | 5.3          | U               |
| HWP-Exsoil-151113     | 1,1,1-Trichloroethane          | ug/kg        | U                    | 50132394003 | Soil      | 5.3             | ug/kg                 |        | U                | 5.3          | U               |
| HWP-Exsoil-151113     | 1,1,2,2-Tetrachloroethane      | ug/kg        | U                    | 50132394003 | Soil      | 5.3             | ug/kg                 |        | U                | 5.3          | U               |
| HWP-Exsoil-151113     | 1,1,2-Trichloroethane          | ug/kg        | U                    | 50132394003 | Soil      | 5.3             | ug/kg                 |        | U                | 5.3          | U               |
| HWP-Exsoil-151113     | 1,1-Dichloroethane             | ug/kg        | U                    | 50132394003 | Soil      | 5.3             | ug/kg                 |        | U                | 5.3          | U               |
| HWP-Exsoil-151113     | 1,1-Dichloroethene             | ug/kg        | U                    | 50132394003 | Soil      | 5.3             | ug/kg                 |        | U                | 5.3          | U               |
| HWP-Exsoil-151113     | 1,1-Dichloropropene            | ug/kg        | U                    | 50132394003 | Soil      | 5.3             | ug/kg                 |        | U                | 5.3          | U               |
| HWP-Exsoil-151113     | 1,2,3-Trichlorobenzene         | ug/kg        | U                    | 50132394003 | Soil      | 5.3             | ug/kg                 |        | U                | 5.3          | U               |
| HWP-Exsoil-151113     | 1,2,3-Trichloropropane         | ug/kg        | U                    | 50132394003 | Soil      | 5.3             | ug/kg                 |        | U                | 5.3          | U               |
| HWP-Exsoil-151113     | 1,2,4-Trichlorobenzene         | ug/kg        | U                    | 50132394003 | Soil      | 5.3             | ug/kg                 |        | U                | 5.3          | U               |
| HWP-Exsoil-151113     | 1,2,4-Trimethylbenzene         | ug/kg        | U                    | 50132394003 | Soil      | 5.3             | ug/kg                 |        | U                | 5.3          | U               |
| HWP-Exsoil-151113     | 1,2-Dibromoethane (EDB)        | ug/kg        | U                    | 50132394003 | Soil      | 5.3             | ug/kg                 |        | U                | 5.3          | U               |
| HWP-Exsoil-151113     | 1,2-Dichlorobenzene            | ug/kg        | U                    | 50132394003 | Soil      | 5.3             | ug/kg                 |        | U                | 5.3          | U               |
| HWP-Exsoil-151113     | 1,2-Dichloroethane             | ug/kg        | U                    | 50132394003 | Soil      | 5.3             | ug/kg                 |        | U                | 5.3          | U               |
| HWP-Exsoil-151113     | 1,2-Dichloropropane            | ug/kg        | U                    | 50132394003 | Soil      | 5.3             | ug/kg                 |        | U                | 5.3          | U               |
| HWP-Exsoil-151113     | 1,3,5-Trimethylbenzene         | ug/kg        | U                    | 50132394003 | Soil      | 5.3             | ug/kg                 |        | U                | 5.3          | U               |
| HWP-Exsoil-151113     | 1,3-Dichlorobenzene            | ug/kg        | U                    | 50132394003 | Soil      | 5.3             | ug/kg                 |        | U                | 5.3          | U               |
| HWP-Exsoil-151113     | 1,3-Dichloropropane            | ug/kg        | U                    | 50132394003 | Soil      | 5.3             | ug/kg                 |        | U                | 5.3          | U               |

