TETRA TECH

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Project Manager

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Mr. Leonard Zintak
Mr. Robert Kondreck
On-Scene Coordinators
U.S. Environmental Protection Agency Region 5
77 W. Jackson Boulevard
Chicago, Illinois 60604

Subject: **Letter Report for Emergency Response Activities at the Bubbly Creek Mystery Spill**
Revision 1
EPA Contract No. EP-S5-13-01
Technical Direction Document No. S05-0004-1710-010
Document Tracking No. 2257

Dear Mr. Zintak and Mr. Kondreck:

Under Superfund Technical Assessment and Response Team (START) Contract No. EP-S5-13-01, Technical Direction Document (TDD) No. S05-0004-1710-010, the U.S. Environmental Protection Agency (EPA) tasked Tetra Tech, Inc. (Tetra Tech) to provide support during emergency response (ER) activities at the Bubbly Creek Mystery Spill site located in Chicago, Cook County, Illinois.

As part of ER activities, Tetra Tech completed a health and safety plan, collected surface water samples, and documented site activities.

The following sections of this letter report discuss the site location, site history, emergency response activities, and surface water sample results.

Appendix A provides the figures for this letter report. Appendix B provides START Field Notes. Appendix C provides representative photographs of site conditions and response activities conducted at the site. Appendix D is an Analytical Summary Table. Appendix E provides the Data Validation Report for the data packages received for this incident. Appendix F provides the environmentally preferred practices performed as a part of this TDD. Attachment 1 provides the laboratory data packages from the surface water and sheen net samples collected at the site.

SITE LOCATION

The Bubbly Creek Mystery Spill is located at Mile Marker 321 of the Chicago River, which is the intersection of the South Branch of the Chicago River, Bubbly Creek (South Fork of the Chicago River), and the Chicago Sanitary and Ship Canal (Figure 1). EPA, the Emergency Rapid Response Service (ERRS) contractor, and START set up staging for the response at Park #571 (Figure 2). The affected waterways consisted of Bubbly Creek extending from the South Branch of the Chicago River to W. Pershing Road, the Chicago Yacht Works marina located in the Chicago Sanitary and Ship Canal (CSSC) at S. Ashland Avenue, and inlet of the South Branch of the Chicago River located between S. Ashland Avenue and S. Laflin Street (Figure 2).

SITE HISTORY

On October 25, 2017, EPA was notified through National Response Center (NRC) reports 1194231 and 1194307 of an unknown amount and type of oil impacting mile marker 321 of the Chicago River. The City of Chicago and the Metropolitan Water Reclamation District of Greater Chicago (MWRD) initially investigated the spill. On October 26, 2017, EPA attempted to determine the origin of the oil spill by investigating the South Fork of the Chicago River (a.k.a. Bubbly Creek), South Branch of the Chicago River, and the CSSC with MWRD. However, oil was only found in Bubbly Creek and the CSSC (see Figure 2). Oil and sheen appeared to have been originating from Bubbly Creek based on the quantity of product observed in the creek versus other locations.

EMERGENCY RESPONSE ACTIVITIES

This section summarizes emergency response activities conducted by EPA, START, ERRS, and other agencies at the Bubbly Creek Mystery Spill by date.

October 26, 2017

START and ERRS personnel were mobilized to the site on October 26, 2017. START collected a surface water and an oil sheen net sample (CRMS-SW-01-102617) from a pier by the Park #571 Boathouse (pier), where oil had accumulated. The sample was collected to document impacts to the waterway, create a waste profile for disposal, and determine the characteristics of oil (i.e., diesel, gasoline, etc.). The surface water sample was hand delivered to TestAmerica Laboratory in University Park, Illinois for analysis of volatile organic compounds (VOC), semivolatile organic compounds (SVOC), polychlorinated biphenyls (PCB), Resource Conservation and Reclamation

Act (RCRA) 8 metals, flashpoint, and total organic halogens (TOX). An oil sheen net sample was also collected from the Park #571 Boathouse pier (pier). The oil sheen net sample was shipped to the U.S. Coast Guard Marine Safety Laboratory (MSL) in New London, Connecticut for forensic oil fingerprinting analysis.

