



Revitalizing Auto Communities
Environmental Response Trust

July 2, 2015

Mr. Bryan Duzak
Bureau of Underground Storage Tank Regulations
8895 E. Main Street
P.O. Box 687
Reynoldsburg, OH 43068

RE: Additional Information Request to Tier 1 Response – South Tank Farm, RACER Trust Moraine Facilities, Moraine, Ohio, BUSTR Release #57000002-N00004

Dear Mr. Duzak:

Revitalizing Auto Communities Environmental Response Trust (RACER Trust) is submitting this response to the Bureau of Underground Storage Tank Regulations (BUSTR) Additional Information Requested (AIR) letter, dated January 7, 2015 (**Attachment 1**), for the above referenced site (**Figure 1**). The BUSTR AIR letter was issued in response to the Tier 1 Investigation Results for the South Tank Farm (STF), dated October 22, 2014. An extension request for the submittal of the AIR was requested in a letter dated April 6, 2015 and approved by BUSTR in a letter dated April 7, 2015 (**Attachment 1**). The BUSTR requests from the AIR letter and responses are provided below.

“Confirmatory sampling was not appropriately conducted at the former location of tank #2 (soil boring SSB-1). Please conduct soil sampling pursuant to BUSTR’s July 1, 2012 Technical Guidance Manual or install additional borings which delineate this area to delineation levels in all directions.”

Soil boring SSB-7 was completed to confirm the total petroleum hydrocarbon (TPH) detection at 15 feet (ft) below ground surface (bgs) for sample STF-UST 2-5-15’ (**Figure 2**). Two samples from SSB-7 were submitted for laboratory analysis of TPH C₁₀-C₂₀ and TPH C₂₀-C₃₄. Samples submitted included the 10 to 12 ft bgs interval where the highest photoionization device (PID) reading was observed and the 15 ft bgs depth to confirm the previous detection in sample STF-UST 2-5-15’. Both samples were below BUSTR action levels. Results are summarized in **Table 1** and shown on **Figure 3**. Soil boring logs are provided as **Attachment 2**. The laboratory analytical report and chain of custody are provided as **Attachment 3**.

“Analytical results from soil boring SSB-3 are consistent with that of sampling conducted during closure activities. Therefore, BUSTR requires delineation of constituents of concern to delineation action levels in all directions from this location.”

Soil borings SSB-4, SSB-5, and SSB-6 were completed to delineate SSB-3 and STF DI-3' where TPH detections were observed above BUSTR delineation action levels. Delineation soil borings were install approximately 25 ft from SSB-3 by hand augering to a depth of 4 ft bgs and sampling both the 0 to 2 ft bgs and 2 to 4 ft bgs intervals (**Figure 2**). All samples were below BUSTR delineation action levels. Therefore, the TPH impacts are delineated. Results are summarized in **Table 1** and shown on **Figure 3**. Soil boring logs are provided as **Attachment 2**. The laboratory analytical report and chain of custody are provided as **Attachment 3**.

“Please report the findings of the revised Tier I Investigation on the prescribed form.”

Tier I Investigation activities have been summarized on the Tier I Investigation Report Form provided under separate cover.

Assuming this response addresses the AIR letter, RACER Trust respectfully requests BUSTR's written approval of the Tier 1 Investigation. Upon approval, RACER Trust will implement an Interim Response Action (IRA) for a shallow excavation to address TPH impacts in the SSB-3 area as discussed in the Tier I Investigation Form.

If you have any questions, please contact me at (937) 751-8635.