Hoosier Wood Preservers RV Sample Results  
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| Samp_No           | Analyte                     | Result_Units | Lab Result Qualifier | Lab_Samp_No | Matrix_ID | Reporting Limit | Reporting Limit Units | Result | Result Qualifier | Final Result | Final Qualifier |
|-------------------|-----------------------------|--------------|----------------------|-------------|-----------|-----------------|-----------------------|--------|------------------|--------------|-----------------|
| HWP-Exsoil-151113 | 1,4-Dichlorobenzene         | ug/kg        | U                    | 50132394003 | Soil      | 5.3             | ug/kg                 |        | U                | 5.3          | U               |
| HWP-Exsoil-151113 | 2,2-Dichloropropane         | ug/kg        | U                    | 50132394003 | Soil      | 5.3             | ug/kg                 |        | U                | 5.3          | U               |
| HWP-Exsoil-151113 | 2-Butanone (MEK)            | ug/kg        | U                    | 50132394003 | Soil      | 26.4            | ug/kg                 |        | U                | 26.4         | U               |
| HWP-Exsoil-151113 | 2-Chlorotoluene             | ug/kg        | U                    | 50132394003 | Soil      | 5.3             | ug/kg                 |        | U                | 5.3          | U               |
| HWP-Exsoil-151113 | 2-Hexanone                  | ug/kg        | U                    | 50132394003 | Soil      | 105             | ug/kg                 |        | U                | 105          | U               |
| HWP-Exsoil-151113 | 4-Chlorotoluene             | ug/kg        | U                    | 50132394003 | Soil      | 5.3             | ug/kg                 |        | U                | 5.3          | U               |
| HWP-Exsoil-151113 | 4-Methyl-2-pentanone (MIBK) | ug/kg        | U                    | 50132394003 | Soil      | 26.4            | ug/kg                 |        | U                | 26.4         | U               |
| HWP-Exsoil-151113 | Acetone                     | ug/kg        | U                    | 50132394003 | Soil      | 105             | ug/kg                 |        | U                | 105          | U               |
| HWP-Exsoil-151113 | Acrolein                    | ug/kg        | U                    | 50132394003 | Soil      | 105             | ug/kg                 |        | U                | 105          | U               |
| HWP-Exsoil-151113 | Acrylonitrile               | ug/kg        | U                    | 50132394003 | Soil      | 105             | ug/kg                 |        | U                | 105          | U               |
| HWP-Exsoil-151113 | Benzene                     | ug/kg        | U                    | 50132394003 | Soil      | 5.3             | ug/kg                 |        | U                | 5.3          | U               |
| HWP-Exsoil-151113 | Bromobenzene                | ug/kg        | U                    | 50132394003 | Soil      | 5.3             | ug/kg                 |        | U                | 5.3          | U               |
| HWP-Exsoil-151113 | Bromochloromethane          | ug/kg        | U                    | 50132394003 | Soil      | 5.3             | ug/kg                 |        | U                | 5.3          | U               |
| HWP-Exsoil-151113 | Bromodichloromethane        | ug/kg        | U                    | 50132394003 | Soil      | 5.3             | ug/kg                 |        | U                | 5.3          | U               |
| HWP-Exsoil-151113 | Bromoform                   | ug/kg        | U                    | 50132394003 | Soil      | 5.3             | ug/kg                 |        | U                | 5.3          | U               |
| HWP-Exsoil-151113 | Bromomethane                | ug/kg        | U                    | 50132394003 | Soil      | 5.3             | ug/kg                 |        | U                | 5.3          | U               |
| HWP-Exsoil-151113 | Carbon disulfide            | ug/kg        | U                    | 50132394003 | Soil      | 10.5            | ug/kg                 |        | U                | 10.5         | U               |
| HWP-Exsoil-151113 | Carbon tetrachloride        | ug/kg        | U                    | 50132394003 | Soil      | 5.3             | ug/kg                 |        | U                | 5.3          | U               |
| HWP-Exsoil-151113 | Chlorobenzene               | ug/kg        | U                    | 50132394003 | Soil      | 5.3             | ug/kg                 |        | U                | 5.3          | U               |
| HWP-Exsoil-151113 | Chloroethane                | ug/kg        | U                    | 50132394003 | Soil      | 5.3             | ug/kg                 |        | U                | 5.3          | U               |