ERRS mobilized personnel and equipment, including two boats, to contain and recover the oil. ERRS placed hard containment boom and sorbent boom at the confluence of Bubbly Creek, South Branch of the Chicago River, and the CSSC. The pier and seawall were also surrounded by containment and sorbent boom to prevent further spread of oil in the area. ERRS began cleanup of oil using adsorbent pads around the pier. Oil and oil-contaminated debris surrounding the pier were placed in bags and disposed of in a 20-yard roll-off box. Caution tape was placed around the pier and supported by fenceposts and cones to alert the public of the oil.

While on site, EPA, START, and ERRS personnel observed two Canada geese impacted by oil. Reports from the community indicated the potential for additional wildlife impacts. The U.S. Fish and Wildlife Service (USFWS) was notified of the impacts to wildlife by staff at Park #571 and separately by EPA when impacts were observed.

October 27, 2017

ERRS worked to recover oil from pockets west of the confluence of Bubbly Creek on the CSSC and at the pier. Oil was not located upstream on the South Branch of the Chicago River. Oil absorbent pads were used to recover oil from the pockets observed west of the confluence of Bubbly Creek, near the Chicago Yacht Works marina, and at the pier.

Because TestAmerica could not analyze the October 26 water sample for TOX and needed additional volume for PCBs, START collected a single surface water sample from the pier (CRMS-SW-01-102717). The sample was hand delivered to STAT Analysis in Chicago, Illinois for TOX and PCB analysis.

U.S. Department of Agriculture (USDA) Wildlife Services personnel under a joint agreement with USFWS were on site to deter birds from entering the spill area, assess wildlife for oil impacts, and recover impacted wildlife. Bird deterrent measures included the use of reflective Mylar tape and pyrotechnics. One dead Canada goose, one impacted Canada goose, and one impacted turtle were recovered. The impacted Canada goose and turtle were eventually taken to the Flint Creek wildlife

rehabilitation facility in Barrington, IL to be rehabilitated. Two blue herons and six Canada geese were also observed to be impacted, but USFWS and USDA personnel were not able to capture them.

October 28, 2017

ERRS continued working to recover oil at the pier, the Chicago Yacht Works marina, and near the MWRD pumping facility. ERRS personnel replaced sorbent boom surrounding the pier and continued using oil absorbent pads to recover the oil from the impacted areas near the pier. Absorbent boom was placed around the boats at the Chicago Yacht Works; however, the boom was detached due to moving boats in and out of the area for winter storage. Absorbent pads were used to remove oil within and around the boomed area. ERRS personnel began to place absorbent pads at the southern terminus of Bubbly Creek near the MWRD pumping station after the accumulation of oil was noticed. ERRS received a second 20 cubic-yard dumpster at the site to store the trash bags full of spent absorbent pads, sorbent boom, and impacted debris. Personnel from the USFWS and USDA were also present on site to continue hazing birds from the spill area and recovering impacted wildlife.

October 30, 2017

ERRS personnel continued cleanup work at the pier. By the end of the day, the dense oil had been removed from the area surrounding the pier. A light sheen remained from residual oil on rocks and the pier. In an effort to reduce the remaining sheen and prevent further sheening, ERRS personnel power washed to clean the residual oil from the rocks and pier. The residual oil that was cleaned from the rocks was then recovered using absorbent pads.

While ERRS continued cleaning and recovering oil at the pier, EPA and START surveyed the CSSC and Bubbly Creek for remaining pockets of oil. The only pockets of oil observed were located at the Chicago Yacht Works marina and along Bubbly Creek with the majority at the southern terminus of Bubbly Creek, next to the MWRD pump station. Where needed, sorbent boom was placed around pockets of oil to recover and prevent the migration of the oil pockets.