Sincerely,



Pamela L. Barnett, PG
Assembly Region Cleanup Manager (DE, LA, MA, OH, PA, VA)
RACER Trust

cc: Mirtha Capiro, U.S. EPA
Brian Gitzinger, Ohio EPA

Tables

- 1 Soil Analytical Results for Total Petroleum Hydrocarbons

Figures

- 1 Site Location Map
- 2 Site Map Former South Tank Farm
- 3 Former South Tank Farm Soil Analytical Results - TPH

Attachments

- 1 BUSTR Correspondence
- 2 Boring Logs
- 3 Laboratory Analytical Report

Table 1. Soil Analytical Results for Total Petroleum Hydrocarbons, South Tank Farm, RACER Trust Moraine, OH

Sample ID	Date Collected	Depth (feet)	C10-C20 mg/kg	C20-C34 mg/kg	Total TPH mg/kg
STF-UST 1-1	11/5/1992	15	--	--	29
STF-UST 1-2	11/5/1992	15	--	--	28
STF-UST 2-2	11/4/1992	15	--	--	12
STF-UST 2-5 Confirmed by SSB-7	11/4/1992	15	--	--	20,900
STF-UST 3-2	11/4/1992	15	--	--	26
STF-UST 3-3	11/4/1992	15	--	--	40
STF-UST 4-1	11/4/1992	15	--	--	11
STF-UST 4-4	11/5/1992	15	--	--	13
STF-UST 5-2	10/30/1992	15	--	--	26
STF-UST 5-4	10/30/1992	15	--	--	31
STF PR	11/12/1992	3	--	--	30
STF DI	11/11/1992	3	--	--	7,620
SSB-1	6/10/2014	10 - 12	<17	5.8 J	--
		18 - 20	<18	<18	--
SSB-2	6/10/2014	12 - 14	<17	5.8 J	--
		18 - 20	<17	<17	--
SSB-3	6/10/2014	0 - 2	21,000	12,000	--
SSB-4	5/27/2015	0-2	<17	<17	--
		2-4	32	77	--
SSB-5	5/27/2015	0-2	45	230	--
		2-4	35	300	--
SSB-6	5/27/2015	0-2	15 J	86	--
		2-4	43	120	--
SSB-7	5/27/2015	10-12	14 J	110	--
		15	<17	<17	--
BUSTR Action Levels - Soil Class I, Residential Land Use					
Direct Contact			2,000	5,000	--
Soil to Indoor Air			--	--	--
Soil to Outdoor Air			--	--	--
Soil to Drinking Water Leaching			--	--	--

