



Alachua County Environmental Protection Department

Chris Bird, Director

September 30, 2010

Mr. Scott Miller
Remedial Project Manager
U.S. EPA Region 4
61 Forsyth Street, SW
Atlanta, GA 30303

Re: Supplemental Creek Sediment Survey of Hogtown Creek Downstream of Cabot - Koppers Superfund Site – Task 5 Cooperative Assistance Agreement #V97468702--Final Task 5 Deliverable

Dear Mr. Miller:

This letter transmits the report “ Supplemental Creek Sediment Survey of Hogtown Creek Downstream of Cabot - Koppers Superfund Site” dated September 30, 2010 which contains the results of creek sediment contamination survey activities conducted by the Alachua County Environmental Protection Department (ACEPD) under Task 5 of Cooperative Assistance Agreement #V97468702 during July, May and September 2010 . This supplemental survey was conducted as a follow-up to the report “Sediment Quality Sampling on Springstead and Hogtown Creeks Near the Cabot-Koppers Superfund Site” dated August 2009 that was previously submitted to USEPA as part of Task 5. This report completes the activities under Task 5 of ACEPD’s Cooperative Assistance Agreement #V97468702 with USEPA.

Of special note in this report, is the fact that ACEPD has located additional areas of buried tarry materials in Hogtown Creek. One of these newly discovered areas was noted during field reconnaissance efforts on September 20, 2010 with Mr. Mark Taylor of Weston representing the Cabot Corporation in preparation for the Tar Removal project planned by Cabot. The location of this one newly discovered tarry depositional areas is documented in this report. ACEPD under continuing efforts not under this Cooperative Agreement is attempting to locate additional suspected tarry depositional areas during the second week of October 2010. We will report the locations of these areas to USEPA and Cabot as soon we can. The location of these additional depositional areas will require further discussions with Cabot and USEPA for potential remediation. If you have any questions about this report, please contact me at 352-264-6805 or via e-mail at jjm@alachuacounty.us .

Sincerely,

John J. Mousa, Ph.D.
Pollution Prevention Manager

CC: Robin Hallbourg Wayne Reiber, Cabot Corp. Mark Taylor, Weston Kelsey Helton, FDEP
Fred Murry, City of Gainesville Stu Pearson, City of Gainesville

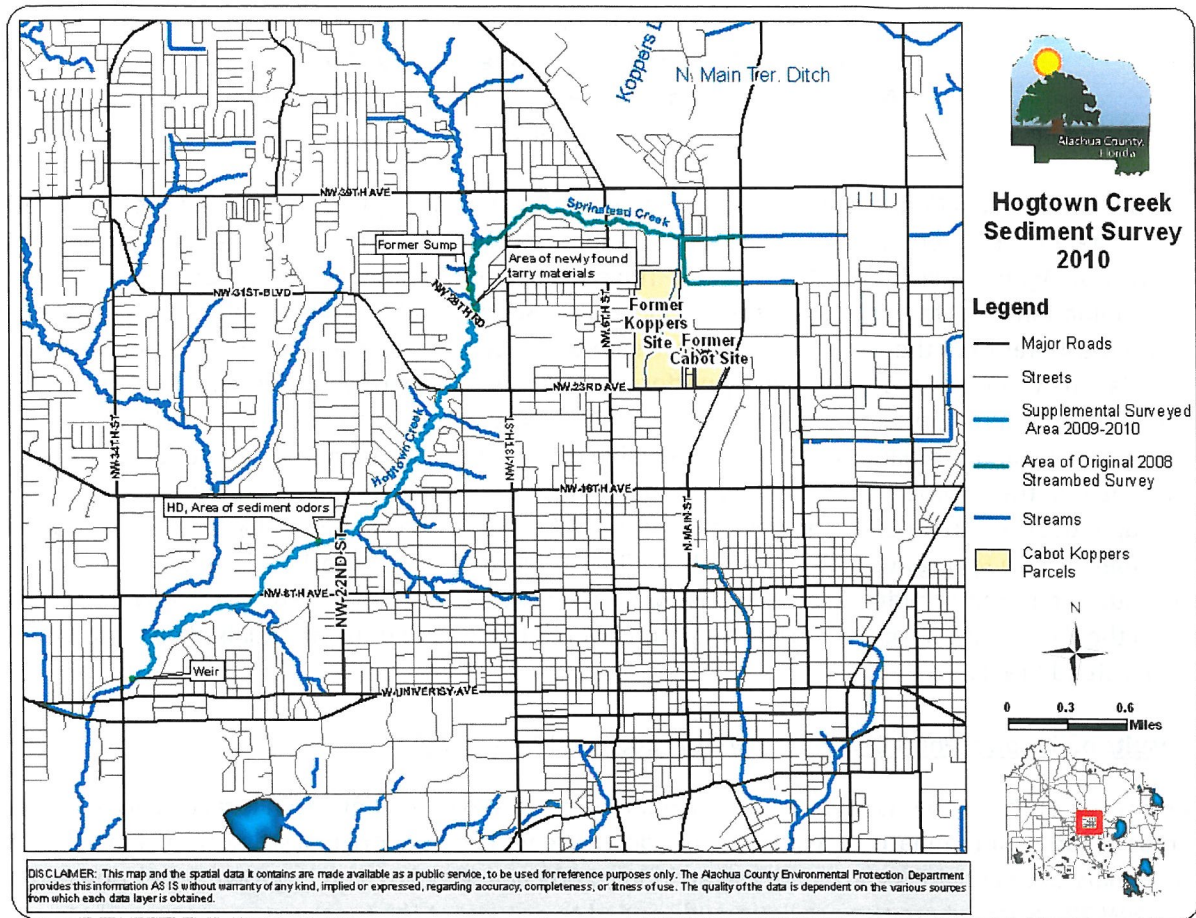
**Supplemental Creek Sediment Survey of Hogtown Creek Downstream of
Cabot -Koppers Superfund Site
Task 5- USEPA Cooperative Agreement V97468702
Alachua County Environmental Protection Department
September 2010**