USFWS and USDA personnel were on site to continue hazing birds and recovering impacted wildlife. USFWS and USDA personnel demobilized from the site at the end of the day on October 30, 2017. In total, USFWS and USDA personnel collected the following dead animals: one Canada

goose, one seagull, four turtles, and 43 fish. The USFWS and USDA also recovered one impacted Canada goose and two impacted turtles, which were eventually taken to the Flint Creek wildlife rehabilitation facility in Barrington, Illinois to be cleaned.

October 31, 2017

ERRS personnel continued using the power washer to clean the rocks and pier of residual oil. The sorbent boom at the Chicago Yacht Works marina was recovered and disposed of after the oil pocket and sheen was no longer observed at the marina. ERRS personnel then started recovering oil from the southern terminus of Bubbly Creek after accumulated oil was discovered on October 30, 2017.

At the request of EPA, START collected two additional surface water samples from Bubbly Creek. The first sample (CRMS-SW-02-103117) was collected from the southern terminus of Bubbly Creek, near the MWRD pump station. The second sample (CRMS-SW-03-103117) was collected from an area near the middle between the southern terminus of Bubbly Creek and its confluence with the South Branch of the Chicago River and CSSC. Samples were collected to document the impacts the spill caused to the waterways. The sample locations can be viewed on Figure 2. Both samples were hand delivered to TestAmerica Laboratory for VOC, SVOC, PCB, and RCRA 8 metals analyses, and to STAT Laboratory for TOX analysis.

November 1, 2017

ERRS personnel continued using the power washer to clean the rocks and pier of residual oil. ERRS personnel also conducted inspections of the CSSC around the Chicago Yacht Works marina to look for remaining pockets of oil, but did not find any. As a result, ERRS crews focused on recovering the remaining oil pocket at the southern terminus of Bubbly Creek. Additional pockets of oil had migrated towards the confluence of Bubbly Creek with the South Branch of the Chicago River and the CSSC; however, the oil pockets were contained by the sorbent and hard boom. The oil was recovered with sorbent boom and absorbent pads, which were then disposed of.

November 2, 2017

ERRS continued to recover oil that had been stopped by the boom at the confluence of Bubbly Creek with the South Branch of the Chicago River and the CSSC. ERRS also had a crew removing impacted vegetation from the Bubbly Creek shores, which was then bagged and disposed of. ERRS

pulled the hard boom that had been placed around the pier, which was cleaned with the pressure washer as it was removed. Residual oil that came off the boom as it was being cleaned was recovered by absorbent pads.

A citizen reported an oil pocket in an inlet between S. Ashland Avenue and S. Laflin Street (inlet). EPA, START, and ERRS took a boat to inspect the area and observed a pocket of oil, approximately 85 feet by 10 feet, located at the northern terminus of the inlet. ERRS contained the oil by placing hard and sorbent boom across the inlet.

November 3, 2017

ERRS continued to remove impacted vegetation from the Bubbly Creek shores, which was bagged and disposed of. ERRS also had two crews working to remove impacted debris and vegetation from the oil pocket observed at the northern terminus of the inlet.

At the request of EPA, START collected a surface water and oil sheen net sample (CRMS-SW-04-110317) from the oil pocket in the inlet. The purpose of collecting the sample was to determine if the inlet oil was the same type as the other oil recovered. The sample was hand delivered to TestAmerica Laboratory for VOC, SVOC, PCB, and RCRA 8 metals analyses and STAT Laboratory for TOX analysis. An oil sheen net sample was shipped to the US Coast Guard Marine Safety Laboratory for a comparative analysis to the previous oil sheen net sample collected on October 26, 2017.

ERRS personnel removed the sorbent boom and caution tape around pier. Full public access to the pier was granted starting the afternoon of November 3, 2017.