-- No applicable action level

ft. - feet

mg/kg - milligram per kilogram

TPH - Total petroleum hydrocarbons

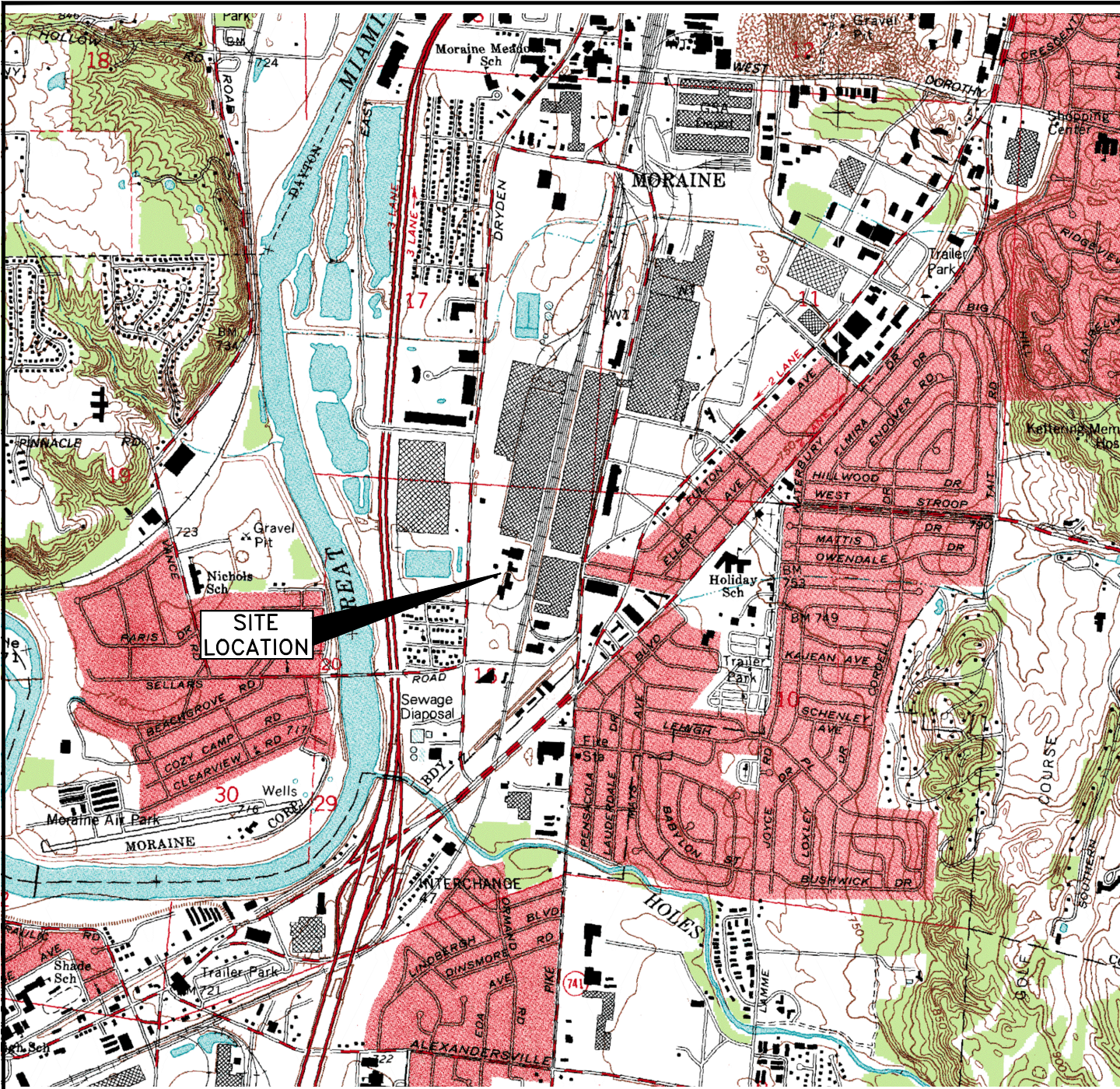
J - Estimated value

< - Constituent not detected above laboratory reporting limit shown

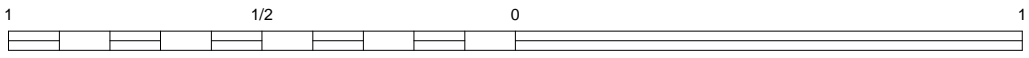
B - Compound was detected in method blank and sample

Bold - Value exceeds action level

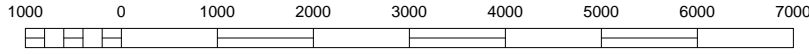
CITY: COLUMBUS, OH DIV: GROUP: (IMDV) DB: (R. SMITH) LD: (Opt) PIC: (Opt) PM: (N. GILLOTTI) TM: (OPT) LVR: (Opt) ON: "OFF" REF: G:\ENVCAD\Columbus-OH\ACT\TOH000294 - RACER\0001284-2015-STF-00.dwg LAYOUT: SOUTH-TANK FARM SAVED: 6/17/2015 9:06 AM ACADVER: 19.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ACADCTB PLOTTED: 6/17/2015 9:17 AM BY: SMITH, BOB XREFS: IMAGES: PROJECTNAME: ---- dayton south.tif



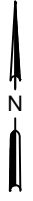
SCALE 1:24 000



SCALE IN MILE



SCALE IN FEET: 1" = 2000'