In 2009 the Alachua County Environmental Protection Department (ACEPD) reported the results of an assessment of sediment quality in Springstead and Hogtown Creeks funded by the US Environmental Protection Agency, Region 4 (ACEPD 2009). The objective of this study was to determine the extent of contamination in surface and subsurface sediments in Springstead and Hogtown Creeks and selected ditched tributaries in the vicinity and downstream of the Cabot-Koppers Superfund site in Gainesville, Florida. The work was accomplished by performance of a streambed reconnaissance survey to identify areas of contamination and by collection and analysis of sediment samples. The study focused primarily on identifying and sampling areas with observable evidence of contamination, in the form of “tarry” materials, in the sediments. The initial reconnaissance survey was conducted during December 2008 throughout Springstead Creek downstream of the Cabot-Koppers site and in Hogtown Creek from the confluence with Springstead south to NW 29th Road (**Figure 1**). The majority of contamination, polynuclear aromatic hydrocarbons (PAHs), was associated with “tarry” materials that were released from the Cabot Carbon site when waste lagoons were breached and the materials allowed to flow into Springstead Creek.

Results of Supplemental Creek Survey (July 2009 and May 2010)

As a result of this previous study and subsequent reports and comments from local citizens of potential areas of tarry contamination existing further downstream from the original study area, additional reconnaissance activities were undertaken in July 2009 and May 2010 on Hogtown Creek downstream of the NW 29th Road where the previous study ended to document the presence or absence of observable contamination. The new supplemental survey area is identified in **Figure 1**. In addition, during the supplemental survey effort ACEPD more accurately located a former sump north of NW 29th Road that was used to contain “tarry” material for removal after the release from the former Cabot Carbon lagoons in October 1967 and also identified areas with tarry deposits that had not been previously documented.

The first segment of Hogtown Creek assessed in this supplemental survey extended from NW 29th Road to NW 16th Avenue. The second creek segment assessed was the area from NW 16th Avenue and continuing downstream to the weir upstream of NW 34th Street. In each case the reconnaissance was conducted by walking the creek noting any areas of observable “tar-like” materials or heavy soil staining. A four-foot soil probe was used to evaluate the deeper sediments at all sand bars and depositional areas within the stream to look for and document areas of buried contamination, “tarry” material, at depths of 4 feet or less.



indicated that this discharge is in compliance with state regulations and requirements and compliance monitoring is conducted quarterly to ensure continued compliance.

During the weeks of May 3, 2010 and May 31, 2010 ACEPD staff walked upstream from the weir at NW 34th Street to NW 16th Avenue where staff concluded the previous sediment survey in July 2009. Staff used the same methods as in the previous sediment evaluations which included a visual and olfactory reconnaissance of the sediments and the use of a four-foot probe to evaluate sediments at depth. As part of this reconnaissance, ACEPD staff focused targeted probing in the streambed in proximity to the weir above NW 34th Street as well as upstream locations where present sand bars and depositional areas were observed. Local residents had indicated that this area was one where they remembered having contaminated materials exposed in the past. ACEPD staff thoroughly examined the area from 0 to 50 feet upstream of the weir conducting transects approximately 2 to 3 feet apart along the streambed. ACEPD staff probed along the weir, all the sand bars and depositional areas within the stream bed, and along the banks. No contamination was discovered in the area surrounding the weir. Areas of the creek where water was deeper than four feet were not probed. Most of the sediments in this entire segment of the creek were submerged under baseflow conditions. The streambed was composed of surficial sands and Hawthorn Group sediments. ACEPD staff probed to the full extent of the four-foot probe unless clay or organic deposition prevented penetration and evaluated the area from the weir (upstream of NW 34th Street) to NW 16th Avenue.



