



October 17, 2019

Mr. Kirk Mammoliti
On-Scene Coordinator
U.S. Environmental Protection Agency
212 Little Bussen Drive
Fenton, MO 63026

Subject: Removal Action Report
Good Hope Road Drum Site, Berger, Missouri
U.S. EPA Region 7 START 5, [REDACTED]
Task Order No. 19F0058
Task Monitor: Kirk Mammoliti, On-Scene Coordinator

Dear Mr. Mammoliti:

Tetra Tech, Inc. is submitting the attached Removal Action Report regarding the Good Hope Road Drum site near Berger, Missouri. If you have any questions or comments, please contact the Project Manager at [REDACTED].

Sincerely,

A large black rectangular redaction box covering the signature of the START Project Manager.

START Project Manager

A large black rectangular redaction box covering the signature of the START Program Manager.

START Program Manager

Enclosure

cc: Randy Schademann, START Project Officer (cover letter only)
Cody McLarty, Alternate START Project Officer (cover letter only)

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REMOVAL ACTION REPORT
GOOD HOPE ROAD DRUM SITE
BERGER, MISSOURI

Superfund Technical Assessment and Response Team (START) 5
[REDACTED]

Prepared For:

U.S. Environmental Protection Agency
Region 7
11201 Renner Boulevard
Lenexa, Kansas 66219

October 17, 2019

Prepared By:

Tetra Tech, Inc.
[REDACTED]
[REDACTED]
[REDACTED]

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1.0 INTRODUCTION

Under Superfund Technical Assessment and Response Team (START) 5 Contract Number [REDACTED], Task Order Number [REDACTED], the U.S. Environmental Protection Agency (EPA) Region 7 Superfund Division tasked Tetra Tech, Inc. (Tetra Tech) to assist with removal activities at the Good Hope Road Drum (GHRD) site (the site) at 3285 Good Hope Road, Franklin County, Missouri, near Berger, Missouri. The primary objectives of the project were to document removal of abandoned metal drums at the site and collect samples of environmental media to determine whether release of chemical materials from the drums occurred that presents a threat to human health or the environment. START's activities proceeded under direction of EPA Region 7 On-Scene Coordinator (OSC) Kirk Mammoliti. Those activities included, but were not limited to:

- Collecting drinking water samples from nearby residential wells
- Collecting representative surface soil samples within the area where drums had been abandoned and removed, where overpacked drums were to be staged, and in that same staging area after shipment of the drums to the receiving facility
- Procuring laboratory services
- Documenting removal activities.

2.0 SITE DESCRIPTION

The following sections describe the site's location and summarize previous response activities at the site.

2.1 SITE LOCATION

The site is at 3285 Good Hope Road, Franklin County, Missouri, within a rural area where a complainant had reported numerous abandoned drums to the Missouri Department of Natural Resources (MDNR). The abandoned drums were in a wooded portion of the property approximately 0.25 mile from Good Hope Road and a residence. Approximate geographic coordinates at the central portion of the site are 38.582565 degrees north latitude and 91.348858 degrees west longitude (see Appendix A, Figures 1 and 2). Reportedly, the abandoned drums had been at the location for 30 to 50 years.

2.2 PREVIOUS RESPONSE ACTIVITIES

On April 17, 2018, MDNR identified and numbered 86 55-gallon metal drums at the site. Most of the drums contained liquids and solid materials; many were leaking or had spilled. Five of the drums were empty. Origin of the drums and identify of their contents were unknown. On September 5, 2018, the site was referred to EPA for removal consideration. EPA inventoried the drums on October 17, 2018, and accounted for all 86 previously identified drums (EPA 2018a).

EPA and START conducted removal assessment activities on November 6 and 7, 2018, including sampling and field screening the drum contents. Samples were collected from 71 of the 86 drums at the site. Some drums were empty, and some contained solid blocks of material. General information about each container, ID number, its contents, and field screening results were recorded on an inventory sheet. Photographs of the site are in Appendix B.

Based on screening results, the drums were assigned to six groups. The groups were characterized as: (1) flammable, sinks in water; (2) amber, floats on water; (3) green, floats on water, (4) multi-colored, floats on water; (5) green, halide; and (6) red, halide. From each group, a composite sample was collected and submitted for laboratory analysis. A surface soil sample from the area around the drums was also collected for analysis. All seven samples were analyzed for polychlorinated biphenyls (PCB), volatile organic compounds (VOC), semivolatile organic compounds (SVOC), total Resource Conservation and Recovery Act (RCRA) metals, and Toxicity Characteristic Leaching Procedure (TCLP) metals. The drum samples were also analyzed for flashpoint.

All samples collected from the drums were determined to be flammable. The drum samples also contained elevated concentrations of lead, with four samples exceeding the TCLP regulatory limit. Twelve to 16 VOCs were identified in each drum sample. SVOCs were identified in five of the six drum samples. PCBs were not detected in any drum sample (Tetra Tech 2019).

The multi-aliquot surface soil sample was found to contain no RCRA metal at concentration above an EPA Removal Management Level (RML) for residential soil (all RMLs referenced in this document are for a 10^{-4} cancer risk and hazard quotient [HQ] of 1.0) (EPA 2018b). One SVOC and three VOCs were identified at low concentrations (also below RMLs). No PCBs were detected in the soil sample.

3.0 REMOVAL ACTIVITIES

The following sections describe removal activities at the site.

3.1 OVERPACKING AND DISPOSAL OF ABANDONED DRUMS

On June 17, 2019, EPA OSC Mammoliti, START, and the EPA Region 7 Emergency and Rapid Response Services (ERRS) contractor, Environmental Restoration LLC (ER), arrived on site in preparation for the drum staging activities. The abandoned drums were on the northwest portion of the property where they had been abandoned, approximately 0.25 mile from the nearest road (Good Hope Road). Beginning June 18, 2019, ER personnel placed the abandoned drums into new 85-gallon, steel, ring-top salvage drums by using a drum sling attached to a mini-excavator. The overpacked drums were then moved by use of tracked skid steers to a staging area on the south edge of the property approximately 50 feet north of Good Hope Road. Unique ID numbers that had been assigned to the drums during the inventory activities were written on the exterior of the overpacks. Some drums were empty and were not overpacked; they were left as requested by the property owner. One drum broke apart while being handled; the released solid material and drum pieces were transferred to a new steel, ring-top, 55-gallon drum. By mid-morning on June 20, 2019, all drums had been moved into overpack drums and transported to the staging area. The area where the drums had been abandoned was re-graded and leveled.

Based on the previous screening and laboratory results, the drums were assigned to three groups for disposal. A total of 80 drums (79 85-gallon and one 55-gallon) were used to contain the waste for transport. The groups are identified in Table 1.

TABLE 1
DRUM GROUP SUMMARY
GOOD HOPE ROAD DRUM SITE, BERGER, MISSOURI

Group Number	Drum Numbers	Characteristics
1	2, 8, 10, 11, 12, 14, 15, 18, 19, 22, 23, 24, 26, 30, 32, 33, 35, 36, 42, 44, 45, 46, 47, 56, 57, 61, 62, 65, 68, 70, 73, 74, 76, 77, 79, 80, NS4, NS5, Soil Waste	D001- Ignitable waste
2	1, 3, 4, 5, 6, 9, 13, 16, 17, 20, 21, 25, 27, 28, 29, 31, 34, 37, 38, 39, 40, 49, 50, 51, 52, 53, 54, 55, 58, 59, 60, 63, 64, 67, 69, 71, 72, 75, 78, 81	D001 & D008 - Ignitable waste mixed with lead
3	7	D001- Ignitable waste

Clean Harbors, Inc. picked up the drums at the site on August 9, 2019, for transport to the [REDACTED] facility at [REDACTED] in El Dorado, Arkansas. The materials were to be incinerated, and EPA was to receive documentation certifying the disposal.

3.2 DRINKING WATER SAMPLING

To evaluate if chemical materials identified in the abandoned drums had been released to groundwater, START collected samples from drinking water wells near the site. On April 4, 2019, START Member (SM) [REDACTED] collected drinking water samples at three residences within 0.5 mile of the site (see Appendix A, Figure 3). The well owners had provided written access to START before collection of the samples. START obtained each well owner's name, address, and phone number to facilitate ensuing notification of the sample results. The water samples were collected from outside spigots between the wells and any treatment systems. Each sample consisted of three 40-milliliter (mL) vials preserved with hydrochloric acid (HCl) for analysis for VOCs, two 250-mL plastic bottles preserved with nitric acid (HNO₃) for total and dissolved lead analyses (samples for dissolved lead analysis were filtered in the field), and two 1-liter amber bottles preserved with HCl for analysis for SVOCs. A field blank preserved with HCl was prepared for VOC analysis. START delivered the samples to [REDACTED] in Lenexa, Kansas, on April 5, 2019. The chain-of-custody form is in Appendix C. Table 2 summarizes the drinking water samples.

TABLE 2
DRINKING WATER SAMPLE SUMMARY
GOOD HOPE ROAD DRUM SITE, BERGER, MISSOURI

Owner/Phone Number	Address	City	State & Zip Code	Sample No.
[REDACTED]	[REDACTED]	Berger	MO 63014	GHRDDW-1
[REDACTED]	[REDACTED]	Berger	MO 63014	GHRDDW-2
[REDACTED]	[REDACTED]	St. Louis ¹	MO 63132 ¹	
[REDACTED]	[REDACTED]	New Haven	MO 63068	GHRDDW-3
Field Blank	NA	NA	NA	GHRDDW-4FB

Notes:

All samples were collected on April 4, 2019.

¹ Mailing address

MO Missouri
NA Not applicable
No. Number

3.3 SOIL SAMPLING

On June 17, 2019, START collected a pre-use, multi-aliquot surface soil sample (Number 8270-1) in an area (near Good Hope Road) where the overpacked drums were to be staged; then ER placed plastic sheeting over that area. Photographs of the staging area are in Appendix B.

On June 20, 2019, after removal of all drums from the area where they had been abandoned, the soil was leveled with a skid steer. [REDACTED] collected a multi-aliquot surface soil sample (Number 8270-2) within that area to undergo the same analyses as the soil sample collected at the staging area prior to staging of the drums.

Both soil samples were delivered to the EPA Region 7 laboratory in Kansas City, Kansas, on June 21, 2019, for analyses for VOCs and SVOCs. The chain-of custody form for the samples is in Appendix C.

On August 9, 2019, after removal of the drums and plastic sheeting from the staging area, OSC Mammoliti collected a post-use surface soil sample (Number 8270-3) within the staging area to be analyzed for the same parameters as the two previously collected soil samples. The soil sample was delivered to the EPA Region 7 laboratory on August 13, 2019. The chain-of custody form for the sample is in Appendix C.

4.0 ANALYTICAL RESULTS

The following sections describe laboratory results from samples collected during removal activities at the site.

4.1 DRINKING WATER SAMPLES

PAS conveyed laboratory results from the water samples to START on April 29, 2019. The samples had been analyzed for VOCs, SVOCs, and total and dissolved lead. No VOCs or SVOCs were detected in any sample. A low estimated concentration of dissolved lead was identified in each filtered sample (0.13J to 0.32J micrograms per liter [$\mu\text{g/L}$]). A low estimated concentration of total lead was identified in one sample (0.32J $\mu\text{g/L}$ in sample GHRDDW-3). None of the estimated lead concentrations exceeded the EPA action level of 15 $\mu\text{g/L}$ for lead. Laboratory data are in Appendix C. A summary of the lead results is in Table 3.

TABLE 3
DRINKING WATER SAMPLE RESULTS FOR LEAD
GOOD HOPE ROAD DRUM SITE, BERGER, MISSOURI

Sample No.	Concentration ($\mu\text{g/L}$)	
	Total Lead	Dissolved Lead
GHRDDW-1	ND	0.31J
GHRDDW-2	ND	0.13J
GHRDDW-3	0.32J	0.32J
GHRDDW-4FB	NA	NA
MCL/EPA Action Level	15	15

Notes:

EPA	U.S. Environmental Protection Agency
J	Estimated concentration
MCL	Maximum contaminant level
NA	Not analyzed
ND	Not detected
No.	Number
$\mu\text{g/L}$	Micrograms per liter

4.2 SOIL SAMPLES

The three surface soil samples (8270-1, -2, and -3) were submitted to the EPA Region 7 laboratory for analyses for VOCs and SVOCs. Laboratory results were received by START on September 13, 2019.

Two SVOCs and three VOCs were identified at low concentrations in the multi-aliquot surface soil samples. However, the soil samples were found to contain no SVOCs or VOCs at concentrations above

an EPA RML for residential soil (EPA 2019). The VOC with the highest reported concentration was acetone, detected at 250 micrograms per kilogram (µg/kg) in sample 8270-1. The SVOC with the highest reported concentration was dimethylphthalate, detected at 400 µg/kg in sample 8270-3. EPA Region 7 laboratory data are in Appendix C and summarized in Table 4 below. Only analytes detected in at least one sample are included in the table.