| HWP-Exsoil-151113 | Chloroform                  | ug/kg        | U                    | 50132394003 | Soil      | 5.3             | ug/kg                 |        | U                | 5.3          | U               |
| HWP-Exsoil-151113 | Chloromethane               | ug/kg        | U                    | 50132394003 | Soil      | 5.3             | ug/kg                 |        | U                | 5.3          | U               |
| HWP-Exsoil-151113 | Dibromochloromethane        | ug/kg        | U                    | 50132394003 | Soil      | 5.3             | ug/kg                 |        | U                | 5.3          | U               |
| HWP-Exsoil-151113 | Dibromomethane              | ug/kg        | U                    | 50132394003 | Soil      | 5.3             | ug/kg                 |        | U                | 5.3          | U               |
| HWP-Exsoil-151113 | Dichlorodifluoromethane     | ug/kg        | U                    | 50132394003 | Soil      | 5.3             | ug/kg                 |        | U                | 5.3          | U               |
| HWP-Exsoil-151113 | Ethyl methacrylate          | ug/kg        | U                    | 50132394003 | Soil      | 105             | ug/kg                 |        | U                | 105          | U               |
| HWP-Exsoil-151113 | Ethylbenzene                | ug/kg        | U                    | 50132394003 | Soil      | 5.3             | ug/kg                 |        | U                | 5.3          | U               |
| HWP-Exsoil-151113 | Hexachloro-1,3-butadiene    | ug/kg        | U                    | 50132394003 | Soil      | 5.3             | ug/kg                 |        | U                | 5.3          | U               |
| HWP-Exsoil-151113 | Iodomethane                 | ug/kg        | U                    | 50132394003 | Soil      | 105             | ug/kg                 |        | U                | 105          | U               |
| HWP-Exsoil-151113 | Isopropylbenzene (Cumene)   | ug/kg        | U                    | 50132394003 | Soil      | 5.3             | ug/kg                 |        | U                | 5.3          | U               |
| HWP-Exsoil-151113 | Methyl-tert-butyl ether     | ug/kg        | U                    | 50132394003 | Soil      | 5.3             | ug/kg                 |        | U                | 5.3          | U               |
| HWP-Exsoil-151113 | Methylene Chloride          | ug/kg        | U                    | 50132394003 | Soil      | 21.1            | ug/kg                 |        | U                | 21.1         | U               |
| HWP-Exsoil-151113 | Naphthalene                 | ug/kg        | U                    | 50132394003 | Soil      | 5.3             | ug/kg                 |        | U                | 5.3          | U               |
| HWP-Exsoil-151113 | Styrene                     | ug/kg        | U                    | 50132394003 | Soil      | 5.3             | ug/kg                 |        | U                | 5.3          | U               |
| HWP-Exsoil-151113 | Tetrachloroethene           | ug/kg        | U                    | 50132394003 | Soil      | 5.3             | ug/kg                 |        | U                | 5.3          | U               |
| HWP-Exsoil-151113 | Toluene                     | ug/kg        | U                    | 50132394003 | Soil      | 5.3             | ug/kg                 |        | U                | 5.3          | U               |
| HWP-Exsoil-151113 | Trichloroethene             | ug/kg        | U                    | 50132394003 | Soil      | 5.3             | ug/kg                 |        | U                | 5.3          | U               |
| HWP-Exsoil-151113 | Trichlorofluoromethane      | ug/kg        | U                    | 50132394003 | Soil      | 5.3             | ug/kg                 |        | U                | 5.3          | U               |
| HWP-Exsoil-151113 | Vinyl acetate               | ug/kg        | U                    | 50132394003 | Soil      | 105             | ug/kg                 |        | U                | 105          | U               |
| HWP-Exsoil-151113 | Vinyl chloride              | ug/kg        | U                    | 50132394003 | Soil      | 5.3             | ug/kg                 |        | U                | 5.3          | U               |
| HWP-Exsoil-151113 | Xylene (Total)              | ug/kg        | U                    | 50132394003 | Soil      | 10.5            | ug/kg                 |        | U                | 10.5         | U               |
| HWP-Exsoil-151113 | cis-1,2-Dichloroethene      | ug/kg        | U                    | 50132394003 | Soil      | 5.3             | ug/kg                 |        | U                | 5.3          | U               |
| HWP-Exsoil-151113 | cis-1,3-Dichloropropene     | ug/kg        | U                    | 50132394003 | Soil      | 5.3             | ug/kg                 |        | U                | 5.3          | U               |