ACEPD staff conducting probing of sediments in Hogtown Creek upstream of the weir.

There was one area downstream of NW 22nd Street where ACEPD staff observed odors that may indicate the presence of buried “tarry” materials. On June 3, 2010 ACEPD staff re-evaluated this area of interest located approximately two to three hundred feet downstream of NW 22nd Street (**Figure 1**). The area of interest was a pocket of sediment along the north bank, with a slight odor. The dark organic, fine grained sediment was found at a depth interval of one to two feet. There did not appear to be a significant accumulation of tarry material at this location. ACEPD conducted sampling of this area on August 18, 2010, collecting a sample (Sample identified as Location **HD**) from 2 to 8 inches for testing of semivolatile organic compounds (SVOCs), total organic carbon, and metals (aluminum, arsenic, copper, chromium, and iron) in the sediment. The sediment observed and sampled consisted of dark fine

grained organic materials with a moderate “tar-like” odor. The sediment was sticky, but did wash off with water. Only three of the SVOCs, fluoranthene (0.910 mg/kg), phenanthrene (0.530 mg/kg), and pyrene (0.85 mg/L), were detected above the laboratory reporting limit. The total benzo(a)pyrene toxic equivalents (BaP-TEQ) calculated from the laboratory results was 0.234 mg/kg. Arsenic (3.40 mg/kg), copper (15.00 mg/kg), and chromium (32.0 mg/kg) were above background concentrations observed in the samples collected from Springstead and Hogtown creeks in 2009 (ACEPD 2009). A table summarizing the results of these recent analyses is presented in **Table 1**.

Recent Location of New Tarry Depositional Area (September 2010)

On September 20, 2010 ACEPD staff met Mark Taylor of Weston in the field to further assess several areas in Springstead and Hogtown creeks and to evaluate some of the earlier identified areas of “tarry” material (Springstead Creek (S-9 and S-10) and Hogtown Creek (former sump area, H-4, HA and HD near NW 22nd Street)). During that field visit ACEPD located one additional area of “tar-like material” in Hogtown Creek near, but separate from HA. This site was approximately 2 feet in depth, 30-40 feet long and 5-10 feet wide. Based on these findings ACEPD plans a further evaluation of the sediments in Hogtown Creek in this area during the second week of October 2010.

Former Sump Location along Hogtown Creek

In April 2010 ACEPD staff went back out to the area of Hogtown Creek north of NW 29th Road to better locate what is believed to be a former sump area in the Hogtown Creek floodplain where pine tars were reportedly collected for removal after the October 1967 former Cabot Carbon lagoon release. The former sump area found by ACEPD staff is located upstream of NW 29th Road off the west bank of Hogtown Creek in a low flat area in the floodplain. This area was researched and located based on historical information gathered in early 2000 and was subsequently sampled by ACEPD in September 2000 (sample ID **Hog Sump**) and was found to have detectable concentrations of anthracene (1.4 mg/kg), benzo(a)anthracene (0.6 mg/kg), benzo(a)pyrene (2.0 mg/kg), benzo(b)fluoranthrene (0.54 mg/kg), chrysene (2.6 mg/kg), fluoranthene (6.0 mg/kg), (0.79 mg/kg), 2-methylnaphthalene (2.1 mg/kg), naphthalene (0.69 mg/kg), phenanthrene (3.6 mg/kg) and pyrene (4.6 mg/kg) (ACEPD, 2007). Sediments that were sampled and observed in this area were similar to those described above that were found downstream from NW 22nd Street. No accumulation of “tar-like” material was found or sampled in this area. The odors of “tar-like” material detected in the sediments appeared to be associated with dark fine grained organic materials. The area had some ponded water when staff made the site visit in April 2010; in previous visits the area was moist, but it was not inundated. For reference, the former sump area is located off the west bank near a sewer line crossing of the creek. ACEPD staff probed the perimeter of the low area believed to be the sump that is closest to the creek and observed “pine-tar” odors in the fine-grained organic sediments encountered at depths of 2 to 3 feet. ACEPD recommends that this area be further evaluated and considered for remedial removal of sediments should “tarry material” be identified.



Former Sump area in Hogtown Creek Floodplain, April 3, 2010.