TABLE 4
SURFACE SOIL SAMPLE RESULTS FOR VOCs AND SVOCs
GOOD HOPE ROAD DRUM SITE, BERGER, MISSOURI

Analyte	Sample Number			EPA RML
	8270-1 (pre-removal staging area)	8270-2 (post-removal drum area)	8270-3 (post-removal staging area)	
VOCs (µg/kg)				
Acetone	250	240	49	61,000,000
2-Butanone	27	23	U	27,000,000
Methyl Acetate	10	16	67	78,000,000
SVOCs (µg/kg)				
Dimethylphthalate	240	240	400	Not established
1,4-Dioxane	83UJ	87UJ	U	530,000

Notes:

EPA U.S. Environmental Protection Agency
J Estimated value
µg/kg Micrograms per kilogram
RML Removal Management Level (EPA 2019)
SVOC Semivolatile organic compound
U Analyte was not detected at or above the reporting limit
UJ Analyte was not detected at or above the reporting limit, which is an estimate
VOC Volatile organic compound

5.0 SUMMARY

At the GHRD site near Berger, Missouri, EPA and START conducted removal assessment activities on November 6 and 7, 2018, when samples were collected from 71 of the 86 drums at the site and field-screened. Based on screening results, the drums were assigned to six groups; a composite sample was collected from each group and submitted for laboratory analysis. A surface soil sample from the abandoned drum area was also collected for analysis. All seven samples were analyzed for PCBs, VOCs, SVOCs, RCRA metals, and TCLP metals. The drum samples were also analyzed for flashpoint. All samples collected from the drums were determined to be flammable. Drum samples contained elevated concentrations of lead, exceeding the TCLP regulatory limit in four samples. PCBs were not detected in any drum sample. The soil sample contained no RCRA metal at concentration above an RML. One SVOC and three VOCs were identified at concentrations below RMLs. No PCBs were detected in the soil sample.

On April 4, 2019, START collected drinking water samples at three residences within 0.5 mile of the site. The water samples were analyzed for VOCs, SVOCs, and total and dissolved lead. No VOCs or SVOCs were detected in any sample. Total lead was detected in one sample at a low estimated concentration, and dissolved lead was detected in all samples at low estimated concentrations. All lead concentrations were well below the EPA action level of 15 µg/L.

Beginning June 18, 2019, the abandoned drums were placed into new 85-gallon steel salvage drums using a drum sling attached to a mini-excavator. The overpacked drums were moved to a staging area in the south portion of the property using tracked skid steers. By June 20, 2019, all drums had been overpacked and transported to the staging area. A total of 80 drums (79 85-gallon and one 55-gallon) were used to contain the waste for transport.

The drums were assigned to three groups (waste streams) for disposal. On August 9, 2019, [REDACTED] transported the overpacked drums from the site to its facility in El Dorado, Arkansas, for disposal by incineration.

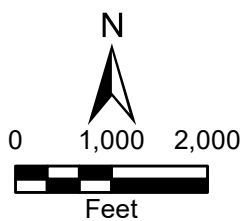
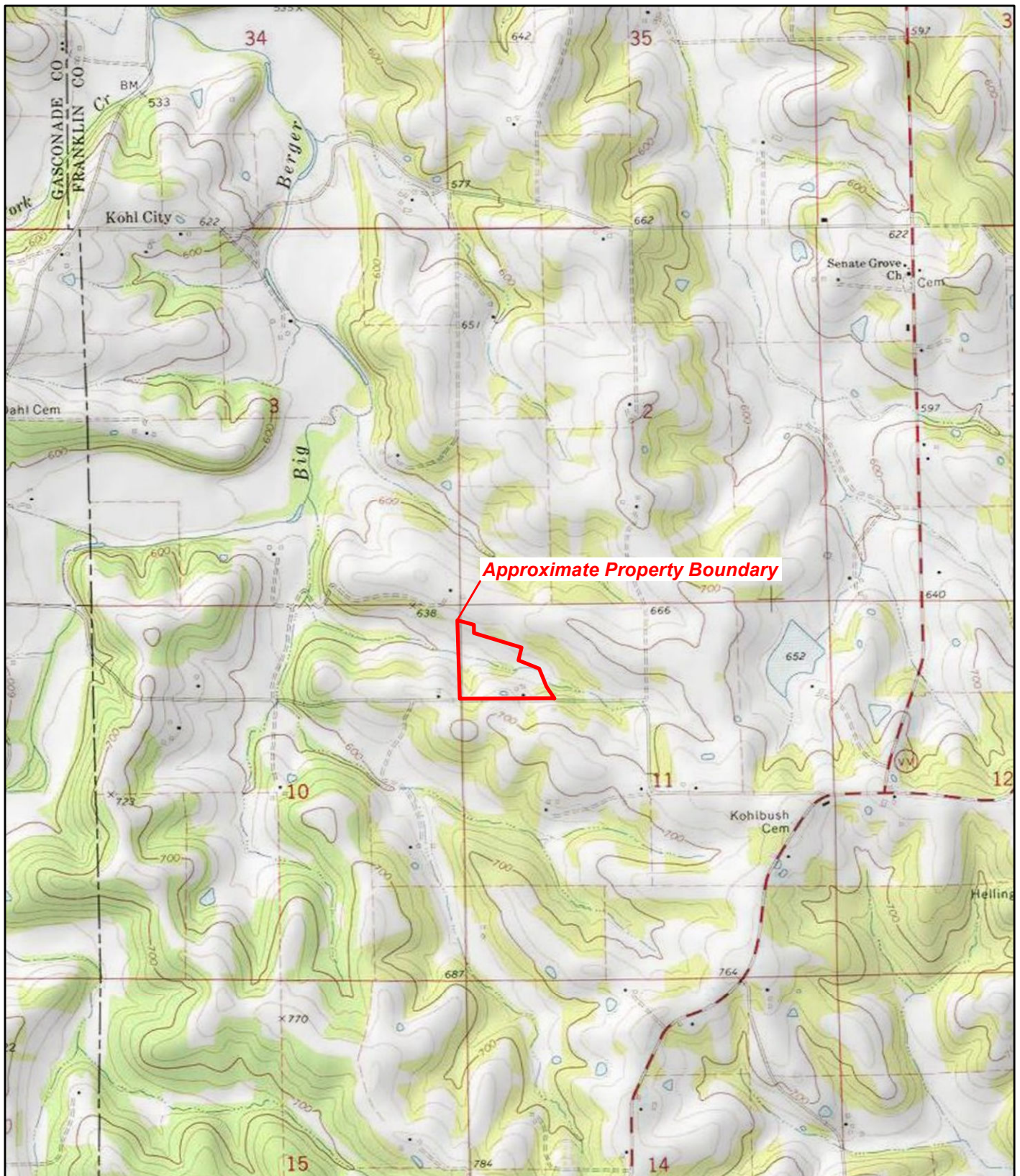
Three surface soil samples were collected during removal activities. One sample was collected within the area where the drums had been abandoned, after removal of the drums. Two samples were collected within the overpack staging area: one before drum handling activities commenced, and one after completion of all removal activities. Laboratory results did not indicate any concentrations of contaminants above levels of concern.

6.0 REFERENCES

- U. S. Environmental Protection Agency (EPA). 2018a. EPA Task Order Statement of Work for the Good Hope Road Drum Site, Berger, Missouri. September 12.
- EPA. 2018b. Regional Removal Management Level Summary Table (TR=1E-04, HQ=1.0). November. <https://www.epa.gov/risk/regional-removal-management-levels-chemicals-rmls>
- EPA. 2019. Regional Removal Management Level Summary Table (TR=1E-04, HQ=1.0). May. <https://www.epa.gov/risk/regional-removal-management-levels-chemicals-rmls>
- Tetra Tech, Inc. (Tetra Tech). 2019. Removal Assessment Report for the Good Hope Road Drum Site, Berger, Missouri. January 24.

APPENDIX A

FIGURES



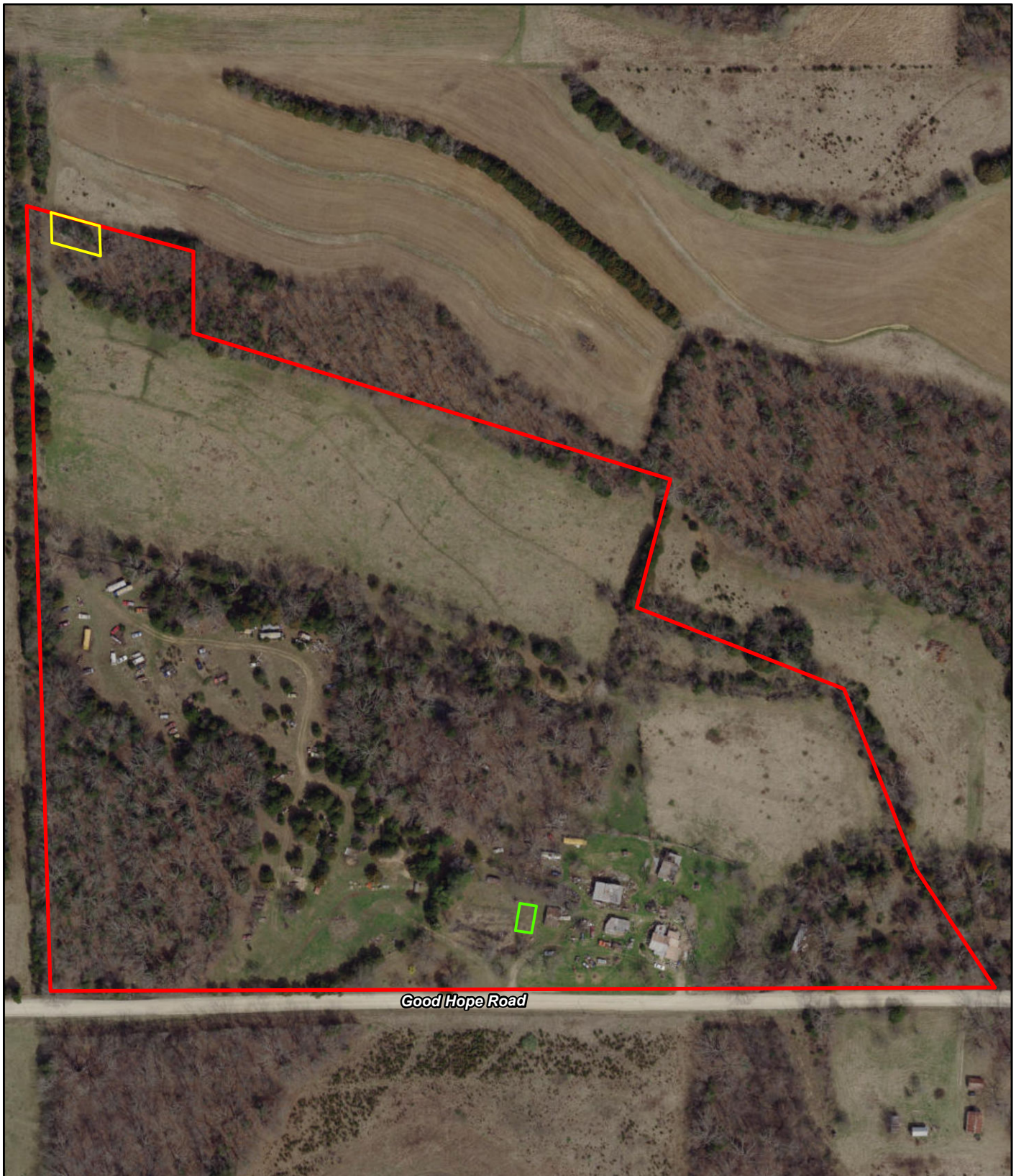
Good Hope Road Drum
Berger, Missouri

Figure 1 Site Location Map






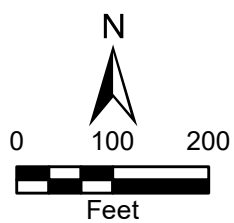
Source: USGS Dissen, MO 7.5 Minute Topo Quad, 1976
Franklin County, Missouri, Planning and Zoning Department, Franklin County Public Map, 2019