Hoosier Wood Preservers RV Sample Results  
Pace Analytical Services, Inc. Report No. 50132394

| Samp_No           | Analyte                      | Result_Units | Lab Result Qualifier | Lab_Samp_No | Matrix_ID | Reporting Limit | Reporting Limit Units | Result | Result Qualifier | Final Result | Final Qualifier |
|-------------------|------------------------------|--------------|----------------------|-------------|-----------|-----------------|-----------------------|--------|------------------|--------------|-----------------|
| HWP-Exsoil-151113 | n-Butylbenzene               | ug/kg        | U                    | 50132394003 | Soil      | 5.3             | ug/kg                 |        | U                | 5.3          | U               |
| HWP-Exsoil-151113 | n-Hexane                     | ug/kg        | U                    | 50132394003 | Soil      | 5.3             | ug/kg                 |        | U                | 5.3          | U               |
| HWP-Exsoil-151113 | n-Propylbenzene              | ug/kg        | U                    | 50132394003 | Soil      | 5.3             | ug/kg                 |        | U                | 5.3          | U               |
| HWP-Exsoil-151113 | p-Isopropyltoluene           | ug/kg        | U                    | 50132394003 | Soil      | 5.3             | ug/kg                 |        | U                | 5.3          | U               |
| HWP-Exsoil-151113 | sec-Butylbenzene             | ug/kg        | U                    | 50132394003 | Soil      | 5.3             | ug/kg                 |        | U                | 5.3          | U               |
| HWP-Exsoil-151113 | tert-Butylbenzene            | ug/kg        | U                    | 50132394003 | Soil      | 5.3             | ug/kg                 |        | U                | 5.3          | U               |
| HWP-Exsoil-151113 | trans-1,2-Dichloroethene     | ug/kg        | U                    | 50132394003 | Soil      | 5.3             | ug/kg                 |        | U                | 5.3          | U               |
| HWP-Exsoil-151113 | trans-1,3-Dichloropropene    | ug/kg        | U                    | 50132394003 | Soil      | 5.3             | ug/kg                 |        | U                | 5.3          | U               |
| HWP-Exsoil-151113 | trans-1,4-Dichloro-2-butene  | ug/kg        | U                    | 50132394003 | Soil      | 105             | ug/kg                 |        | U                | 105          | U               |
| HWP-Exsoil-151113 | 2,4,5-Trichlorophenol        | ug/kg        | U                    | 50132394003 | Soil      | 345             | ug/kg                 |        | U                | 345          | U               |
| HWP-Exsoil-151113 | 2,4,6-Trichlorophenol        | ug/kg        | U                    | 50132394003 | Soil      | 345             | ug/kg                 |        | U                | 345          | U               |
| HWP-Exsoil-151113 | 2,4-Dichlorophenol           | ug/kg        | U                    | 50132394003 | Soil      | 345             | ug/kg                 |        | U                | 345          | U               |
| HWP-Exsoil-151113 | 2,4-Dimethylphenol           | ug/kg        | U                    | 50132394003 | Soil      | 345             | ug/kg                 |        | U                | 345          | U               |
| HWP-Exsoil-151113 | 2,4-Dinitrophenol            | ug/kg        | U                    | 50132394003 | Soil      | 1670            | ug/kg                 |        | U                | 1670         | U               |
| HWP-Exsoil-151113 | 2,4-Dinitrotoluene           | ug/kg        | U                    | 50132394003 | Soil      | 345             | ug/kg                 |        | U                | 345          | U               |
| HWP-Exsoil-151113 | 2,6-Dinitrotoluene           | ug/kg        | U                    | 50132394003 | Soil      | 345             | ug/kg                 |        | U                | 345          | U               |
| HWP-Exsoil-151113 | 2-Chloronaphthalene          | ug/kg        | U                    | 50132394003 | Soil      | 345             | ug/kg                 |        | U                | 345          | U               |
| HWP-Exsoil-151113 | 2-Chlorophenol               | ug/kg        | U                    | 50132394003 | Soil      | 345             | ug/kg                 |        | U                | 345          | U               |
| HWP-Exsoil-151113 | 2-Methylnaphthalene          | ug/kg        | U                    | 50132394003 | Soil      | 345             | ug/kg                 |        | U                | 345          | U               |
| HWP-Exsoil-151113 | 2-Methylphenol(o-Cresol)     | ug/kg        | U                    | 50132394003 | Soil      | 345             | ug/kg                 |        | U                | 345          | U               |