Summary of In-Stream Survey Observations

1. At the time of the supplemental Hogtown Creek surveys during July 2009 and May 2010 excessively stained soil or tarry contamination was not visually observed on the surface sediments in the streambed or by utilizing the soil probe to evaluate buried sediments (approximately 4 ft depth) in the studied segments of Hogtown Creek from the weir near NW 34th Street to NW 29th Road.
2. At one location in Hogtown Creek south of NW 22nd Street odorous sediment was detected with the sample probe, but no visually stained sediments or accumulation of tarry materials were observed. A sample of the sediment in this location (Sample ID: HD) and was found to contain low levels of polynuclear aromatic hydrocarbons.
3. ACEPD staff thoroughly investigated the area just upstream of the 34th Street weir and did not detect any visible or odorous material.
4. The former sump area on the west bank of Hogtown Creek was located north of NW 29th road. Probing the perimeter of that area indicated the presence of odorous sediments with odors consistent with the “tarry” materials previously observed at upstream locations. However no accumulation of tarry materials was observed in this location. Further assessment may be necessary to confirm this finding. Previous sampling and analysis of the sediment in this area by ACEPD in 2000 detected various polynuclear aromatic hydrocarbons ranging in concentration from 0.6 mg/Kg to 6.0 mg/Kg.
5. On September 20, 2010, during a tour of the creek area with Mark Taylor of Weston, ACEPD located one additional area of “tar-like material” in Hogtown Creek near, but separate from HA. This site was approximately 2 feet in depth, 30-40 feet long and 5-10 feet wide. Based on these findings ACEPD plans a further evaluation of the sediments in Hogtown Creek in this area during

the second week of October 2010. Preliminary indications are that a few additional locations of tarry material that had not been previously identified by ACEPD exist in Hogtown Creek. These will be evaluated in further reconnaissance by ACEPD during the second and third week of October 2010.

References

ACEPD 2007. *Gainesville Creeks – A Status Report on Baseflow Water Quality, Stormwater and Ecosystem Health for the Orange Creek Basin 1998-2003*. Prepared for the St. Johns River water management District by Alachua County Environmental Protection Department. June 2007.

ACEPD 2009. *Screening of Sediment and Water Quality within Springstead Creek and Ditched Tributaries North of Cabot-Koppers Superfund Site*, Alachua County Environmental Protection Department (ACEPD). May12, 2009 Updated August 2009.

Table 1. Chemical Analysis Results for Sediment Sample - Location HD on Hogtown Creek August 2010

Analysis Method- Compound Type	Lab	Lab	Sample Location Concentration (mg/Kg)
Method 8270C: Semi-volatiles	MDL(mg/Kg)	PQL (mg/Kg)	HD
SVOC Dilution Factor			1
Acenaphthene	0.04	0.5	<i>0.11</i>
Acenaphthylene	0.07	0.5	
Anthracene	0.04	0.5	<i>0.11</i>
Benzo(a)anthracene	0.02	0.5	<i>0.27</i>
Benzo(a)pyrene	0.02	0.5	<i>0.16</i>
Benzo(b)fluoranthene	0.01	0.5	<i>0.24</i>
Benzo(g,h,i)perylene	0.03	0.5	<i>0.13</i>
Benzoic Acid	0.53	2.7	<i>0.89</i>
Benzo(k)fluoranthene	0.03	0.5	<i>0.10</i>
Bis(2-ethylhexyl) phthalate	0.02	0.5	<i>0.12</i>
Butyl benzyl phthalate	0.02	0.5	<i>0.04</i>
Chrysene	0.03	0.5	<i>0.30</i>
Dibenz(a,h)anthracene	0.02	0.5	<i>0.04</i>
Dibenzofuran	0.02	0.5	<i>0.02</i>
Fluoranthene	0.03	0.5	0.91
Fluorene	0.08	0.5	
Indeno(1,2,3-cd)pyrene	0.02	0.5	<i>0.12</i>
2-methylnaphthalene	0.01	0.4	
Naphthalene	0.03	0.4	
Phenanthrene	0.04	0.5	0.53
Pyrene	0.03	0.5	0.85
Pentachlorophenol	0.08	2.7	
Carcinogenic PAHs (calculated)			
Total Benzo(a) Pyrene Equivalents (mg/Kg)			0.23
FDEP Residential SCTL = 0.1 mg/Kg			
Metals Method 6010 (mg/Kg)			
Aluminum	3.4	28	18000
Arsenic	0.31	1.4	3.4
Chromium	0.18	1.4	32
Copper	0.46	2.8	15
Iron	1.3	7	4600
Total Organic Carbon (mg/Kg)	3.1	8	40000
Percent Moisture			38%
na = not available			
ND = Not Detected at MDL			
Blank Cell = Not Detected at MDL			
x = Sample Not Analyzed			
Data in Bold is Quantitative Above Lab PQL			
Data in <i>Italics</i> is Estimated Semiquantitative -Value between the MDL and PQL			