Date: 8/20/2019



Legend

-  Approximate drum area
-  Approximate property boundary
-  Staging area



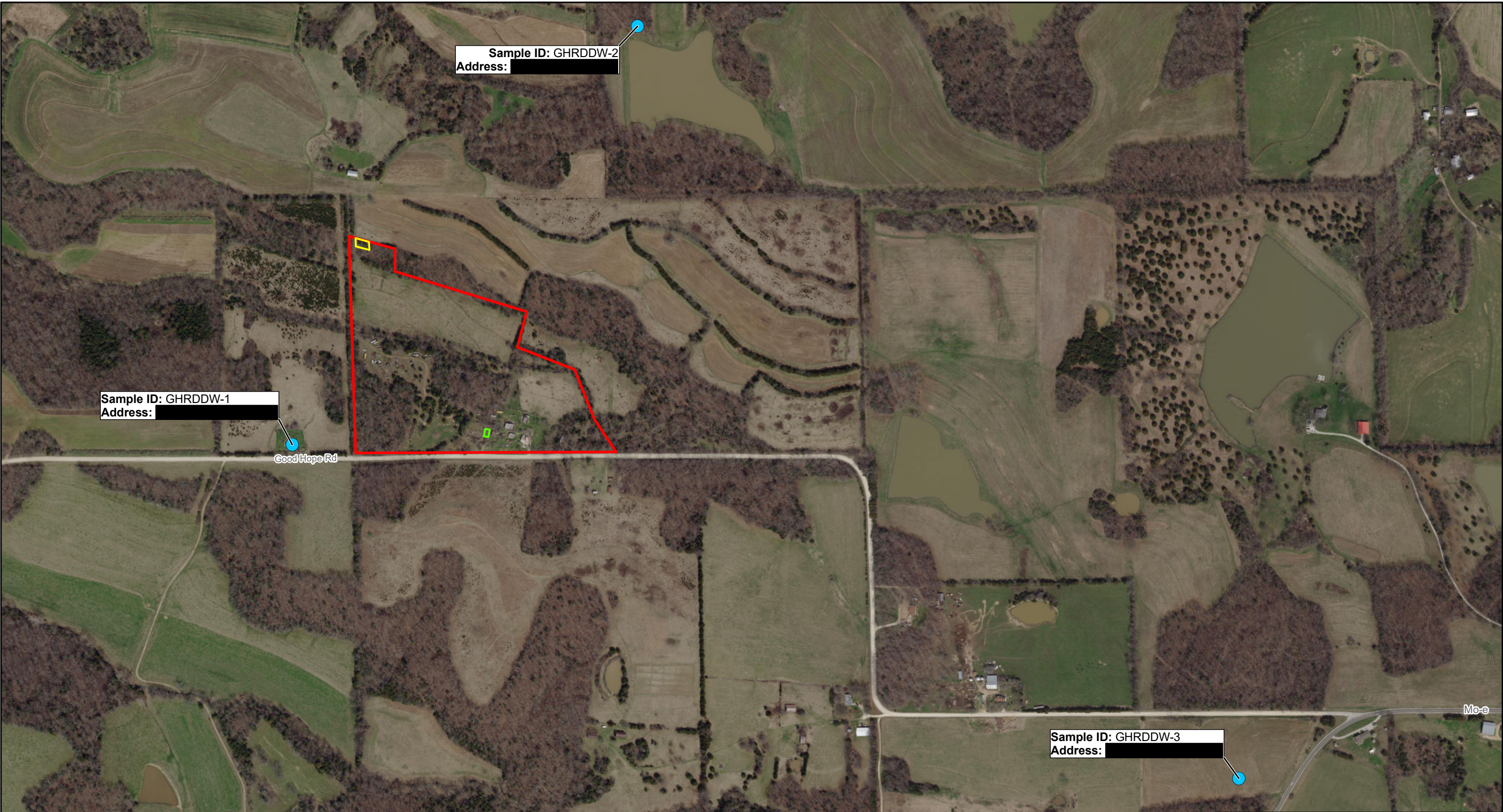
Good Hope Road Drum
Berger, Missouri

Figure 2
Site Layout Map



Source: Esri, ArcGIS Online, World Imagery, 2015;
Franklin County, Missouri, Planning and Zoning Department, Franklin County Public Map, 2019

Date: 8/28/2019



<p>Legend</p> <ul style="list-style-type: none">● Private well sample location□ Approximate drum area□ Approximate property boundary□ Staging area <p>Source: Esri, ArcGIS Online, World Imagery, 2015</p>	<p>Good Hope Road Drum Berger, Missouri</p> <p>Figure 3 Sample Location Map</p> <p> TETRA TECH</p> <p>Date: 8/28/2019</p>
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APPENDIX B
PHOTOGRAPHIC RECORD

**Good Hope Road Drum Site
Berger, Missouri**



TETRA TECH PROJECT NO. <div style="background-color: black; width: 100px; height: 15px; margin: 5px 0;"></div> Direction: North	PHOTO DESCRIPTION	This photograph shows the wooded area where the drums had been abandoned.	1
	CLIENT	U. S. Environmental Protection Agency Region 7	Date
	PHOTOGRAPHER	<div style="background-color: black; width: 100px; height: 15px;"></div>	6/17/19



TETRA TECH PROJECT NO. <div style="background-color: black; width: 100px; height: 15px; margin: 5px 0;"></div> Direction: South	PHOTO DESCRIPTION	This photograph shows drums at the north side of the abandoned drum area.	2
	CLIENT	U. S. Environmental Protection Agency Region 7	Date
	PHOTOGRAPHER	<div style="background-color: black; width: 100px; height: 15px;"></div>	6/17/19

**Good Hope Road Drum Site
Berger, Missouri**



TETRA TECH PROJECT NO. <div style="background-color: black; width: 100px; height: 15px; margin: 5px 0;"></div> Direction: North	PHOTO DESCRIPTION	This photograph shows some of the abandoned drums.	3
	CLIENT	U. S. Environmental Protection Agency Region 7	Date
	PHOTOGRAPHER	<div style="background-color: black; width: 100px; height: 15px;"></div>	6/17/19



TETRA TECH PROJECT NO. <div style="background-color: black; width: 100px; height: 15px; margin: 5px 0;"></div> Direction: Northwest	PHOTO DESCRIPTION	This photograph shows a group of drums at the northeastern portion of the abandoned drum area.	4
	CLIENT	U. S. Environmental Protection Agency Region 7	Date
	PHOTOGRAPHER	<div style="background-color: black; width: 100px; height: 15px;"></div>	6/17/19

**Good Hope Road Drum Site
Berger, Missouri**



TETRA TECH PROJECT NO. <div style="background-color: black; width: 100px; height: 15px; margin: 5px 0;"></div> Direction: North	PHOTO DESCRIPTION	This photograph shows placement of an abandoned drum into an 85-gallon overpack drum.	5
	CLIENT	U. S. Environmental Protection Agency Region 7	Date
	PHOTOGRAPHER	<div style="background-color: black; width: 100px; height: 15px; margin: 5px 0;"></div>	6/18/19



TETRA TECH PROJECT NO. <div style="background-color: black; width: 100px; height: 15px; margin: 5px 0;"></div> Direction: North	PHOTO DESCRIPTION	This photograph shows some abandoned drums and 85-gallon overpack drums.	6
	CLIENT	U. S. Environmental Protection Agency Region 7	Date
	PHOTOGRAPHER	<div style="background-color: black; width: 100px; height: 15px; margin: 5px 0;"></div>	6/18/19

**Good Hope Road Drum Site
Berger, Missouri**



TETRA TECH PROJECT NO. <div style="background-color: black; width: 100px; height: 15px; margin-top: 5px;"></div>	PHOTO DESCRIPTION	This photograph shows an abandoned drum being lifted into an overpack drum.	7
	CLIENT	U. S. Environmental Protection Agency Region 7	Date
	PHOTOGRAPHER	<div style="background-color: black; width: 100px; height: 15px;"></div>	6/19/19



TETRA TECH PROJECT NO. <div style="background-color: black; width: 100px; height: 15px; margin-top: 5px;"></div>	PHOTO DESCRIPTION	This photograph shows overpacking activities in the northwest portion of the abandoned drum area.	8
	CLIENT	U. S. Environmental Protection Agency Region 7	Date
	PHOTOGRAPHER	<div style="background-color: black; width: 100px; height: 15px;"></div>	6/19/19

**Good Hope Road Drum Site
Berger, Missouri**



TETRA TECH PROJECT NO. <div style="background-color: black; width: 100px; height: 15px; margin: 5px 0;"></div> Direction: West	PHOTO DESCRIPTION	This photograph shows the area near Good Hope Road where the overpacked drums were staged.	9
	CLIENT	U. S. Environmental Protection Agency Region 7	Date
	PHOTOGRAPHER	<div style="background-color: black; width: 100px; height: 15px;"></div>	6/17/19



TETRA TECH PROJECT NO. <div style="background-color: black; width: 100px; height: 15px; margin: 5px 0;"></div> Direction: West	PHOTO DESCRIPTION	This photograph shows the staging area with overpacked drums sitting on plastic sheeting.	10
	CLIENT	U. S. Environmental Protection Agency Region 7	Date
	PHOTOGRAPHER	<div style="background-color: black; width: 100px; height: 15px;"></div>	6/19/19

**Good Hope Road Drum Site
Berger, Missouri**



TETRA TECH PROJECT NO. <div style="background-color: black; width: 100px; height: 15px; margin: 5px 0;"></div> Direction: West	PHOTO DESCRIPTION	This photograph shows the staged overpacked drums.	11
	CLIENT	U. S. Environmental Protection Agency Region 7	Date
	PHOTOGRAPHER	<div style="background-color: black; width: 100px; height: 15px;"></div>	6/19/19



TETRA TECH PROJECT NO. <div style="background-color: black; width: 100px; height: 15px; margin: 5px 0;"></div> Direction: East	PHOTO DESCRIPTION	This photograph shows the staged overpacked drums, looking toward Good Hope Road.	12
	CLIENT	U. S. Environmental Protection Agency Region 7	Date
	PHOTOGRAPHER	<div style="background-color: black; width: 100px; height: 15px;"></div>	6/19/19

**Good Hope Road Drum Site
Berger, Missouri**



TETRA TECH PROJECT NO. <div style="background-color: black; width: 100px; height: 15px; margin-top: 5px;"></div> Direction: North	PHOTO DESCRIPTION	This photograph shows the abandoned drum area after all drums had been removed.	13
	CLIENT	U. S. Environmental Protection Agency Region 7	Date
	PHOTOGRAPHER	<div style="background-color: black; width: 100px; height: 15px;"></div>	6/19/19



TETRA TECH PROJECT NO. <div style="background-color: black; width: 100px; height: 15px; margin-top: 5px;"></div> Direction: South	PHOTO DESCRIPTION	This photograph shows the abandoned drum area after all drums had been removed.	14
	CLIENT	U. S. Environmental Protection Agency Region 7	Date
	PHOTOGRAPHER	<div style="background-color: black; width: 100px; height: 15px;"></div>	6/19/19

APPENDIX C

LABORATORY DATA AND CHAIN-OF-CUSTODY RECORDS

[REDACTED]

[REDACTED]

April 29, 2019

[REDACTED]

RE: Project: GOOD HOPE ROAD DRUMS SITE
Pace Project No.: 60299111

Dear [REDACTED]:

Enclosed are the analytical results for sample(s) received by the laboratory on April 05, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Revised report_rev1

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

[REDACTED]

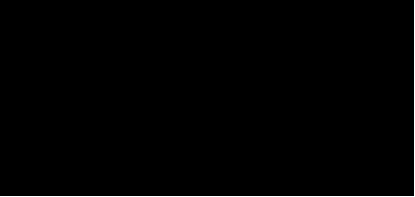
Enclosures

cc: [REDACTED]



REPORT OF LABORATORY ANALYSIS

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without the written consent of [REDACTED]



CERTIFICATIONS

Project: GOOD HOPE ROAD DRUMS SITE
Pace Project No.: 60299111

[Redacted]

[Redacted]

[Redacted]

[Redacted]

REPORT OF LABORATORY ANALYSIS

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without the written consent of [Redacted]

SAMPLE SUMMARY

Project: GOOD HOPE ROAD DRUMS SITE
Pace Project No.: 60299111

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60299111001	GHRDDW-1	Drinking Water	04/04/19 14:15	04/05/19 10:50
60299111002	GHRDDW-2	Drinking Water	04/04/19 15:10	04/05/19 10:50
60299111003	GHRDDW-3	Drinking Water	04/04/19 16:45	04/05/19 10:50
60299111004	GHRDDW-4 FB	Drinking Water	04/04/19 19:00	04/05/19 10:50
60299111006	GHRDDW-1 (DISSOLVED)	Water	04/04/19 14:15	04/05/19 10:50
60299111007	GHRDDW-2 (DISSOLVED)	Water	04/04/19 15:10	04/05/19 10:50
60299111008	GHRDDW-3 (DISSOLVED)	Water	04/04/19 16:45	04/05/19 10:50

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: GOOD HOPE ROAD DRUMS SITE
Pace Project No.: 60299111

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60299111001	GHRDDW-1	EPA 525.2	TM2	21	PASI-O
		EPA 200.8	JGP	1	PASI-K
		EPA 524.2	JLR	26	PASI-O
60299111002	GHRDDW-2	EPA 525.2	TM2	21	PASI-O
		EPA 200.8	JGP	1	PASI-K
		EPA 524.2	JLR	26	PASI-O
60299111003	GHRDDW-3	EPA 525.2	TM2	21	PASI-O
		EPA 200.8	JGP	1	PASI-K
		EPA 524.2	JLR	26	PASI-O
60299111004	GHRDDW-4 FB	EPA 525.2	TM2	21	PASI-O
		EPA 524.2	JLR	26	PASI-O
60299111006	GHRDDW-1 (DISSOLVED)	EPA 200.8	JGP	1	PASI-K
60299111007	GHRDDW-2 (DISSOLVED)	EPA 200.8	JGP	1	PASI-K
60299111008	GHRDDW-3 (DISSOLVED)	EPA 200.8	JGP	1	PASI-K