| HWP-Exsoil-151113 | 2-Nitroaniline               | ug/kg        | U                    | 50132394003 | Soil      | 1670            | ug/kg                 |        | U                | 1670         | U               |
| HWP-Exsoil-151113 | 2-Nitrophenol                | ug/kg        | U                    | 50132394003 | Soil      | 345             | ug/kg                 |        | U                | 345          | U               |
| HWP-Exsoil-151113 | 3&4-Methylphenol(m&p Cresol) | ug/kg        | U                    | 50132394003 | Soil      | 689             | ug/kg                 |        | U                | 689          | U               |
| HWP-Exsoil-151113 | 3,3'-Dichlorobenzidine       | ug/kg        | U                    | 50132394003 | Soil      | 689             | ug/kg                 |        | U                | 689          | U               |
| HWP-Exsoil-151113 | 3-Nitroaniline               | ug/kg        | U                    | 50132394003 | Soil      | 1670            | ug/kg                 |        | U                | 1670         | U               |
| HWP-Exsoil-151113 | 4,6-Dinitro-2-methylphenol   | ug/kg        | U                    | 50132394003 | Soil      | 1670            | ug/kg                 |        | U                | 1670         | U               |
| HWP-Exsoil-151113 | 4-Bromophenylphenyl ether    | ug/kg        | U                    | 50132394003 | Soil      | 345             | ug/kg                 |        | U                | 345          | U               |
| HWP-Exsoil-151113 | 4-Chloro-3-methylphenol      | ug/kg        | U                    | 50132394003 | Soil      | 689             | ug/kg                 |        | U                | 689          | U               |
| HWP-Exsoil-151113 | 4-Chloroaniline              | ug/kg        | U                    | 50132394003 | Soil      | 689             | ug/kg                 |        | U                | 689          | U               |
| HWP-Exsoil-151113 | 4-Chlorophenylphenyl ether   | ug/kg        | U                    | 50132394003 | Soil      | 345             | ug/kg                 |        | U                | 345          | U               |
| HWP-Exsoil-151113 | 4-Nitroaniline               | ug/kg        | U                    | 50132394003 | Soil      | 1670            | ug/kg                 |        | U                | 1670         | U               |
| HWP-Exsoil-151113 | 4-Nitrophenol                | ug/kg        | U                    | 50132394003 | Soil      | 1670            | ug/kg                 |        | U                | 1670         | U               |
| HWP-Exsoil-151113 | Acenaphthene                 | ug/kg        | U                    | 50132394003 | Soil      | 345             | ug/kg                 |        | U                | 345          | U               |
| HWP-Exsoil-151113 | Acenaphthylene               | ug/kg        | U                    | 50132394003 | Soil      | 345             | ug/kg                 |        | U                | 345          | U               |
| HWP-Exsoil-151113 | Anthracene                   | ug/kg        | U                    | 50132394003 | Soil      | 345             | ug/kg                 |        | U                | 345          | U               |
| HWP-Exsoil-151113 | Benzo(a)anthracene           | ug/kg        | U                    | 50132394003 | Soil      | 345             | ug/kg                 |        | U                | 345          | U               |
| HWP-Exsoil-151113 | Benzo(a)pyrene               | ug/kg        | U                    | 50132394003 | Soil      | 178             | ug/kg                 |        | U                | 178          | U               |
| HWP-Exsoil-151113 | Benzo(b)fluoranthene         | ug/kg        | U                    | 50132394003 | Soil      | 345             | ug/kg                 |        | U                | 345          | U               |
| HWP-Exsoil-151113 | Benzo(g,h,i)perylene         | ug/kg        | U                    | 50132394003 | Soil      | 345             | ug/kg                 |        | U                | 345          | U               |
| HWP-Exsoil-151113 | Benzo(k)fluoranthene         | ug/kg        | U                    | 50132394003 | Soil      | 345             | ug/kg                 |        | U                | 345          | U               |
| HWP-Exsoil-151113 | Benzyl alcohol               | ug/kg        | U                    | 50132394003 | Soil      | 689             | ug/kg                 |        | U                | 689          | U               |
| HWP-Exsoil-151113 | Butylbenzylphthalate         | ug/kg        | U                    | 50132394003 | Soil      | 345             | ug/kg                 |        | U                | 345          | U               |
| HWP-Exsoil-151113 | Chrysene                     | ug/kg        | U                    | 50132394003 | Soil      | 345             | ug/kg                 |        | U                | 345          | U               |