OHIO QUADRANGLE LOCATION

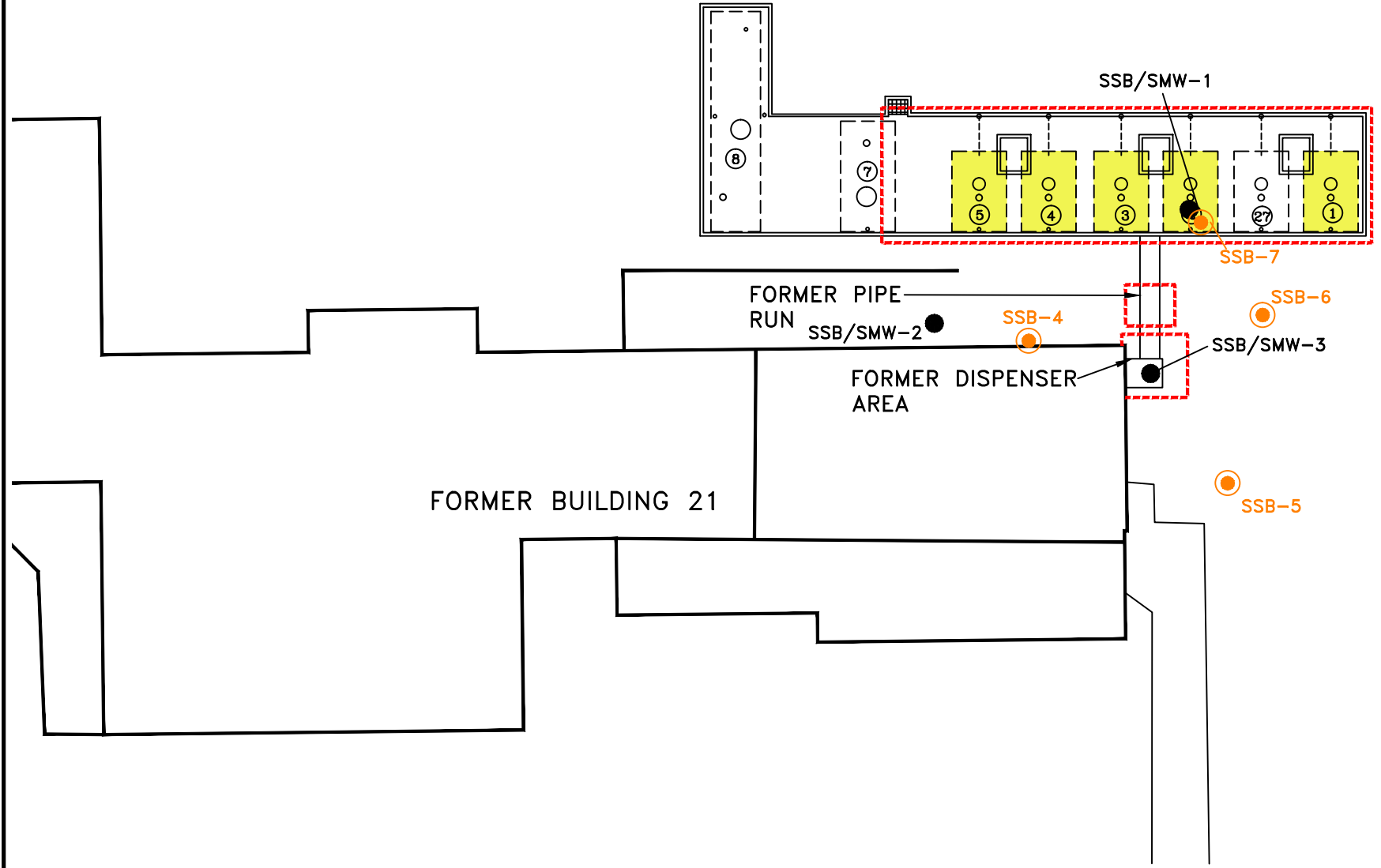
REFERENCE: USGS 7.5 MINUTE QUADRANGLE; DAYTON SOUTH, OHIO 1966, PHOTO REVISED 1991.

RACER TRUST
MORaine, OHIO
OH000294.2015

**SITE LOCATION MAP
(FORMER SOUTH TANK FARM)**



FIGURE
1



- LEGEND**
- SOIL BORING (2015)
 - SOIL BORING/MONITORING WELL (2014)
 - TANK NUMBER
 - APPROXIMATE EXTENT OF EXCAVATION AREA

HISTORICAL TANK CONTENTS	
BUSTR REGULATED TANKS	
1	WASHING OIL (REMOVED 1992)
2	LUB. GEAR OIL (REMOVED 1992)
3	BRUKO D-332 (REMOVED 1992)
4	HYDRAULIC OIL - 215 SEC (REMOVED 1992)
5	CIMTECH 3900 (REMOVED 1992)
RFI TANKS	
7	SWMU T2 - DIRTY OILS (REMOVED 1986)
8	SWMU T3 - DIRTY OILS, VIRGIN MACHINE COOLANT (REMOVED 1986)
27	SWMU T1 - SPENT ALKALINE DETERGENT SOLUTION (REMOVED 1992)