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ANALYTICAL RESULTS

Project: GOOD HOPE ROAD DRUMS SITE

Pace Project No.: 60299111

Sample: GHRDDW-1		Lab ID: 60299111001		Collected: 04/04/19 14:15		Received: 04/05/19 10:50		Matrix: Drinking Water	
Parameters	Results	Units	PQL	DF	Prepared	Analyzed	CAS No.	Qual	
525.2 Semi Volatile Compounds		Analytical Method: EPA 525.2 Preparation Method: EPA 525.2							
Acenaphthene	<0.097	ug/L	0.097	1	04/18/19 13:45	04/20/19 01:56	83-32-9	N2	
Acenaphthylene	<0.097	ug/L	0.097	1	04/18/19 13:45	04/20/19 01:56	208-96-8	N2	
Anthracene	<0.097	ug/L	0.097	1	04/18/19 13:45	04/20/19 01:56	120-12-7	N2	
Benzo(a)anthracene	<0.097	ug/L	0.097	1	04/18/19 13:45	04/20/19 01:56	56-55-3	N2	
Benzo(a)pyrene	<0.013	ug/L	0.097	1	04/18/19 13:45	04/20/19 01:56	50-32-8		
Benzo(b)fluoranthene	<0.097	ug/L	0.097	1	04/18/19 13:45	04/20/19 01:56	205-99-2	N2	
Benzo(g,h,i)perylene	<0.097	ug/L	0.097	1	04/18/19 13:45	04/20/19 01:56	191-24-2	N2	
Benzo(k)fluoranthene	<0.097	ug/L	0.097	1	04/18/19 13:45	04/20/19 01:56	207-08-9	N2	
Chrysene	<0.097	ug/L	0.097	1	04/18/19 13:45	04/20/19 01:56	218-01-9	N2	
Dibenz(a,h)anthracene	<0.097	ug/L	0.097	1	04/18/19 13:45	04/20/19 01:56	53-70-3	N2	
Fluoranthene	<0.097	ug/L	0.097	1	04/18/19 13:45	04/20/19 01:56	206-44-0	IS,N2	
Fluorene	<0.024	ug/L	0.19	1	04/18/19 13:45	04/20/19 01:56	86-73-7		
Indeno(1,2,3-cd)pyrene	<0.026	ug/L	0.19	1	04/18/19 13:45	04/20/19 01:56	193-39-5		
1-Methylnaphthalene	<0.032	ug/L	0.097	1	04/18/19 13:45	04/20/19 01:56	90-12-0	N2	
2-Methylnaphthalene	<0.044	ug/L	0.097	1	04/18/19 13:45	04/20/19 01:56	91-57-6	N2	
Naphthalene	<0.097	ug/L	0.097	1	04/18/19 13:45	04/20/19 01:56	91-20-3	N2	
Phenanthrene	<0.048	ug/L	0.19	1	04/18/19 13:45	04/20/19 01:56	85-01-8	IS,N2	
Pyrene	<0.033	ug/L	0.19	1	04/18/19 13:45	04/20/19 01:56	129-00-0	IS	
Surrogates									
1,3-Dimethyl-2-nitrobenzene(S)	101	%	70-130	1	04/18/19 13:45	04/20/19 01:56	81209		
Perylene-d12 (S)	105	%	70-130	1	04/18/19 13:45	04/20/19 01:56	1520963		
Triphenylphosphate (S)	111	%	70-130	1	04/18/19 13:45	04/20/19 01:56	115-86-6		
200.8 MET ICPMS Drinking Water		Analytical Method: EPA 200.8							
Lead	<0.27	ug/L	1.0	1		04/17/19 13:32	7439-92-1		
524.2 MSV		Analytical Method: EPA 524.2							
Benzene	<0.25	ug/L	0.50	1		04/11/19 13:19	71-43-2		
Carbon tetrachloride	<0.25	ug/L	0.50	1		04/11/19 13:19	56-23-5		
Chlorobenzene	<0.25	ug/L	0.50	1		04/11/19 13:19	108-90-7		
1,2-Dichlorobenzene	<0.25	ug/L	0.50	1		04/11/19 13:19	95-50-1		
1,4-Dichlorobenzene	<0.25	ug/L	0.50	1		04/11/19 13:19	106-46-7		
1,2-Dichloroethane	<0.25	ug/L	0.50	1		04/11/19 13:19	107-06-2		
1,1-Dichloroethene	<0.25	ug/L	0.50	1		04/11/19 13:19	75-35-4		
cis-1,2-Dichloroethene	<0.25	ug/L	0.50	1		04/11/19 13:19	156-59-2		
trans-1,2-Dichloroethene	<0.25	ug/L	0.50	1		04/11/19 13:19	156-60-5		
1,2-Dichloropropane	<0.25	ug/L	0.50	1		04/11/19 13:19	78-87-5		
Ethylbenzene	<0.25	ug/L	0.50	1		04/11/19 13:19	100-41-4		
Methylene Chloride	<0.44	ug/L	0.50	1		04/11/19 13:19	75-09-2		
Methyl-tert-butyl ether	<0.25	ug/L	0.50	1		04/11/19 13:19	1634-04-4		
Naphthalene	<0.25	ug/L	0.50	1		04/11/19 13:19	91-20-3		
Styrene	<0.25	ug/L	0.50	1		04/11/19 13:19	100-42-5		
Tetrachloroethene	<0.25	ug/L	0.50	1		04/11/19 13:19	127-18-4		
Toluene	<0.25	ug/L	0.50	1		04/11/19 13:19	108-88-3		
1,2,4-Trichlorobenzene	<0.41	ug/L	0.50	1		04/11/19 13:19	120-82-1		
1,1,1-Trichloroethane	<0.25	ug/L	0.50	1		04/11/19 13:19	71-55-6		

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ANALYTICAL RESULTS

Project: GOOD HOPE ROAD DRUMS SITE

Pace Project No.: 60299111

Sample: GHRDDW-1		Lab ID: 60299111001		Collected: 04/04/19 14:15		Received: 04/05/19 10:50		Matrix: Drinking Water	
Parameters	Results	Units	PQL	DF	Prepared	Analyzed	CAS No.	Qual	
524.2 MSV		Analytical Method: EPA 524.2							
1,1,2-Trichloroethane	<0.25	ug/L	0.50	1		04/11/19 13:19	79-00-5		
Trichloroethene	<0.25	ug/L	0.50	1		04/11/19 13:19	79-01-6		
Vinyl chloride	<0.39	ug/L	0.50	1		04/11/19 13:19	75-01-4		
Xylene (Total)	<0.25	ug/L	0.50	1		04/11/19 13:19	1330-20-7		
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130	1		04/11/19 13:19	460-00-4		
Toluene-d8 (S)	105	%	70-130	1		04/11/19 13:19	2037-26-5		
1,2-Dichloroethane-d4 (S)	114	%	70-130	1		04/11/19 13:19	17060-07-0		

Sample: GHRDDW-2	Lab ID: 60299111002	Collected: 04/04/19 15:10	Received: 04/05/19 10:50	Matrix: Drinking Water				
Parameters	Results	Units	PQL	DF	Prepared	Analyzed	CAS No.	Qual
525.2 Semi Volatile Compounds	Analytical Method: EPA 525.2 Preparation Method: EPA 525.2							
Acenaphthene	<0.10	ug/L	0.10	1	04/18/19 13:45	04/20/19 02:21	83-32-9	IS,N2
Acenaphthylene	<0.10	ug/L	0.10	1	04/18/19 13:45	04/20/19 02:21	208-96-8	IS,N2
Anthracene	<0.10	ug/L	0.10	1	04/18/19 13:45	04/20/19 02:21	120-12-7	IS,N2
Benzo(a)anthracene	<0.10	ug/L	0.10	1	04/18/19 13:45	04/20/19 02:21	56-55-3	N2
Benzo(a)pyrene	<0.013	ug/L	0.10	1	04/18/19 13:45	04/20/19 02:21	50-32-8	
Benzo(b)fluoranthene	<0.10	ug/L	0.10	1	04/18/19 13:45	04/20/19 02:21	205-99-2	N2
Benzo(g,h,i)perylene	<0.10	ug/L	0.10	1	04/18/19 13:45	04/20/19 02:21	191-24-2	N2
Benzo(k)fluoranthene	<0.10	ug/L	0.10	1	04/18/19 13:45	04/20/19 02:21	207-08-9	N2
Chrysene	<0.10	ug/L	0.10	1	04/18/19 13:45	04/20/19 02:21	218-01-9	N2
Dibenz(a,h)anthracene	<0.10	ug/L	0.10	1	04/18/19 13:45	04/20/19 02:21	53-70-3	N2
Fluoranthene	<0.10	ug/L	0.10	1	04/18/19 13:45	04/20/19 02:21	206-44-0	N2
Fluorene	<0.025	ug/L	0.20	1	04/18/19 13:45	04/20/19 02:21	86-73-7	IS
Indeno(1,2,3-cd)pyrene	<0.027	ug/L	0.20	1	04/18/19 13:45	04/20/19 02:21	193-39-5	
1-Methylnaphthalene	<0.033	ug/L	0.10	1	04/18/19 13:45	04/20/19 02:21	90-12-0	IS,N2
2-Methylnaphthalene	<0.045	ug/L	0.10	1	04/18/19 13:45	04/20/19 02:21	91-57-6	IS,N2
Naphthalene	<0.10	ug/L	0.10	1	04/18/19 13:45	04/20/19 02:21	91-20-3	IS,N2
Phenanthrene	<0.050	ug/L	0.20	1	04/18/19 13:45	04/20/19 02:21	85-01-8	N2
Pyrene	<0.034	ug/L	0.20	1	04/18/19 13:45	04/20/19 02:21	129-00-0	
Surrogates								
1,3-Dimethyl-2-nitrobenzene(S)	104	%	70-130	1	04/18/19 13:45	04/20/19 02:21	81209	
Perylene-d12 (S)	105	%	70-130	1	04/18/19 13:45	04/20/19 02:21	1520963	
Triphenylphosphate (S)	108	%	70-130	1	04/18/19 13:45	04/20/19 02:21	115-86-6	

200.8 MET ICPMS Drinking Water Analytical Method: EPA 200.8

Lead	<0.27	ug/L	1.0	1		04/17/19 13:35	7439-92-1
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524.2 MSV Analytical Method: EPA 524.2

Benzene	<0.25	ug/L	0.50	1		04/11/19 13:43	71-43-2
Carbon tetrachloride	<0.25	ug/L	0.50	1		04/11/19 13:43	56-23-5
Chlorobenzene	<0.25	ug/L	0.50	1		04/11/19 13:43	108-90-7
1,2-Dichlorobenzene	<0.25	ug/L	0.50	1		04/11/19 13:43	95-50-1

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ANALYTICAL RESULTS

Project: GOOD HOPE ROAD DRUMS SITE

Pace Project No.: 60299111

Sample: GHRDDW-2		Lab ID: 60299111002		Collected: 04/04/19 15:10		Received: 04/05/19 10:50		Matrix: Drinking Water	
Parameters	Results	Units	PQL	DF	Prepared	Analyzed	CAS No.	Qual	
524.2 MSV		Analytical Method: EPA 524.2							
1,4-Dichlorobenzene	<0.25	ug/L	0.50	1		04/11/19 13:43	106-46-7		
1,2-Dichloroethane	<0.25	ug/L	0.50	1		04/11/19 13:43	107-06-2		
1,1-Dichloroethene	<0.25	ug/L	0.50	1		04/11/19 13:43	75-35-4		
cis-1,2-Dichloroethene	<0.25	ug/L	0.50	1		04/11/19 13:43	156-59-2		
trans-1,2-Dichloroethene	<0.25	ug/L	0.50	1		04/11/19 13:43	156-60-5		
1,2-Dichloropropane	<0.25	ug/L	0.50	1		04/11/19 13:43	78-87-5		
Ethylbenzene	<0.25	ug/L	0.50	1		04/11/19 13:43	100-41-4		
Methylene Chloride	<0.44	ug/L	0.50	1		04/11/19 13:43	75-09-2		
Methyl-tert-butyl ether	<0.25	ug/L	0.50	1		04/11/19 13:43	1634-04-4		
Naphthalene	<0.25	ug/L	0.50	1		04/11/19 13:43	91-20-3		
Styrene	<0.25	ug/L	0.50	1		04/11/19 13:43	100-42-5		
Tetrachloroethene	<0.25	ug/L	0.50	1		04/11/19 13:43	127-18-4		
Toluene	<0.25	ug/L	0.50	1		04/11/19 13:43	108-88-3		
1,2,4-Trichlorobenzene	<0.41	ug/L	0.50	1		04/11/19 13:43	120-82-1		
1,1,1-Trichloroethane	<0.25	ug/L	0.50	1		04/11/19 13:43	71-55-6		
1,1,2-Trichloroethane	<0.25	ug/L	0.50	1		04/11/19 13:43	79-00-5		
Trichloroethene	<0.25	ug/L	0.50	1		04/11/19 13:43	79-01-6		
Vinyl chloride	<0.39	ug/L	0.50	1		04/11/19 13:43	75-01-4		
Xylene (Total)	<0.25	ug/L	0.50	1		04/11/19 13:43	1330-20-7		
Surrogates									
4-Bromofluorobenzene (S)	108	%	70-130	1		04/11/19 13:43	460-00-4		
Toluene-d8 (S)	106	%	70-130	1		04/11/19 13:43	2037-26-5		
1,2-Dichloroethane-d4 (S)	112	%	70-130	1		04/11/19 13:43	17060-07-0		

Sample: GHRDDW-3		Lab ID: 60299111003		Collected: 04/04/19 16:45		Received: 04/05/19 10:50		Matrix: Drinking Water	
Parameters	Results	Units	PQL	DF	Prepared	Analyzed	CAS No.	Qual	
525.2 Semi Volatile Compounds	Analytical Method: EPA 525.2 Preparation Method: EPA 525.2								
Acenaphthene	<0.10	ug/L	0.10	1	04/18/19 13:45	04/20/19 02:45	83-32-9	IS,N2	
Acenaphthylene	<0.10	ug/L	0.10	1	04/18/19 13:45	04/20/19 02:45	208-96-8	IS,N2	
Anthracene	<0.10	ug/L	0.10	1	04/18/19 13:45	04/20/19 02:45	120-12-7	IS,N2	
Benzo(a)anthracene	<0.10	ug/L	0.10	1	04/18/19 13:45	04/20/19 02:45	56-55-3	N2	
Benzo(a)pyrene	<0.013	ug/L	0.10	1	04/18/19 13:45	04/20/19 02:45	50-32-8		
Benzo(b)fluoranthene	<0.10	ug/L	0.10	1	04/18/19 13:45	04/20/19 02:45	205-99-2	N2	
Benzo(g,h,i)perylene	<0.10	ug/L	0.10	1	04/18/19 13:45	04/20/19 02:45	191-24-2	N2	
Benzo(k)fluoranthene	<0.10	ug/L	0.10	1	04/18/19 13:45	04/20/19 02:45	207-08-9	N2	
Chrysene	<0.10	ug/L	0.10	1	04/18/19 13:45	04/20/19 02:45	218-01-9	N2	
Dibenz(a,h)anthracene	<0.10	ug/L	0.10	1	04/18/19 13:45	04/20/19 02:45	53-70-3	N2	
Fluoranthene	<0.10	ug/L	0.10	1	04/18/19 13:45	04/20/19 02:45	206-44-0	N2	
Fluorene	<0.026	ug/L	0.21	1	04/18/19 13:45	04/20/19 02:45	86-73-7	IS	
Indeno(1,2,3-cd)pyrene	<0.028	ug/L	0.21	1	04/18/19 13:45	04/20/19 02:45	193-39-5		
1-Methylnaphthalene	<0.034	ug/L	0.10	1	04/18/19 13:45	04/20/19 02:45	90-12-0	IS,N2	
2-Methylnaphthalene	<0.046	ug/L	0.10	1	04/18/19 13:45	04/20/19 02:45	91-57-6	IS,N2	
Naphthalene	<0.10	ug/L	0.10	1	04/18/19 13:45	04/20/19 02:45	91-20-3	IS,N2	
Phenanthrene	<0.051	ug/L	0.21	1	04/18/19 13:45	04/20/19 02:45	85-01-8	N2	