Hoosier Wood Preservers RV Sample Results  
Pace Analytical Services, Inc. Report No. 50132394

| Samp_No           | Analyte                        | Result_Units | Lab Result Qualifier | Lab_Samp_No | Matrix_ID | Reporting Limit | Reporting Limit Units | Result | Result Qualifier | Final Result | Final Qualifier |
|-------------------|--------------------------------|--------------|----------------------|-------------|-----------|-----------------|-----------------------|--------|------------------|--------------|-----------------|
| HWP-Exsoil-151113 | Di-n-butylphthalate            | ug/kg        | U                    | 50132394003 | Soil      | 345             | ug/kg                 |        | U                | 345          | U               |
| HWP-Exsoil-151113 | Di-n-octylphthalate            | ug/kg        | U                    | 50132394003 | Soil      | 345             | ug/kg                 |        | U                | 345          | U               |
| HWP-Exsoil-151113 | Dibenz(a,h)anthracene          | ug/kg        | U                    | 50132394003 | Soil      | 178             | ug/kg                 |        | U                | 178          | U               |
| HWP-Exsoil-151113 | Dibenzofuran                   | ug/kg        | U                    | 50132394003 | Soil      | 345             | ug/kg                 |        | U                | 345          | U               |
| HWP-Exsoil-151113 | Diethylphthalate               | ug/kg        | U                    | 50132394003 | Soil      | 345             | ug/kg                 |        | U                | 345          | U               |
| HWP-Exsoil-151113 | Dimethylphthalate              | ug/kg        | U                    | 50132394003 | Soil      | 345             | ug/kg                 |        | U                | 345          | U               |
| HWP-Exsoil-151113 | Fluoranthene                   | ug/kg        | U                    | 50132394003 | Soil      | 345             | ug/kg                 |        | U                | 345          | U               |
| HWP-Exsoil-151113 | Fluorene                       | ug/kg        | U                    | 50132394003 | Soil      | 345             | ug/kg                 |        | U                | 345          | U               |
| HWP-Exsoil-151113 | Hexachloro-1,3-butadiene       | ug/kg        | U                    | 50132394003 | Soil      | 345             | ug/kg                 |        | U                | 345          | U               |
| HWP-Exsoil-151113 | Hexachlorobenzene              | ug/kg        | U                    | 50132394003 | Soil      | 345             | ug/kg                 |        | U                | 345          | U               |
| HWP-Exsoil-151113 | Hexachlorocyclopentadiene      | ug/kg        | U                    | 50132394003 | Soil      | 345             | ug/kg                 |        | U                | 345          | U               |
| HWP-Exsoil-151113 | Hexachloroethane               | ug/kg        | U                    | 50132394003 | Soil      | 345             | ug/kg                 |        | U                | 345          | U               |
| HWP-Exsoil-151113 | Indeno(1,2,3-cd)pyrene         | ug/kg        | U                    | 50132394003 | Soil      | 345             | ug/kg                 |        | U                | 345          | U               |
| HWP-Exsoil-151113 | Isophorone                     | ug/kg        | U                    | 50132394003 | Soil      | 345             | ug/kg                 |        | U                | 345          | U               |
| HWP-Exsoil-151113 | N-Nitroso-di-n-propylamine     | ug/kg        | U                    | 50132394003 | Soil      | 345             | ug/kg                 |        | U                | 345          | U               |
| HWP-Exsoil-151113 | N-Nitrosodiphenylamine         | ug/kg        | U                    | 50132394003 | Soil      | 345             | ug/kg                 |        | U                | 345          | U               |
| HWP-Exsoil-151113 | Naphthalene                    | ug/kg        | U                    | 50132394003 | Soil      | 345             | ug/kg                 |        | U                | 345          | U               |
| HWP-Exsoil-151113 | Nitrobenzene                   | ug/kg        | U                    | 50132394003 | Soil      | 345             | ug/kg                 |        | U                | 345          | U               |
| HWP-Exsoil-151113 | Pentachlorophenol              | ug/kg        | U                    | 50132394003 | Soil      | 1670            | ug/kg                 |        | U                | 1670         | U               |
| HWP-Exsoil-151113 | Phenanthrene                   | ug/kg        | U                    | 50132394003 | Soil      | 345             | ug/kg                 |        | U                | 345          | U               |
| HWP-Exsoil-151113 | Phenol                         | ug/kg        | U                    | 50132394003 | Soil      | 345             | ug/kg                 |        | U                | 345          | U               |
| HWP-Exsoil-151113 | Pyrene                         | ug/kg        | U                    | 50132394003 | Soil      | 345             | ug/kg                 |        | U                | 345          | U               |
| HWP-Exsoil-151113 | bis(2-Chloroethoxy)methane     | ug/kg        | U                    | 50132394003 | Soil      | 345             | ug/kg                 |        | U                | 345          | U               |
| HWP-Exsoil-151113 | bis(2-Chloroethyl) ether       | ug/kg        | U                    | 50132394003 | Soil      | 345             | ug/kg                 |        | U                | 345          | U               |
| HWP-Exsoil-151113 | bis(2-Ethylhexyl)phthalate     | ug/kg        | U                    | 50132394003 | Soil      | 345             | ug/kg                 |        | U                | 345          | U               |
| HWP-Exsoil-151113 | bis(2chloro1methylethyl) ether | ug/kg        | U                    | 50132394003 | Soil      | 345             | ug/kg                 |        | U                | 345          | U               |
| HWP-Trench-151113 | Arsenic                        | mg/kg        |                      | 50132394002 | Soil      | 1               | mg/kg                 | 610    |                  | 610          |                 |
| HWP-Trench-151113 | Barium                         | mg/kg        |                      | 50132394002 | Soil      | 1               | mg/kg                 | 44.2   |                  | 44.2         |                 |
| HWP-Trench-151113 | Cadmium                        | mg/kg        |                      | 50132394002 | Soil      | 0.51            | mg/kg                 | 4.1    |                  | 4.1          |                 |
| HWP-Trench-151113 | Chromium                       | mg/kg        |                      | 50132394002 | Soil      | 1               | mg/kg                 | 307    |                  | 307          |                 |
| HWP-Trench-151113 | Lead                           | mg/kg        |                      | 50132394002 | Soil      | 1               | mg/kg                 | 35.4   |                  | 35.4         |                 |
| HWP-Trench-151113 | Selenium                       | mg/kg        | U                    | 50132394002 | Soil      | 1               | mg/kg                 |        | U                | 1            | U               |
| HWP-Trench-151113 | Silver                         | mg/kg        | U                    | 50132394002 | Soil      | 2.5             | mg/kg                 |        | U                | 2.5          | U               |
| HWP-Trench-151113 | Mercury                        | mg/kg        | U                    | 50132394002 | Soil      | 0.22            | mg/kg                 |        | U                | 0.22         | U               |



March 15, 2016

Ms. Shelly Lam  
On-Scene Coordinator  
U.S. Environmental Protection Agency Region 5  
2525 North Shadeland Avenue  
Indianapolis, Indiana 46219

**Subject: Data Validation Report  
Hoosier Wood Preservers RV  
EPA Contract No. EP-S5-13-01  
Technical Direction Document No. S05-0001-1510-018  
Document Tracking No. 0596A**

Dear Ms. Lam:

Tetra Tech Inc. (Tetra Tech) is submitting this Data Validation Report for one solid sample collected at the Hoosier Wood Preservers RV site. The sample was collected on December 10, 2015, and was analyzed for dioxins and furans by modified EPA SW8290 by Pace Analytical Services, Inc. Tetra Tech received the final data package on December 17, 2015.