November 6, 2017

A third 20 cubic-yard dumpster was delivered to the site. ERRS focused its efforts on removing the oil-impacted debris and vegetation from the inlet. A single ERRS crew also finished removing impacted vegetation from Bubbly Creek in the morning, and then assisted with the cleanup in the inlet. A total of 24 bags of vegetation was removed from Bubbly Creek. ERRS started recovering oil from the areas that had been cleared of debris and vegetation by placing absorbent pads on the water surface.

November 7, 2017

ERRS finished removing the oil-impacted debris and vegetation from within the S. Ashland Avenue and S. Laflin Street inlet. Once all the impacted debris and vegetation was removed from the inlet, ERRS placed additional absorbent pads to recover all the oil from the inlet. An ERRS crew removed the hard and sorbent boom from across Bubbly Creek at the confluence with the South Branch of the Chicago River and CSSC. The sorbent boom was bagged and disposed of in dumpsters, and the hard boom was cleaned with the pressure washer as it was removed from the water. Residual oil from the hard boom was contained and recovered with absorbent pads.

Two 20 cubic-yard dumpsters were picked up and taken to the Waste Management Laraway Facility in Joliet, Illinois for disposal as non-hazardous waste.

November 8, 2017

ERRS removed the absorbent pads and sorbent boom from the inlet, which were bagged and disposed of in the remaining dumpster. The hard boom was removed from the inlet and cleaned with a pressure washer as it was removed from the water. Residual oil from the boom was contained and recovered using absorbent pads, which were bagged and disposed of in the dumpster. Boats used during the cleanup were decontaminated using the pressure washer. The oil was recovered using absorbent pads. All personnel demobilized from the site leaving a single 20 cubic-yard dumpster, which were picked up for disposal at the Waste Management Laraway Facility in Joliet, Illinois on November 9, 2017.

ANALYTICAL RESULTS

Surface Water Sample Analytical Results

Results from the surface water samples indicated the presence of several VOCs, SVOCs, and metals. The sample results were compared to surface water standards, specific to Bubbly Creek, which are located in Title 35, Subtitle C, Chapter I, Part 302, Section 302.407 of the Illinois Administrative Code. Samples CRMS-SW-01-102617, CRMS-SW-03-103117, and CRMS-SW-04-110317 did not have any compounds detected greater than Chicago Area Waterway System Water Quality Standards. Sample CRMS-SW-02-103117 detected lead and mercury at concentrations greater than the water quality standards. None of the samples had any detections

for TOX or PCBs. The Data Validation Report for the laboratory data packages is presented in Appendix E and the full laboratory data packages are presented in Attachment 1.

Oil Sheen Net Sample Analytical Results

Results from the oil fingerprinting analyses, conducted on the two sheen net samples by the US Coast Guard Marine Safety Laboratory, indicate the spilled oil consisted of moderately weathered light fuel oil mixed with lubricating oil. Furthermore, the results indicated that the sample collected at the pier consisted of the same oil as from the inlet. US Coast Guard Marine Safety Laboratory Reports 18-021-1 and 18-025-1 are presented in Attachment 1.

This letter report serves as the final deliverable for this TDD, and Tetra Tech anticipates no further emergency response activities. If you have any questions or comments regarding this report, please contact me at (312) 201-7430.

Sincerely,

Matt Villicana
Project Manager

Appendices:
A – Figures
B – Field Notes
C – Photographic Documentation Log
D – Analytical Summary Table
E – Data Validation Report
F – Environmentally Preferred Practices

Attachments
1 – Laboratory Data Packages
2 – National Response Center Reports

APPENDIX A

Figures

APPENDIX B

Field Notes

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APPENDIX C

Photographic Documentation Log

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APPENDIX D

Analytical Summary Table

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APPENDIX E

Data Validation Report

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APPENDIX F

Environmentally Preferred Practices

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ATTACHMENT 1

Laboratory Data Packages