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ANALYTICAL RESULTS

Project: GOOD HOPE ROAD DRUMS SITE

Pace Project No.: 60299111

Sample: GHRDDW-3		Lab ID: 60299111003		Collected: 04/04/19 16:45		Received: 04/05/19 10:50		Matrix: Drinking Water	
Parameters	Results	Units	PQL	DF	Prepared	Analyzed	CAS No.	Qual	
525.2 Semi Volatile Compounds		Analytical Method: EPA 525.2 Preparation Method: EPA 525.2							
Pyrene	<0.035	ug/L	0.21	1	04/18/19 13:45	04/20/19 02:45	129-00-0		
Surrogates									
1,3-Dimethyl-2-nitrobenzene(S)	95	%	70-130	1	04/18/19 13:45	04/20/19 02:45	81209		
Perylene-d12 (S)	105	%	70-130	1	04/18/19 13:45	04/20/19 02:45	1520963		
Triphenylphosphate (S)	110	%	70-130	1	04/18/19 13:45	04/20/19 02:45	115-86-6		
200.8 MET ICPMS Drinking Water		Analytical Method: EPA 200.8							
Lead	0.32J	ug/L	1.0	1		04/17/19 13:36	7439-92-1		
524.2 MSV		Analytical Method: EPA 524.2							
Benzene	<0.25	ug/L	0.50	1		04/11/19 14:06	71-43-2		
Carbon tetrachloride	<0.25	ug/L	0.50	1		04/11/19 14:06	56-23-5		
Chlorobenzene	<0.25	ug/L	0.50	1		04/11/19 14:06	108-90-7		
1,2-Dichlorobenzene	<0.25	ug/L	0.50	1		04/11/19 14:06	95-50-1		
1,4-Dichlorobenzene	<0.25	ug/L	0.50	1		04/11/19 14:06	106-46-7		
1,2-Dichloroethane	<0.25	ug/L	0.50	1		04/11/19 14:06	107-06-2		
1,1-Dichloroethene	<0.25	ug/L	0.50	1		04/11/19 14:06	75-35-4		
cis-1,2-Dichloroethene	<0.25	ug/L	0.50	1		04/11/19 14:06	156-59-2		
trans-1,2-Dichloroethene	<0.25	ug/L	0.50	1		04/11/19 14:06	156-60-5		
1,2-Dichloropropane	<0.25	ug/L	0.50	1		04/11/19 14:06	78-87-5		
Ethylbenzene	<0.25	ug/L	0.50	1		04/11/19 14:06	100-41-4		
Methylene Chloride	<0.44	ug/L	0.50	1		04/11/19 14:06	75-09-2		
Methyl-tert-butyl ether	<0.25	ug/L	0.50	1		04/11/19 14:06	1634-04-4		
Naphthalene	<0.25	ug/L	0.50	1		04/11/19 14:06	91-20-3		
Styrene	<0.25	ug/L	0.50	1		04/11/19 14:06	100-42-5		
Tetrachloroethene	<0.25	ug/L	0.50	1		04/11/19 14:06	127-18-4		
Toluene	<0.25	ug/L	0.50	1		04/11/19 14:06	108-88-3		
1,2,4-Trichlorobenzene	<0.41	ug/L	0.50	1		04/11/19 14:06	120-82-1		
1,1,1-Trichloroethane	<0.25	ug/L	0.50	1		04/11/19 14:06	71-55-6		
1,1,2-Trichloroethane	<0.25	ug/L	0.50	1		04/11/19 14:06	79-00-5		
Trichloroethene	<0.25	ug/L	0.50	1		04/11/19 14:06	79-01-6		
Vinyl chloride	<0.39	ug/L	0.50	1		04/11/19 14:06	75-01-4		
Xylene (Total)	<0.25	ug/L	0.50	1		04/11/19 14:06	1330-20-7		
Surrogates									
4-Bromofluorobenzene (S)	102	%	70-130	1		04/11/19 14:06	460-00-4		
Toluene-d8 (S)	104	%	70-130	1		04/11/19 14:06	2037-26-5		
1,2-Dichloroethane-d4 (S)	116	%	70-130	1		04/11/19 14:06	17060-07-0		

Sample: GHRDDW-4 FB		Lab ID: 60299111004		Collected: 04/04/19 19:00		Received: 04/05/19 10:50		Matrix: Drinking Water	
Parameters		Results	Units	PQL	DF	Prepared	Analyzed	CAS No.	Qual
525.2 Semi Volatile Compounds		Analytical Method: EPA 525.2 Preparation Method: EPA 525.2							
Acenaphthene		<0.10	ug/L	0.10	1	04/18/19 13:45	04/20/19 03:10	83-32-9	N2
Acenaphthylene		<0.10	ug/L	0.10	1	04/18/19 13:45	04/20/19 03:10	208-96-8	N2

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: GOOD HOPE ROAD DRUMS SITE

Pace Project No.: 60299111

Sample: GHRDDW-4 FB		Lab ID: 60299111004		Collected: 04/04/19 19:00		Received: 04/05/19 10:50		Matrix: Drinking Water	
Parameters	Results	Units	PQL	DF	Prepared	Analyzed	CAS No.	Qual	
525.2 Semi Volatile Compounds		Analytical Method: EPA 525.2 Preparation Method: EPA 525.2							
Anthracene	<0.10	ug/L	0.10	1	04/18/19 13:45	04/20/19 03:10	120-12-7	N2	
Benzo(a)anthracene	<0.10	ug/L	0.10	1	04/18/19 13:45	04/20/19 03:10	56-55-3	N2	
Benzo(a)pyrene	<0.013	ug/L	0.10	1	04/18/19 13:45	04/20/19 03:10	50-32-8		
Benzo(b)fluoranthene	<0.10	ug/L	0.10	1	04/18/19 13:45	04/20/19 03:10	205-99-2	N2	
Benzo(g,h,i)perylene	<0.10	ug/L	0.10	1	04/18/19 13:45	04/20/19 03:10	191-24-2	N2	
Benzo(k)fluoranthene	<0.10	ug/L	0.10	1	04/18/19 13:45	04/20/19 03:10	207-08-9	N2	
Chrysene	<0.10	ug/L	0.10	1	04/18/19 13:45	04/20/19 03:10	218-01-9	N2	
Dibenz(a,h)anthracene	<0.10	ug/L	0.10	1	04/18/19 13:45	04/20/19 03:10	53-70-3	N2	
Fluoranthene	<0.10	ug/L	0.10	1	04/18/19 13:45	04/20/19 03:10	206-44-0	N2	
Fluorene	<0.026	ug/L	0.21	1	04/18/19 13:45	04/20/19 03:10	86-73-7		
Indeno(1,2,3-cd)pyrene	<0.028	ug/L	0.21	1	04/18/19 13:45	04/20/19 03:10	193-39-5		
1-Methylnaphthalene	0.061J	ug/L	0.10	1	04/18/19 13:45	04/20/19 03:10	90-12-0	N2	
2-Methylnaphthalene	0.069J	ug/L	0.10	1	04/18/19 13:45	04/20/19 03:10	91-57-6	N2	
Naphthalene	<0.10	ug/L	0.10	1	04/18/19 13:45	04/20/19 03:10	91-20-3	N2	
Phenanthrene	0.11J	ug/L	0.21	1	04/18/19 13:45	04/20/19 03:10	85-01-8	N2	
Pyrene	<0.035	ug/L	0.21	1	04/18/19 13:45	04/20/19 03:10	129-00-0		
Surrogates									
1,3-Dimethyl-2-nitrobenzene(S)	106	%	70-130	1	04/18/19 13:45	04/20/19 03:10	81209		
Perylene-d12 (S)	99	%	70-130	1	04/18/19 13:45	04/20/19 03:10	1520963		
Triphenylphosphate (S)	105	%	70-130	1	04/18/19 13:45	04/20/19 03:10	115-86-6		
524.2 MSV		Analytical Method: EPA 524.2							
Benzene	<0.25	ug/L	0.50	1		04/11/19 14:32	71-43-2		
Carbon tetrachloride	<0.25	ug/L	0.50	1		04/11/19 14:32	56-23-5		
Chlorobenzene	<0.25	ug/L	0.50	1		04/11/19 14:32	108-90-7		
1,2-Dichlorobenzene	<0.25	ug/L	0.50	1		04/11/19 14:32	95-50-1		
1,4-Dichlorobenzene	<0.25	ug/L	0.50	1		04/11/19 14:32	106-46-7		
1,2-Dichloroethane	<0.25	ug/L	0.50	1		04/11/19 14:32	107-06-2		
1,1-Dichloroethene	<0.25	ug/L	0.50	1		04/11/19 14:32	75-35-4		
cis-1,2-Dichloroethene	<0.25	ug/L	0.50	1		04/11/19 14:32	156-59-2		
trans-1,2-Dichloroethene	<0.25	ug/L	0.50	1		04/11/19 14:32	156-60-5		
1,2-Dichloropropane	<0.25	ug/L	0.50	1		04/11/19 14:32	78-87-5		
Ethylbenzene	<0.25	ug/L	0.50	1		04/11/19 14:32	100-41-4		
Methylene Chloride	<0.44	ug/L	0.50	1		04/11/19 14:32	75-09-2		
Methyl-tert-butyl ether	<0.25	ug/L	0.50	1		04/11/19 14:32	1634-04-4		
Naphthalene	<0.25	ug/L	0.50	1		04/11/19 14:32	91-20-3		
Styrene	<0.25	ug/L	0.50	1		04/11/19 14:32	100-42-5		
Tetrachloroethene	<0.25	ug/L	0.50	1		04/11/19 14:32	127-18-4		
Toluene	<0.25	ug/L	0.50	1		04/11/19 14:32	108-88-3		
1,2,4-Trichlorobenzene	<0.41	ug/L	0.50	1		04/11/19 14:32	120-82-1		
1,1,1-Trichloroethane	<0.25	ug/L	0.50	1		04/11/19 14:32	71-55-6		
1,1,2-Trichloroethane	<0.25	ug/L	0.50	1		04/11/19 14:32	79-00-5		
Trichloroethene	<0.25	ug/L	0.50	1		04/11/19 14:32	79-01-6		
Vinyl chloride	<0.39	ug/L	0.50	1		04/11/19 14:32	75-01-4		
Xylene (Total)	<0.25	ug/L	0.50	1		04/11/19 14:32	1330-20-7		
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130	1		04/11/19 14:32	460-00-4		

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ANALYTICAL RESULTS

Project: GOOD HOPE ROAD DRUMS SITE

Pace Project No.: 60299111

Sample: GHRDDW-4 FB		Lab ID: 60299111004		Collected: 04/04/19 19:00		Received: 04/05/19 10:50		Matrix: Drinking Water	
Parameters		Results	Units	PQL	DF	Prepared	Analyzed	CAS No.	Qual
524.2 MSV		Analytical Method: EPA 524.2							
Surrogates									
Toluene-d8 (S)		106	%	70-130	1		04/11/19 14:32	2037-26-5	
1,2-Dichloroethane-d4 (S)		112	%	70-130	1		04/11/19 14:32	17060-07-0	

Sample: GHRDDW-1 (DISSOLVED)		Lab ID: 60299111006		Collected: 04/04/19 14:15		Received: 04/05/19 10:50		Matrix: Water	
Parameters		Results	Units	PQL	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, Dissolved		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
Lead, Dissolved		0.31J	ug/L	1.0	1	04/16/19 14:30	04/17/19 11:54	7439-92-1	

Sample: GHRDDW-2 (DISSOLVED)		Lab ID: 60299111007		Collected: 04/04/19 15:10		Received: 04/05/19 10:50		Matrix: Water	
Parameters		Results	Units	PQL	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, Dissolved		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
Lead, Dissolved		0.13J	ug/L	1.0	1	04/12/19 10:00	04/16/19 12:02	7439-92-1	

Sample: GHRDDW-3 (DISSOLVED)		Lab ID: 60299111008		Collected: 04/04/19 16:45		Received: 04/05/19 10:50		Matrix: Water	
Parameters		Results	Units	PQL	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, Dissolved		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
Lead, Dissolved		0.32J	ug/L	1.0	1	04/12/19 10:00	04/16/19 12:03	7439-92-1	

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QUALITY CONTROL DATA

Project: GOOD HOPE ROAD DRUMS SITE

Pace Project No.: 60299111

QC Batch: 579475 Analysis Method: EPA 200.8
QC Batch Method: EPA 200.8 Analysis Description: 200.8 MET No Prep Drinking Water
Associated Lab Samples: 60299111001, 60299111002, 60299111003