Analytical data were evaluated in general accordance with the EPA Contract Laboratory Program *National Functional Guidelines for Chlorinated Dibenzo-p-Dioxins (CDDs) and Chlorinated Dibenzofurans (CDFs) Data Review* (September 2011).

The data are acceptable and usable as qualified.

If you have any questions regarding this data validation report, please call me at (509) 688-5957.

Sincerely,

A handwritten signature in blue ink that reads 'Deb Kutsal'.

Deb Kutsal  
START Chemist

Enclosure

cc: Kevin Scott, Tetra Tech Program Manager  
Josh Randall, Tetra Tech Project Manager  
Lucas Stamps, QEPI  
TDD File

**ATTACHMENT 1**

**DATA VALIDATION REPORT  
SDG 10333114**

**DATA VALIDATION CHECKLIST – STAGE 2A**  
**EPA REGION 5 START CONTRACT**

|   |   |  |   |
|---|---|--|---|
| <b>Site Name</b>                          | Hoosier Wood Preservers RV                | <b>TDD No.</b>                                 | 0001-1510-018                           |
| <b>Document Tracking No.</b>              | 0596A                                     | <b>Technical Reviewer (signature and date)</b> | <i>Harry N. Ellis III</i> 14 March 2016 |
| <b>Data Reviewer (signature and date)</b> | <i>Debbie Kuhl</i> March 9, 2016          | <b>Laboratory</b>                              | Pace Analytical Services, Inc.          |
| <b>Laboratory Report No.</b>              | 10333114                                  |  |   |
| <b>Analyses</b>                           | Dioxins and furans by modified EPA SW8290 |  |   |
| <b>Samples and Matrix</b>                 | One soil sample                           |  |   |
| <b>Field Duplicate Pairs</b>              | None                                      |  |   |
| <b>Field Blanks</b>                       | None                                      |  |   |

**INTRODUCTION**

This checklist summarizes the Stage 2A validation performed on the subject laboratory report, in accordance with the U.S. Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the EPA Contract Laboratory Program (CLP) *National Functional Guidelines (NFG) for Chlorinated Dibenzo-p-Dioxins (CDDs) and Chlorinated Dibenzofurans (CDFs) Data Review* (September 2011), as well as the above referenced method.

**OVERALL EVALUATION**

The data are acceptable and usable as qualified.

**Data completeness:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| Y               |                  |

**Sample preservation, receipt, and holding times:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| Y               |                  |



**DATA VALIDATION CHECKLIST – STAGE 2A  
EPA REGION 5 START CONTRACT**

**Method blanks:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| Y               |                  |

**Field blanks:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| NA              |                  |

**System monitoring compounds (surrogates and labeled compounds):**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| Y               |                  |

**MS/MSD:**

| Within Criteria | Exceedance/Notes  |
|-----------------|---|
| NA              | A non-project sample was used for MS/MSD, so was not evaluated. |

**Laboratory duplicates:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| NA              |                  |

**Field duplicates:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| NA              |                  |



**DATA VALIDATION CHECKLIST – STAGE 2A**  
**EPA REGION 5 START CONTRACT**

**LCS/LCSDs:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| Y               |                  |

**Sample dilutions:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| Y               |                  |

**Re-extraction and reanalysis:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| NA              |                  |

**MDLs/RLs:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| Y               |                  |

**Tentatively identified compounds:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| NA              |                  |

**Other (specify):**

| Within Criteria | Exceedance/Notes  |
|-----------------|---|
| N               | The OCDD result for sample HWP-FTBsoilE-151210 exceeded the calibration range. The result was qualified as estimated (J). |



## DATA VALIDATION CHECKLIST – STAGE 2A EPA REGION 5 START CONTRACT

### Overall Qualifications:

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

|    |   |
|----|---|
| J  | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.  |
| J+ | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.   |
| J- | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.  |
| NJ | The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated value is the approximate concentration of the analyte in the sample.                    |
| R  | The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample.                                 |
| U  | The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).  |
| UJ | The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria. |