RACER TRUST
MORaine, OHIO
OH000294.2015

**SITE MAP
FORMER SOUTH TANK FARM**

FIGURE
2

CITY: DUBLIN, OHIO DIV: GROUP: ENV DB: R. SMITH LD: (Opt) PIC: (Opt) PK: (N. GILLOTT) TM: (Opt) LXR: (Opt) ON: -OFF=REF-
 G:\ENVCAD\Columbus-OH\ACT\OH000294 - RACER\0001294-2015-0001-11.dwg LAYOUT: FIG 2 SITE MAP - SAVED: 6/15/2015 2:01 PM ACADVER: 19.1S (LMS TECH) PAGES: 10 PAGES: 10 PLOT: 6/17/2015 9:05 AM BY: SMITH, BOB
 XREFS:



Attachment 1

BUSTR Correspondence



**Department
of Commerce**

Division of State Fire Marshal
John R. Kasich, Governor
Andre T. Porter, Director

January 07, 2015

PAMELA BARNETT
RACER TRUST
500 WOODWARD AVENUE
SUITE 1510
DETROIT, MICHIGAN 48226

SITE: GMC HARRISON DIVISION MORaine
(SOUTH TANK FARM)
3600 DRYDEN RD
MORaine OH
MONTGOMERY COUNTY
RELEASE #57000002-N00004

RE: ADDITIONAL INFORMATION REQUESTED

Dear Ms. Barnett:

The Bureau of Underground Storage Tank Regulations (BUSTR) has reviewed your report titled "Tier 1 Investigation" dated October 22, 2014. Based on our review, BUSTR requests the following:

1. Confirmatory sampling was not appropriately conducted at the former location of tank #2 (soil boring SSB-1). Please conduct confirmatory soil sampling pursuant to BUSTR's July 1, 2012 Technical Guidance Manual or install additional borings which delineate this area to delineation levels in all directions.
2. Analytical results from soil boring SSB-3 are consistent with that of sampling conducted during closure activities. Therefore, BUSTR requires delineation of constituents of concern to delineation levels in all directions from this location.
3. Please report the findings of the revised Tier 1 Investigation on the prescribed form.

Please be advised that the transfer of the property will not extinguish your liability to perform the required corrective actions. Publications that may help you to understand the requirements for compliance with BUSTR's rules and regulations may be found on the Internet at <http://www.com.ohio.gov/fire/bustMain.aspx> or by calling our office.

Please submit this information to BUSTR on or before April 08, 2015.

Thank you for your cooperation. If you have any questions, please contact me at (614) 728-1898.

Sincerely,

Bryan Duzak
Environmental Specialist

xc: Site File



April 6, 2014
Mr. Bryan Duzak
Bureau of Underground Storage Tank Regulations
8895 East Main Street
P.O. Box 687
Reynoldsburg, Ohio 43068

RE: Extension Request
Additional Information Requested for the South Tank Farm
RACER Trust Moraine Facilities, Moraine, Ohio
BUSTR Release # 57000002-N00004

Dear Mr. Duzak:

Revitalizing Auto Communities Environmental Response Trust (RACER Trust), respectfully requests an extension of the deadline for submittal of the Additional Information Requested for the South Tank Farm (STF) of the RACER Trust Moraine Facilities site (Site) in Moraine, Ohio. The Bureau of Underground Storage Tank Regulations (BUSTR) requested the additional information in a letter to RACER Trust dated January 7, 2015.

RACER Trust completed a Tier 1 Investigation for the STF. The investigation activities included the installation of three soil borings (SSB-1 through SSB-3) on June 10, 2014 that were converted to three monitoring wells (SMW-1 through SMW-3). Soil samples were collected and submitted for analysis of target compound list (TCL) semi-volatile organic compounds (SVOCs) and total petroleum hydrocarbons (TPH) (carbon ranges C₁₀ to C₂₀, and C₂₀ to C₃₄). Groundwater samples were collected on June 16, 2014 and were submitted for analysis of TCL SVOCs. The results of the investigation indicated that concentrations of TPH in one soil sample from the 0 to 2-foot interval exceeded the applicable standards, and concentrations of bis (2-ethylhexyl) phthalate in the three groundwater samples collected slightly exceeded the applicable standards.