METHOD BLANK: 2377917 Matrix: Water

Associated Lab Samples: 60299111001, 60299111002, 60299111003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lead	ug/L	<0.13	1.0	04/17/19 13:30	

LABORATORY CONTROL SAMPLE: 2377918

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lead	ug/L	40	42.1	105	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2377919 2377920

Parameter	Units	60299111001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lead	ug/L	<0.27	40	40	44.2	43.4	110	108	70-130	2	20	

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QUALITY CONTROL DATA

Project: GOOD HOPE ROAD DRUMS SITE

Pace Project No.: 60299111

QC Batch: 578707 Analysis Method: EPA 200.8
QC Batch Method: EPA 200.8 Analysis Description: 200.8 MET Dissolved
Associated Lab Samples: 60299111007, 60299111008

METHOD BLANK: 2374783 Matrix: Water

Associated Lab Samples: 60299111006, 60299111007, 60299111008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lead, Dissolved	ug/L	<0.10	1.0	04/16/19 11:56	

LABORATORY CONTROL SAMPLE: 2374784

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lead, Dissolved	ug/L	40	38.6	97	85-115	

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QUALITY CONTROL DATA

Project: GOOD HOPE ROAD DRUMS SITE
Pace Project No.: 60299111

QC Batch: 579314 Analysis Method: EPA 200.8
QC Batch Method: EPA 200.8 Analysis Description: 200.8 MET Dissolved
Associated Lab Samples: 60299111006

METHOD BLANK: 2377305 Matrix: Water
Associated Lab Samples: 60299111006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lead, Dissolved	ug/L	<0.10	1.0	04/17/19 11:52	

LABORATORY CONTROL SAMPLE: 2377306

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lead, Dissolved	ug/L	40	43.4	109	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2377307 2377308

Parameter	Units	60299111006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lead, Dissolved	ug/L	0.31J	80	80	79.6	81.9	99	102	70-130	3	20	

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QUALITY CONTROL DATA

Project: GOOD HOPE ROAD DRUMS SITE

Pace Project No.: 60299111

QC Batch: 530195	Analysis Method: EPA 524.2	
QC Batch Method: EPA 524.2	Analysis Description: 524.2 MSV	
Associated Lab Samples: 60299111001, 60299111002, 60299111003, 60299111004		

METHOD BLANK: 2870617	Matrix: Water
Associated Lab Samples: 60299111001, 60299111002, 60299111003, 60299111004	

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	<0.25	0.50	04/11/19 12:06	
1,1,2-Trichloroethane	ug/L	<0.25	0.50	04/11/19 12:06	
1,1-Dichloroethene	ug/L	<0.25	0.50	04/11/19 12:06	
1,2,4-Trichlorobenzene	ug/L	<0.41	0.50	04/11/19 12:06	
1,2-Dichlorobenzene	ug/L	<0.25	0.50	04/11/19 12:06	
1,2-Dichloroethane	ug/L	<0.25	0.50	04/11/19 12:06	
1,2-Dichloropropane	ug/L	<0.25	0.50	04/11/19 12:06	
1,4-Dichlorobenzene	ug/L	<0.25	0.50	04/11/19 12:06	
Benzene	ug/L	<0.25	0.50	04/11/19 12:06	
Carbon tetrachloride	ug/L	<0.25	0.50	04/11/19 12:06	
Chlorobenzene	ug/L	<0.25	0.50	04/11/19 12:06	
cis-1,2-Dichloroethene	ug/L	<0.25	0.50	04/11/19 12:06	
Ethylbenzene	ug/L	<0.25	0.50	04/11/19 12:06	
Methyl-tert-butyl ether	ug/L	<0.25	0.50	04/11/19 12:06	
Methylene Chloride	ug/L	<0.44	0.50	04/11/19 12:06	
Naphthalene	ug/L	<0.25	0.50	04/11/19 12:06	
Styrene	ug/L	<0.25	0.50	04/11/19 12:06	
Tetrachloroethene	ug/L	<0.25	0.50	04/11/19 12:06	
Toluene	ug/L	<0.25	0.50	04/11/19 12:06	
trans-1,2-Dichloroethene	ug/L	<0.25	0.50	04/11/19 12:06	
Trichloroethene	ug/L	<0.25	0.50	04/11/19 12:06	
Vinyl chloride	ug/L	<0.39	0.50	04/11/19 12:06	
Xylene (Total)	ug/L	<0.25	0.50	04/11/19 12:06	
1,2-Dichloroethane-d4 (S)	%	108	70-130	04/11/19 12:06	
4-Bromofluorobenzene (S)	%	96	70-130	04/11/19 12:06	
Toluene-d8 (S)	%	105	70-130	04/11/19 12:06	

LABORATORY CONTROL SAMPLE & LCSD: 2870618

LABORATORY CONTROL SAMPLE & LCSD: 2870618			2870619							
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/L	10	10.7	10.4	107	104	70-130	2	40	
1,1,2-Trichloroethane	ug/L	10	8.8	9.2	88	92	70-130	4	40	
1,1-Dichloroethene	ug/L	10	10.2	9.7	102	97	70-130	4	40	
1,2,4-Trichlorobenzene	ug/L	10	10.0	10	100	100	70-130	0	40	
1,2-Dichlorobenzene	ug/L	10	9.3	9.6	93	96	70-130	3	40	
1,2-Dichloroethane	ug/L	10	9.3	9.1	93	91	70-130	3	40	
1,2-Dichloropropane	ug/L	10	9.9	10.2	99	102	70-130	3	40	
1,4-Dichlorobenzene	ug/L	10	8.7	9.2	87	92	70-130	5	40	
Benzene	ug/L	10	9.8	9.5	98	95	70-130	2	40	
Carbon tetrachloride	ug/L	10	10.1	10.0	101	100	70-130	1	40	

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QUALITY CONTROL DATA

Project: GOOD HOPE ROAD DRUMS SITE

Pace Project No.: 60299111

LABORATORY CONTROL SAMPLE & LCSD: 2870618

2870619

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Chlorobenzene	ug/L	10	8.4	8.8	84	88	70-130	5	40	
cis-1,2-Dichloroethene	ug/L	10	9.6	10.2	96	102	70-130	7	40	
Ethylbenzene	ug/L	10	8.8	9.1	88	91	70-130	4	40	
Methyl-tert-butyl ether	ug/L	10	9.2	9.4	92	94	70-130	2	40	
Methylene Chloride	ug/L	10	9.8	10.2	98	102	70-130	4	40	
Naphthalene	ug/L	10	9.5	9.4	95	94	70-130	1	40	
Styrene	ug/L	10	8.2	8.3	82	83	70-130	1	40	
Tetrachloroethene	ug/L	10	7.5	8.2	75	82	70-130	9	40	
Toluene	ug/L	10	8.7	9.0	87	90	70-130	3	40	
trans-1,2-Dichloroethene	ug/L	10	9.5	9.4	95	94	70-130	1	40	
Trichloroethene	ug/L	10	10.6	10.2	106	102	70-130	3	40	
Vinyl chloride	ug/L	10	11.1	12.0	111	120	70-130	8	40	
Xylene (Total)	ug/L	30	27.2	27.7	91	92	70-130	2	40	
1,2-Dichloroethane-d4 (S)	%				109	108	70-130			
4-Bromofluorobenzene (S)	%				101	102	70-130			
Toluene-d8 (S)	%				105	105	70-130			

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QUALITY CONTROL DATA

Project: GOOD HOPE ROAD DRUMS SITE

Pace Project No.: 60299111

QC Batch: 531609 Analysis Method: EPA 525.2
 QC Batch Method: EPA 525.2 Analysis Description: 525.2 DW Semivolatiles
 Associated Lab Samples: 60299111001, 60299111002, 60299111003, 60299111004

METHOD BLANK: 2879226 Matrix: Water
 Associated Lab Samples: 60299111001, 60299111002, 60299111003, 60299111004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1-Methylnaphthalene	ug/L	<0.033	0.10	04/19/19 21:04	N2
2-Methylnaphthalene	ug/L	<0.045	0.10	04/19/19 21:04	N2
Acenaphthene	ug/L	<0.10	0.10	04/19/19 21:04	N2
Acenaphthylene	ug/L	<0.10	0.10	04/19/19 21:04	N2
Anthracene	ug/L	<0.10	0.10	04/19/19 21:04	N2
Benzo(a)anthracene	ug/L	<0.10	0.10	04/19/19 21:04	N2
Benzo(a)pyrene	ug/L	<0.013	0.10	04/19/19 21:04	
Benzo(b)fluoranthene	ug/L	<0.10	0.10	04/19/19 21:04	N2
Benzo(g,h,i)perylene	ug/L	<0.10	0.10	04/19/19 21:04	N2
Benzo(k)fluoranthene	ug/L	<0.10	0.10	04/19/19 21:04	N2
Chrysene	ug/L	<0.10	0.10	04/19/19 21:04	N2
Dibenz(a,h)anthracene	ug/L	<0.10	0.10	04/19/19 21:04	N2
Fluoranthene	ug/L	<0.10	0.10	04/19/19 21:04	N2
Fluorene	ug/L	<0.025	0.20	04/19/19 21:04	
Indeno(1,2,3-cd)pyrene	ug/L	<0.027	0.20	04/19/19 21:04	
Naphthalene	ug/L	<0.10	0.10	04/19/19 21:04	N2
Phenanthrene	ug/L	<0.050	0.20	04/19/19 21:04	N2
Pyrene	ug/L	<0.034	0.20	04/19/19 21:04	
1,3-Dimethyl-2-nitrobenzene(S)	%	105	70-130	04/19/19 21:04	
Perylene-d12 (S)	%	105	70-130	04/19/19 21:04	
Triphenylphosphate (S)	%	108	70-130	04/19/19 21:04	

LABORATORY CONTROL SAMPLE: 2879227

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1-Methylnaphthalene	ug/L	0.4	0.42	105	70-130	N2
2-Methylnaphthalene	ug/L	0.4	0.40	100	70-130	N2
Acenaphthene	ug/L	0.4	0.42	104	70-130	N2
Acenaphthylene	ug/L	0.4	0.33	83	70-130	N2
Anthracene	ug/L	0.4	0.47	118	70-130	N2
Benzo(a)anthracene	ug/L	0.4	0.38	95	70-130	N2
Benzo(a)pyrene	ug/L	0.4	0.47	118	70-130	
Benzo(b)fluoranthene	ug/L	0.4	0.43	109	70-130	N2
Benzo(g,h,i)perylene	ug/L	0.4	0.39	97	70-130	N2
Benzo(k)fluoranthene	ug/L	0.4	0.45	112	70-130	N2
Chrysene	ug/L	0.4	0.42	106	70-130	N2
Dibenz(a,h)anthracene	ug/L	0.4	0.41	102	70-130	N2
Fluoranthene	ug/L	0.4	0.47	117	70-130	N2
Fluorene	ug/L	0.4	0.42	104	70-130	
Indeno(1,2,3-cd)pyrene	ug/L	0.4	0.42	104	70-130	

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QUALITY CONTROL DATA

Project: GOOD HOPE ROAD DRUMS SITE

Pace Project No.: 60299111

LABORATORY CONTROL SAMPLE: 2879227

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Naphthalene	ug/L	0.4	0.38	96	70-130	N2
Phenanthrene	ug/L	0.4	0.43	107	70-130	N2
Pyrene	ug/L	0.4	0.47	119	70-130	
1,3-Dimethyl-2-nitrobenzene(S)	%			98	70-130	
Perylene-d12 (S)	%			103	70-130	
Triphenylphosphate (S)	%			111	70-130	

LABORATORY CONTROL SAMPLE: 2879228

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1-Methylnaphthalene	ug/L	0.1	0.12	121	50-150	N2
2-Methylnaphthalene	ug/L	0.1	0.11	109	50-150	N2
Acenaphthene	ug/L	0.1	0.11	113	50-150	N2
Acenaphthylene	ug/L	0.1	<0.10	86	50-150	N2
Anthracene	ug/L	0.1	0.11	106	50-150	N2
Benzo(a)anthracene	ug/L	0.1	<0.10	98	50-150	N2
Benzo(a)pyrene	ug/L	0.1	0.12	116	50-150	
Benzo(b)fluoranthene	ug/L	0.1	0.11	107	50-150	N2
Benzo(g,h,i)perylene	ug/L	0.1	<0.10	90	50-150	N2
Benzo(k)fluoranthene	ug/L	0.1	0.11	112	50-150	N2
Chrysene	ug/L	0.1	0.11	112	50-150	N2
Dibenz(a,h)anthracene	ug/L	0.1	<0.10	92	50-150	N2
Fluoranthene	ug/L	0.1	0.11	108	50-150	N2
Fluorene	ug/L	0.1	0.11J	106	50-150	
Indeno(1,2,3-cd)pyrene	ug/L	0.1	0.096J	96	50-150	
Naphthalene	ug/L	0.1	0.10	101	50-150	N2
Phenanthrene	ug/L	0.1	0.11J	107	50-150	N2
Pyrene	ug/L	0.1	0.11J	115	50-150	
1,3-Dimethyl-2-nitrobenzene(S)	%			103	70-130	
Perylene-d12 (S)	%			105	70-130	
Triphenylphosphate (S)	%			108	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2880050 2880051