Hoosier Wood Preservers RV Sample Results  
Pace Analytical Services, Inc. Report No. 10333114

| Client ID           | Lab Sample ID | Compound            | Result | RL | Units     | Qualifiers | Matrix | Final_Result | Final_Qualifier |
|---------------------|---------------|---------------------|--------|----|-----------|------------|--------|--------------|-----------------|
| HWP-FTBsoilE-151210 | 10333114001   | 2,3,7,8-TCDF        | ND     |    | 10 ng/Kg  |            | Soil   | 10 U         |                 |
| HWP-FTBsoilE-151210 | 10333114001   | 2,3,7,8-TCDD        | ND     |    | 10 ng/Kg  |            | Soil   | 10 U         |                 |
| HWP-FTBsoilE-151210 | 10333114001   | 1,2,3,7,8-PeCDF     | ND     |    | 52 ng/Kg  |            | Soil   | 52 U         |                 |
| HWP-FTBsoilE-151210 | 10333114001   | 2,3,4,7,8-PeCDF     | ND     |    | 52 ng/Kg  |            | Soil   | 52 U         |                 |
| HWP-FTBsoilE-151210 | 10333114001   | 1,2,3,7,8-PeCDD     | ND     |    | 52 ng/Kg  |            | Soil   | 52 U         |                 |
| HWP-FTBsoilE-151210 | 10333114001   | 1,2,3,4,7,8-HxCDF   | 79     |    | 52 ng/Kg  |            | Soil   | 79           |                 |
| HWP-FTBsoilE-151210 | 10333114001   | 1,2,3,6,7,8-HxCDF   | 60     |    | 52 ng/Kg  |            | Soil   | 60           |                 |
| HWP-FTBsoilE-151210 | 10333114001   | 2,3,4,6,7,8-HxCDF   | 150    |    | 52 ng/Kg  |            | Soil   | 150          |                 |
| HWP-FTBsoilE-151210 | 10333114001   | 1,2,3,7,8,9-HxCDF   | ND     |    | 52 ng/Kg  |            | Soil   | 52 U         |                 |
| HWP-FTBsoilE-151210 | 10333114001   | 1,2,3,4,7,8-HxCDD   | ND     |    | 52 ng/Kg  |            | Soil   | 52 U         |                 |
| HWP-FTBsoilE-151210 | 10333114001   | 1,2,3,6,7,8-HxCDD   | 1000   |    | 52 ng/Kg  |            | Soil   | 1000         |                 |
| HWP-FTBsoilE-151210 | 10333114001   | 1,2,3,7,8,9-HxCDD   | 120    |    | 52 ng/Kg  |            | Soil   | 120          |                 |
| HWP-FTBsoilE-151210 | 10333114001   | 1,2,3,4,6,7,8-HpCDF | 4200   |    | 52 ng/Kg  |            | Soil   | 4200         |                 |
| HWP-FTBsoilE-151210 | 10333114001   | 1,2,3,4,7,8,9-HpCDF | 230    |    | 52 ng/Kg  |            | Soil   | 230          |                 |
| HWP-FTBsoilE-151210 | 10333114001   | 1,2,3,4,6,7,8-HpCDD | 23000  |    | 52 ng/Kg  |            | Soil   | 23000        |                 |
| HWP-FTBsoilE-151210 | 10333114001   | OCDF                | 18000  |    | 100 ng/Kg |            | Soil   | 18000        |                 |
| HWP-FTBsoilE-151210 | 10333114001   | OCDD                | 200000 |    | 100 ng/Kg | E          | Soil   | 200000 J     |                 |
| HWP-FTBsoilE-151210 | 10333114001   | Total TCDF          | 11     |    | 10 ng/Kg  |            | Soil   | 11           |                 |
| HWP-FTBsoilE-151210 | 10333114001   | Total TCDD          | ND     |    | 10 ng/Kg  |            | Soil   | 10 U         |                 |
| HWP-FTBsoilE-151210 | 10333114001   | Total PeCDF         | 570    |    | 52 ng/Kg  |            | Soil   | 570          |                 |
| HWP-FTBsoilE-151210 | 10333114001   | Total PeCDD         | ND     |    | 52 ng/Kg  |            | Soil   | 52 U         |                 |
| HWP-FTBsoilE-151210 | 10333114001   | Total HxCDF         | 5500   |    | 52 ng/Kg  |            | Soil   | 5500         |                 |
| HWP-FTBsoilE-151210 | 10333114001   | Total HxCDD         | 2400   |    | 52 ng/Kg  |            | Soil   | 2400         |                 |
| HWP-FTBsoilE-151210 | 10333114001   | Total HpCDF         | 19000  |    | 52 ng/Kg  |            | Soil   | 19000        |                 |
| HWP-FTBsoilE-151210 | 10333114001   | Total HpCDD         | 35000  |    | 52 ng/Kg  |            | Soil   | 35000        |                 |
| HWP-FTBsoilE-151210 | 10333114001   | TEQ                 | 630    |    | 0 ng/Kg   |            | Soil   | 630          |                 |