On October 22, 2014, RACER Trust submitted the results of the Tier 1 Investigation and requested that BUSTR provide the United States Environmental Protection Agency (US EPA) with the authority to negotiate the appropriate actions to address the TPH and bis (2-ethylhexyl) phthalate exceedances under the Resource Conservation and Recovery Act (RCRA) Corrective Action activities that are on-going at the Site.

The January 7, 2015 letter from BUSTR indicated that confirmatory sampling at the former location of tank #2 (soil boring SSB-1) should be completed, delineation of constituents of concern in all directions from soil boring SSB-3 should be completed, and findings should be submitted on a Tier 1 Investigation Form. BUSTR indicated that the

Mr. Bryan Duzak
April 6, 2015

deadline for submittal of the additional information requested is April 8, 2015.

RACER Trust requests that the April 8, 2015 deadline be extended to July 10, 2015 to allow time for additional communications between RACER Trust, the US EPA, and BUSTR. Communications between the US EPA, the Ohio Environmental Protection Agency (Ohio EPA), and RACER Trust regarding the approach for addressing soil and groundwater exceedances in the STF are on-going. The STF is in the general area of several solid waste management units being investigated under RCRA Corrective Action with the US EPA and the Ohio EPA. Therefore, RACER Trust would like to gain an understanding of the US EPA's opinion on the approach and communicate this opinion to BUSTR prior to implementing additional work.

If you have any questions or would like to schedule a meeting, please contact me at (937) 751-8635.

Sincerely,



Pamela L. Barnett, PG
Cleanup Manager (DE, LA, MA, OH, PA, VA) RACER Trust

cc: Mirtha Cápiro, U.S. EPA
Brian Gitzinger, Ohio EPA



**Department
of Commerce**

Division of State Fire Marshal
John R. Kasich, Governor
Andre T. Porter, Director

RECEIVED APR 10 2015

RECEIVED APR 10 2015

April 07, 2015

PAMELA BARNETT
RACER TRUST
500 WOODWARD AVENUE
SUITE 1510
DETROIT, MICHIGAN 48226

SITE: GMC HARRISON DIVISION MORAINE
(SOUTH TANK FARM)
3600 DRYDEN RD
MORAINE OH
MONTGOMERY COUNTY
RELEASE #57000002-N00004

RE: EXTENSION REQUEST

Dear Ms. Barnett:

The Bureau of Underground Storage Tank Regulations (BUSTR) has reviewed your extension request dated April 07, 2015.

BUSTR hereby approves your extension request. The new compliance date for submitting your response to BUSTR's January 07, 2015 "Additional Information Requested" letter is July 10, 2015. Extensions must be approved in writing by BUSTR on a site-by-site basis. A copy of this letter is to be included with applicable reports.

Nothing in this letter shall be construed as waiving or compromising in any way the applicability of enforcement of any other statutes or regulations applicable to ownership or operation of the UST facility. In addition, nothing contained herein shall be construed to prevent the State Fire Marshal from exercising its lawful authority to require any responsible parties to perform activities pursuant to Ohio Revised Code §3737 or any other applicable law in the future. The State Fire Marshal reserves all rights and privileges. If an enforcement action is brought, pursuant to Ohio Revised Code §3737.882, the State Fire Marshal is vested with the authority to issue citations and orders, assess civil penalties (of up to \$10,000 per day per violation), or to request the Attorney General to bring a civil action against any responsible party that is found to be in violation with the rules adopted by the State Fire Marshal.

Publications that may help you to understand the requirements for compliance with BUSTR's rules and regulations may be found on the Internet at <http://www.com.ohio.gov/fire/> or by calling our office.

Thank you for your cooperation. If you have any questions, please contact me at (614) 728-1898.