Parameter	Units	35459851001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
1-Methylnaphthalene	ug/L	ND	0.4	0.39	0.42	0.40	106	104	70-130	4	40 N2
2-Methylnaphthalene	ug/L	ND	0.4	0.39	0.42	0.41	105	105	70-130	2	40 N2
Acenaphthene	ug/L	ND	0.4	0.39	0.43	0.41	108	106	70-130	4	40 N2
Acenaphthylene	ug/L	ND	0.4	0.39	0.36	0.41	92	105	70-130	12	40 N2
Anthracene	ug/L	ND	0.4	0.39	0.38	0.38	97	99	70-130	0	40 N2
Benzo(a)anthracene	ug/L	ND	0.4	0.39	0.38	0.38	96	97	70-130	1	40 N2
Benzo(a)pyrene	ug/L	ND	0.4	0.39	0.47	0.46	119	119	70-130	2	40
Benzo(b)fluoranthene	ug/L	ND	0.4	0.39	0.45	0.45	113	115	70-130	0	40 N2

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: GOOD HOPE ROAD DRUMS SITE

Pace Project No.: 60299111

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2880050 2880051												
Parameter	Units	35459851001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
Benzo(g,h,i)perylene	ug/L	ND	0.4	0.39	0.41	0.43	104	110	70-130	4	40	N2
Benzo(k)fluoranthene	ug/L	ND	0.4	0.39	0.48	0.46	121	118	70-130	4	40	N2
Chrysene	ug/L	ND	0.4	0.39	0.45	0.43	113	112	70-130	3	40	N2
Dibenz(a,h)anthracene	ug/L	ND	0.4	0.39	0.44	0.45	112	115	70-130	1	40	N2
Fluoranthene	ug/L	ND	0.4	0.39	0.47	0.44	119	113	70-130	7	40	N2
Fluorene	ug/L	ND	0.4	0.39	0.43	0.42	109	108	70-130	3	40	
Indeno(1,2,3-cd)pyrene	ug/L	ND	0.4	0.39	0.45	0.46	114	119	70-130	3	40	
Naphthalene	ug/L	ND	0.4	0.39	0.40	0.41	100	105	70-130	3	40	N2
Phenanthrene	ug/L	ND	0.4	0.39	0.42	0.41	106	106	70-130	2	40	N2
Pyrene	ug/L	ND	0.4	0.39	0.49	0.45	123	115	70-130	8	40	
1,3-Dimethyl-2-nitrobenzene(S)	%						100	103	70-130			
Perylene-d12 (S)	%						105	107	70-130			
Triphenylphosphate (S)	%						106	109	70-130			

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: GOOD HOPE ROAD DRUMS SITE

Pace Project No.: 60299111

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.

TNTC - Too Numerous To Count

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 - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

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.

LABORATORIES

PASI-K Pace Analytical Services - Kansas City

PASI-O Pace Analytical Services - Ormond Beach

ANALYTE QUALIFIERS

IS The internal standard response is below criteria. Results may be biased high.

N2 The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: GOOD HOPE ROAD DRUMS SITE

Pace Project No.: 60299111

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60299111001	GHRDDW-1	EPA 525.2	531609	EPA 525.2	532096
60299111002	GHRDDW-2	EPA 525.2	531609	EPA 525.2	532096
60299111003	GHRDDW-3	EPA 525.2	531609	EPA 525.2	532096
60299111004	GHRDDW-4 FB	EPA 525.2	531609	EPA 525.2	532096
60299111001	GHRDDW-1	EPA 200.8	579475		
60299111002	GHRDDW-2	EPA 200.8	579475		
60299111003	GHRDDW-3	EPA 200.8	579475		
60299111006	GHRDDW-1 (DISSOLVED)	EPA 200.8	579314	EPA 200.8	579386
60299111007	GHRDDW-2 (DISSOLVED)	EPA 200.8	578707	EPA 200.8	578927
60299111008	GHRDDW-3 (DISSOLVED)	EPA 200.8	578707	EPA 200.8	578927
60299111001	GHRDDW-1	EPA 524.2	530195		
60299111002	GHRDDW-2	EPA 524.2	530195		
60299111003	GHRDDW-3	EPA 524.2	530195		
60299111004	GHRDDW-4 FB	EPA 524.2	530195		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO#: 60299111



Client Name: [REDACTED]

Courier: FedEx ☐ UPS ☐ VIA ☐ Clay ☐ PEX ☐ ECI ☐ Pace ☐ Xroads ☐ Client ☒ Other ☐

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No ☒

Custody Seal on Cooler/Box Present: Yes ☒ No ☐ Seals intact: Yes ☒ No ☐

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

Thermometer Used: T-296 Type of Ice: Wet Blue ☐ None ☐

Cooler Temperature (°C): As-read 2.0 Corr. Factor -1.0 Corrected 1.0

Date and initials of person examining contents: 4/15/19

Temperature should be above freezing to 6°C

Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Chain of Custody relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples arrived within holding time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Short Hold Time analyses (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Rush Turn Around Time requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Sufficient volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Correct containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
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	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Filtered volume received for dissolved tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Sample labels match COC: Date / time / ID / analyses	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples contain multiple phases? Matrix: <u>WT</u>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Containers requiring pH preservation in compliance? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks:		
Lead acetate strip turns dark? (Record only)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Potassium iodide test strip turns blue/purple? (Preserve)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Headspace in VOA vials (>6mm):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Samples from USDA Regulated Area: State:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: [REDACTED]

Date: _____

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

Page: / of /

[illegible]

**United States Environmental Protection Agency
Region 7
300 Minnesota Avenue
Kansas City, KS 66101**

Date: 09/09/2019

Subject: Transmittal of Sample Analysis Results for ASR #: 8270

Project ID: KMB7G7

Project Description: Good Hope Road Drums

FOR: Margaret E.W. St. Germain, Chief
Laboratory Technology & Analysis Branch
Laboratory Services and Applied Sciences Division

To: Kirk Mammoliti
SEMD/AERR/RROP

Enclosed are the analytical data for the above-referenced Analytical Services Request (ASR) and Project. These results are based on samples as received at the Science and Technology Center. The Regional Laboratory has reviewed and verified the results in accordance with procedures described in our Quality Manual (QM). In addition to all of the analytical results, this transmittal contains pertinent information that may have influenced the reported results and documents any deviations from the established requirements of the QM.

Please ensure that you file this electronic (.pdf only) transmittal in your records management system. The Regional Laboratory will now retain all of the original hardcopy documentation (e.g. COC[s] and the R7LIMS field sheet[s], etc.) according to our LSASD records management system.

Please contact us within 14 days of receipt of this package if you determine there is a need for any changes. Please complete the Online ASR Sample/Data Disposition and Customer Survey for this ASR as soon as possible. The process of disposing of the samples for this ASR will be initiated 30 days from the date of this transmittal unless an alternate release date is specified on the Online ASR Sample/Data Disposition and Customer Survey. It is critical that we receive your response in accordance to RCRA and the laboratory accreditation.

If you have any questions or concerns relating to this data package, contact our customer service line at 913-551-5295.

Project Manager: Kirk Mammoliti**Org:** SEMD/AERR/R
ROP**Phone:** 913-551-7902
2019052**Project ID:** KMB7G7**QAPP Number:****Project Desc:** Good Hope Road Drums**Location:** Berger**State:** Missouri**Program:** Superfund**Site Name:** GOOD HOPE ROAD DRUMS - Site
Evaluation/Disposition**Site ID:** B7G7 **Site OU:** 00**GPRA PRC:** 000DC6**Purpose:** Site Cleanup Support

Removal action ASR.

GPRA/site code (+OU) check per JN on 5/30/19.

Submitted ASR from the PM (KM)/SET contractor dated 5/30/2019 noted that this ASR is not part of a litigation hold activity at this time.

Explanation of Codes, Units and Qualifiers used on this report**Sample QC Codes:** QC Codes identify the type of
sample for quality control purpose.**Units:** Specific units in which results are
reported.

___ = Field Sample

ug/kg = Micrograms per Kilogram

Data Qualifiers: Specific codes used in conjunction with data values to provide additional information
on the quality of reported results, or used to explain the absence of a specific value.

(Blank)= Values have been reviewed and found acceptable for use.

U = The analyte was not detected at or above the reporting limit.

UJ = The analyte was not detected at or above the reporting limit. The reporting
limit is an estimate.

ASR Number: 8270

Sample Information Summary

09/09/2019

Project ID: KMB7G7

Project Desc: Good Hope Road Drums

Sample No	QC Code	Matrix	Location Description	External Sample No	Start Date	Start Time	End Date	End Time	Receipt Date
1 - ____		Solid	Staging area before use		06/17/2019	15:25			06/21/2019
2 - ____		Solid	Drum area after drum removal		06/20/2019	10:45			06/21/2019
3 - ____		Solid	Staging area		08/09/2019	11:45			08/13/2019

Analysis Comments About Results For This Analysis

1 Semi-Volatile Organic Compounds in Soil

Lab: Contract Lab Program (Out-Source)**Method:** CLP Statement of Work**Basis:** Dry**Samples:** 1-__ 2-__ 3-__**Comments:**

1,4-Dioxane was UJ-coded in samples -1 and -2. This analyte was not found in the samples at or above the reporting limits; however, the reporting limit is an estimate (UJ-coded) due to low recovery of the surrogate analyte. The actual reporting limit for this analyte may be higher than the reported values.

1 VOC's in Soil at Low Levels by GC/MS Closed-System Purge-and-Trap

Lab: Contract Lab Program (Out-Source)**Method:** CLP Statement of Work**Basis:** Dry**Samples:** 1-__ 2-__ 3-__**Comments:**

Analysis/ Analyte	Units	1-__	2-__	3-__
1 Semi-Volatile Organic Compounds in Soil				
Acenaphthene	ug/kg	210 U	220 U	230 U
Acenaphthylene	ug/kg	210 U	220 U	230 U
Acetophenone	ug/kg	410 U	430 U	450 U
Anthracene	ug/kg	210 U	220 U	230 U
Atrazine	ug/kg	410 U	430 U	450 U
Benzaldehyde	ug/kg	410 U	430 U	450 U
Benzo(a)anthracene	ug/kg	210 U	220 U	230 U
Benzo(a)pyrene	ug/kg	210 U	220 U	230 U
Benzo(b)fluoranthene	ug/kg	210 U	220 U	230 U
Benzo(g,h,i)perylene	ug/kg	210 U	220 U	230 U
Benzo(k)fluoranthene	ug/kg	210 U	220 U	230 U
Biphenyl	ug/kg	210 U	220 U	230 U
bis(2-Chloroethoxy)methane	ug/kg	210 U	220 U	230 U
bis(2-Chloroethyl)ether	ug/kg	410 U	430 U	450 U
bis(2-Chloroisopropyl)ether	ug/kg	410 U	430 U	450 U
bis(2-Ethylhexyl)phthalate	ug/kg	210 U	220 U	230 U
4-Bromophenyl-phenylether	ug/kg	210 U	220 U	230 U
Butylbenzylphthalate	ug/kg	210 U	220 U	230 U
Caprolactam	ug/kg	410 U	430 U	450 U
Carbazole	ug/kg	410 U	430 U	450 U
4-Chloro-3-methylphenol	ug/kg	210 U	220 U	230 U
4-Chloroaniline	ug/kg	410 U	430 U	450 U
2-Chloronaphthalene	ug/kg	210 U	220 U	230 U
2-Chlorophenol	ug/kg	210 U	220 U	230 U
4-Chlorophenyl-phenylether	ug/kg	210 U	220 U	230 U
Chrysene	ug/kg	210 U	220 U	230 U
Di-n-butylphthalate	ug/kg	210 U	220 U	230 U
Di-n-octylphthalate	ug/kg	410 U	430 U	450 U
Dibenz(a,h)anthracene	ug/kg	210 U	220 U	230 U
Dibenzofuran	ug/kg	210 U	220 U	230 U
3,3'-Dichlorobenzidine	ug/kg	410 U	430 U	450 U
2,4-Dichlorophenol	ug/kg	210 U	220 U	230 U
Diethylphthalate	ug/kg	210 U	220 U	230 U
2,4-Dimethylphenol	ug/kg	210 U	220 U	230 U
Dimethylphthalate	ug/kg	240	240	400
4,6-Dinitro-2-methylphenol	ug/kg	410 U	430 U	450 U
2,4-Dinitrophenol	ug/kg	410 U	430 U	450 U
2,4-Dinitrotoluene	ug/kg	210 U	220 U	230 U
2,6-Dinitrotoluene	ug/kg	210 U	220 U	230 U
1,4-Dioxane	ug/kg	83 UJ	87 UJ	90 U
Fluoranthene	ug/kg	410 U	430 U	450 U
Fluorene	ug/kg	210 U	220 U	230 U
Hexachlorobenzene	ug/kg	210 U	220 U	230 U
Hexachlorobutadiene	ug/kg	210 U	220 U	230 U
Hexachlorocyclopentadiene	ug/kg	410 U	430 U	450 U

Analysis/ Analyte	Units	1-__	2-__	3-__
Hexachloroethane	ug/kg	210 U	220 U	230 U
Indeno(1,2,3-cd)pyrene	ug/kg	210 U	220 U	230 U
Isophorone	ug/kg	210 U	220 U	230 U
2-Methylnaphthalene	ug/kg	210 U	220 U	230 U
2-Methylphenol	ug/kg	410 U	430 U	450 U
4-Methylphenol	ug/kg	410 U	430 U	450 U
Naphthalene	ug/kg	210 U	220 U	230 U
2-Nitroaniline	ug/kg	210 U	220 U	230 U
3-Nitroaniline	ug/kg	410 U	430 U	450 U
4-Nitroaniline	ug/kg	410 U	430 U	450 U
Nitrobenzene	ug/kg	210 U	220 U	230 U
2-Nitrophenol	ug/kg	210 U	220 U	230 U
4-Nitrophenol	ug/kg	410 U	430 U	450 U
N-nitroso-di-n-propylamine	ug/kg	210 U	220 U	230 U
N-nitrosodiphenylamine	ug/kg	210 U	220 U	230 U
Pentachlorophenol	ug/kg	410 U	430 U	450 U
Phenanthrene	ug/kg	210 U	220 U	230 U
Phenol	ug/kg	410 U	430 U	450 U
Pyrene	ug/kg	210 U	220 U	230 U
1,2,4,5-Tetrachlorobenzene	ug/kg	210 U	220 U	230 U
2,4,5-Trichlorophenol	ug/kg	210 U	220 U	230 U
2,4,6-Trichlorophenol	ug/kg	210 U	220 U	230 U
1 VOC's in Soil at Low Levels by GC/MS Closed-System Purge-and-Trap				
Acetone	ug/kg	250	240	49
Benzene	ug/kg	10 U	6.9 U	8.2 U
Bromochloromethane	ug/kg	10 U	6.9 U	8.2 U
Bromodichloromethane	ug/kg	10 U	6.9 U	8.2 U
Bromoform	ug/kg	10 U	6.9 U	8.2 U
Bromomethane	ug/kg	10 U	6.9 U	8.2 U
2-Butanone	ug/kg	27	23	16 U
Carbon Disulfide	ug/kg	10 U	6.9 U	8.2 U
Carbon Tetrachloride	ug/kg	10 U	6.9 U	8.2 U
Chlorobenzene	ug/kg	10 U	6.9 U	8.2 U
Chloroethane	ug/kg	10 U	6.9 U	8.2 U
Chloroform	ug/kg	10 U	6.9 U	8.2 U
Chloromethane	ug/kg	10 U	6.9 U	8.2 U
Cyclohexane	ug/kg	10 U	6.9 U	8.2 U
1,2-Dibromo-3-Chloropropane	ug/kg	10 U	6.9 U	8.2 U
Dibromochloromethane	ug/kg	10 U	6.9 U	8.2 U
1,2-Dibromoethane	ug/kg	10 U	6.9 U	8.2 U
1,2-Dichlorobenzene	ug/kg	10 U	6.9 U	8.2 U
1,3-Dichlorobenzene	ug/kg	10 U	6.9 U	8.2 U
1,4-Dichlorobenzene	ug/kg	10 U	6.9 U	8.2 U
Dichlorodifluoromethane	ug/kg	10 U	6.9 U	8.2 U
1,1-Dichloroethane	ug/kg	10 U	6.9 U	8.2 U

Analysis/ Analyte	Units	1-__	2-__	3-__
1,2-Dichloroethane	ug/kg	10 U	6.9 U	8.2 U
1,1-Dichloroethene	ug/kg	10 U	6.9 U	8.2 U
cis-1,2-Dichloroethene	ug/kg	10 U	6.9 U	8.2 U
trans-1,2-Dichloroethene	ug/kg	10 U	6.9 U	8.2 U
1,2-Dichloropropane	ug/kg	10 U	6.9 U	8.2 U
cis-1,3-Dichloropropene	ug/kg	10 U	6.9 U	8.2 U
trans-1,3-Dichloropropene	ug/kg	10 U	6.9 U	8.2 U
Ethyl Benzene	ug/kg	10 U	6.9 U	8.2 U
2-Hexanone	ug/kg	21 U	14 U	16 U
Isopropylbenzene	ug/kg	10 U	6.9 U	8.2 U
Methyl Acetate	ug/kg	10	16	67
Methyl tert-butyl ether	ug/kg	10 U	6.9 U	8.2 U
Methylcyclohexane	ug/kg	10 U	6.9 U	8.2 U
Methylene Chloride	ug/kg	10 U	6.9 U	8.2 U
4-Methyl-2-Pentanone	ug/kg	21 U	14 U	16 U
Styrene	ug/kg	10 U	6.9 U	8.2 U
1,1,2,2-Tetrachloroethane	ug/kg	10 U	6.9 U	8.2 U
Tetrachloroethene	ug/kg	10 U	6.9 U	8.2 U
Toluene	ug/kg	10 U	6.9 U	8.2 U
1,2,3-Trichlorobenzene	ug/kg	10 U	6.9 U	8.2 U
1,2,4-Trichlorobenzene	ug/kg	10 U	6.9 U	8.2 U
1,1,1-Trichloroethane	ug/kg	10 U	6.9 U	8.2 U
1,1,2-Trichloroethane	ug/kg	10 U	6.9 U	8.2 U
Trichloroethene	ug/kg	10 U	6.9 U	8.2 U
Trichlorofluoromethane	ug/kg	10 U	6.9 U	8.2 U
1,1,2-Trichlorotrifluoroethane	ug/kg	10 U	6.9 U	8.2 U
Vinyl Chloride	ug/kg	10 U	6.9 U	8.2 U
m and/or p-Xylene	ug/kg	10 U	6.9 U	8.2 U
o-Xylene	ug/kg	10 U	6.9 U	8.2 U

**CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII**

EPA PROJECT MANAGER (Print) <i>Kirk Mammoliti</i>	SITE OR SAMPLING EVENT <i>Good Hope Road Drive</i>	DATE OF SAMPLE COLLECTION(S) <i>6/17/2020</i> MONTH DAY YEAR	SHEET <i>1</i> of <i>1</i>
--	---	--	-------------------------------

CONTENTS OF SHIPMENT

ASR AND SAMPLE NUMBER	TYPE OF CONTAINERS					SAMPLED MEDIA				RECEIVING LABORATORY REMARKS OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.)
	1 L PLASTIC BOTTLE	802 BOTTLE	BOTTLE	BOTTLE	VOA SET (3 VIALS EA)	WATER	SOLID	HAZ WASTE	AIR	
	NUMBER(S) OF CONTAINERS PER SAMPLE NUMBER									
<i>8270-1</i>		<i>1</i>			<i>1</i>	<i>X</i>				
<i>8270-2</i>		<i>1</i>			<i>3</i>	<i>X</i>				
<i>6+1 via (10) - 6/21/20</i>										
<i>More to Follow</i>										
<i>ASR</i>										
<i>20</i>										
<i>Cooler delivered between 0-3°C</i>										
<i>Sample</i>										
<i>SR</i>										

DESCRIPTION OF SHIPMENT	MODE OF SHIPMENT
<i>6</i> CONTAINER(S) CONSISTING OF _____ CRATE(S)	_____ COMMERCIAL CARRIER _____
<i>1</i> ICE CHEST(S): OTHER _____	<i>X</i> SAMPLER CONVEYED _____ (SHIPPING AIRBILL NUMBER)

PERSONNEL CUSTODY RECORD

RELINQUISHED BY (PM/SAMPLER)	DATE	TIME	RECEIVED BY	DATE	TIME	REASON FOR CHANGE OF CUSTODY
<i>[Redacted]</i>	<i>6/20/20</i>		<i>[Signature]</i>	<i>6/21/20</i>	<i>1004</i>	<i>Sample analysis</i>
<input type="checkbox"/> SEALED <input type="checkbox"/> UNSEALED			<input type="checkbox"/> SEALED <input type="checkbox"/> UNSEALED			
RELINQUISHED BY (PM/SAMPLER)	DATE	TIME	RECEIVED BY	DATE	TIME	REASON FOR CHANGE OF CUSTODY
<input type="checkbox"/> SEALED <input type="checkbox"/> UNSEALED			<input type="checkbox"/> SEALED <input type="checkbox"/> UNSEALED			
RELINQUISHED BY (PM/SAMPLER)	DATE	TIME	RECEIVED BY	DATE	TIME	REASON FOR CHANGE OF CUSTODY
<input type="checkbox"/> SEALED <input type="checkbox"/> UNSEALED			<input type="checkbox"/> SEALED <input type="checkbox"/> UNSEALED			

**CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII**

ACTIVITY LEADER(Print) KIRY MAMMOLITI	NAME OF SURVEY OR ACTIVITY Good Hope Road Drums - B767	DATE OF COLLECTION 9 DAY 8 MONTH 2019 YEAR	SHEET 1 of 1
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CONTENTS OF SHIPMENT

SAMPLE NUMBER	TYPE OF CONTAINERS				SAMPLED MEDIA					RECEIVING LABORATORY REMARKS/OTHER INFORMATION (condition of samples upon receipt, other sample numbers etc.)	
	Box Set	BOTTLE	BOTTLE	BOTTLE	VOA SET	water	soil	sediment	dust		other
	NUMBERS OF CONTAINERS PER SAMPLE NUMBER				(VIALS EA)						
8270-3	1				3		X				MS/MSD - Box Set Trip 41
<p style="font-size: 1.2em; margin-top: 20px;">8705 Solid Vinyl Tubes Not labeled by LCR provided/printed tag Email sent to PM/ALM Ninawa 8/13/19</p> <p style="font-size: 2em; transform: rotate(-15deg); position: absolute; top: 300px; left: 350px;">ASR Complete</p>											

Ch. Temp. Rec'd Loc.
07°C 8/13/19

DESCRIPTION OF SHIPMENT 4 PIECE(S) CONSISTING OF _____ BOX(ES) 1 ICE CHEST(S); OTHER _____	MODE OF SHIPMENT <input checked="" type="checkbox"/> COMMERCIAL CARRIER <u>UPS</u> <input type="checkbox"/> COURIER <input type="checkbox"/> SAMPLER CONVEYED (SHIPPING DOCUMENT NUMBER) _____
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PERSONNEL CUSTODY RECORD			
RELINQUISHED BY (SAMPLER) K. Mammoliti	DATE 8/12/19	TIME 1000	RECEIVED BY Michael Raulo
<input checked="" type="checkbox"/> SEALED <input type="checkbox"/> UNSEALED			<input checked="" type="checkbox"/> SEALED <input type="checkbox"/> UNSEALED
RELINQUISHED BY	DATE	TIME	RECEIVED BY 930A
<input type="checkbox"/> SEALED <input type="checkbox"/> UNSEALED			<input type="checkbox"/> SEALED <input type="checkbox"/> UNSEALED
RELINQUISHED BY	DATE	TIME	RECEIVED BY
<input type="checkbox"/> SEALED <input type="checkbox"/> UNSEALED			<input type="checkbox"/> SEALED <input type="checkbox"/> UNSEALED

Reason for change of custody
Analysis

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 8270 **Sample Number:** 1 **QC Code:** __ **Matrix:** Solid **Tag ID:** 8270-1-__

Project ID: KMB7G7 **Project Manager:** Kirk Mammoliti
Project Desc: Good Hope Road Drums
City: Berger **State:** Missouri
Program: Superfund
Site Name: GOOD HOPE ROAD DRUMS - Site Evaluation/Disposition **Site ID:** B7G7 **Site OU:** 00

Location Desc: Good Hope Road Drums staging Area

External Sample Number: _____

Expected Conc: _____ (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: _____

Sample Collection: Start: 6/17/19 15:25

Longitude: _____

End: 1/1 __:

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vials (soil VOA 5035)	4 Deg C, sodium bisulfate (2 vials), MeOH (1 vial)	14 Days	1 VOC's in Soil at Low Levels by GC/MS Closed-System Purge-and-Trap
1 - 8 oz glass	4 Deg C	14 Days	1 Semi-Volatile Organic Compounds in Soil

Sample Comments: staging area before use
(N/A)

Sample Collected By: SET

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 8270 **Sample Number:** 2 **QC Code:** ____ **Matrix:** Solid **Tag ID:** 8270-2-____

Project ID: KMB7G7 **Project Manager:** Kirk Mammoliti
Project Desc: Good Hope Road Drums
City: Berger **State:** Missouri
Program: Superfund
Site Name: GOOD HOPE ROAD DRUMS - Site Evaluation/Disposition **Site ID:** B7G7 **Site OU:** 00

Location Desc: Drum area after drum removal

External Sample Number: _____

Expected Conc: _____ (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: _____

Sample Collection: Start: ____/____/____ ____:____

Longitude: _____

End: 6/20/19 10:45

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
4 - 40mL VOA vials (soil VOA 5035)	4 Deg C, sodium bisulfate (2 vials), MeOH	14 Days	1 VOC's in Soil at Low Levels by GC/MS Closed-System Purge-and-Trap
+10 - 40 ml vials 6 sodium bisulfate (1 vial) + 1 MeOH	4 Deg C	14 Days	1 Semi-Volatile Organic Compounds in Soil

Sample Comments:

(N/A) MS MSD Additional Volume

Sample Collected By: SET

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 8270 **Sample Number:** 3 **QC Code:** ____ **Matrix:** Solid **Tag ID:** 8270-3-__

Project ID: KMB7G7 **Project Manager:** Kirk Mammoliti
Project Desc: Good Hope Road Drums
City: Berger **State:** Missouri
Program: Superfund
Site Name: GOOD HOPE ROAD DRUMS - Site Evaluation/Disposition **Site ID:** B7G7 **Site OU:** 00

Location Desc: Staging Area

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**
Latitude: 38.579857 **Sample Collection: Start:** 8/9/19 11:45
Longitude: -91.346927 **End:** / / :

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
<u>✓</u> 40mL VOA vials (soil VOA 5035)	4 Deg C, sodium bisulfate (2 vials), MeOH (1 vial) <u>✓</u>	14 Days	1 VOC's in Soil at Low Levels by GC/MS Closed-System Purge-and-Trap
1 - 8 oz glass	4 Deg C	14 Days	1 Semi-Volatile Organic Compounds in Soil

Sample Comments:

(N/A)

A 5035 Triple Volume

Sample Collected By: SET EPA
LM