Sincerely,

Bryan Duzak
Environmental Specialist

xc: Site File



Attachment 2

Boring Logs



SOIL BORING LOG

BORING NO.: **SSB-4**

TOTAL DEPTH: **4 feet bls**

PROJECT INFORMATION

DRILLING INFORMATION AMSL

CLIENT: **RACER Trust**
 PROJECT: **South Tank Farm**
 SITE LOCATION: **Moraine, Ohio**
 PROJECT NUMBER: **OH000294.2015**
 LOGGED BY: **K. Eldridge**
 DATE STARTED: **05/27/2015**
 DATE COMPLETED: **05/27/2015**

DRILLING CO.: **EnviroCore**
 DRILLER: **Craig Smallwood**
 DRILLING METHOD: **Hand Auger**
 GROUND ELEVATION: **NM**
 NORTHING: **NM**
 EASTING: **NM**

DEPTH (feet)	Recovery (inches)	PID (ppm)	Soil Symbols	USCS Classification	SOIL DESCRIPTION
0					
0 - 2	Hand Auger	*0.2		FILL	(0.0 - 4.0) FILL, cinders, slag like materials, sand, gravel, bricks, slightly moist, dark brown and black.
2 - 4	Hand Auger	*0.3			
4					End of boring at 4 feet.
6					



SOIL BORING LOG

BORING NO.: **SSB-5**

TOTAL DEPTH: **4** feet bls

PROJECT INFORMATION

CLIENT: **RACER Trust**
 PROJECT: **South Tank Farm**
 SITE LOCATION: **Moraine, Ohio**
 PROJECT NUMBER: **OH000294.2015**
 LOGGED BY: **K. Eldridge**
 DATE STARTED: **05/27/2015**
 DATE COMPLETED: **05/27/2015**

DRILLING INFORMATION AMSL

DRILLING CO.: **EnviroCore**
 DRILLER: **Craig Smallwood**
 DRILLING METHOD: **Hand Auger**
 GROUND ELEVATION: **NM**
 NORTHING: **NM**
 EASTING: **NM**

DEPTH (feet)	Recovery (inches)	PID (ppm)	Soil Symbols	USCS Classification	SOIL DESCRIPTION
0				CONCRETE	(0.0 - 0.6) CONCRETE.
0.6	Hand Auger	*1.7		FILL	(0.6 - 4.0) FILL, cinders, slag like materials, sand, gravel, slightly moist, dark brown and black.
2.0	Hand Auger	*0.9			
4.0					End of boring at 4 feet.
6.0					

Notes:
 bls: below land surface
 NR: No Recovery
 *Indicates sample submitted for laboratory analysis.

NR: No Recovery
 NM: Not Measured
 USCS: Unified Soil Classification System

ppm: parts per million
 PID: Photo-ionization Detector
 ft: feet
 HK: Hydroknife

Date: 6/17/2015
 Page: 1 of 1
 AMSL - Above Mean Sea Level



SOIL BORING LOG

BORING NO.: **SSB-6**

TOTAL DEPTH: **4 feet bls**

PROJECT INFORMATION

CLIENT: **RACER Trust**
 PROJECT: **South Tank Farm**
 SITE LOCATION: **Moraine, Ohio**
 PROJECT NUMBER: **OH000294.2015**
 LOGGED BY: **K. Eldridge**
 DATE STARTED: **05/27/2015**
 DATE COMPLETED: **05/27/2015**

DRILLING INFORMATION AMSL

DRILLING CO.: **EnviroCore**
 DRILLER: **Craig Smallwood**
 DRILLING METHOD: **Hand Auger**
 GROUND ELEVATION: **NM**
 NORTHING: **NM**
 EASTING: **NM**

DEPTH (feet)	Recovery (inches)	PID (ppm)	Soil Symbols	USCS Classification	SOIL DESCRIPTION
0	Hand Auger	*1.2		CONCRETE	(0.0 - 0.5) CONCRETE.
				CONCRETE	(0.5 - 1.5) CONCRETE, gravel sub-base.
2	Hand Auger	*12.8		FILL	(1.5 - 4.0) FILL, cinders, slag like materials, sand, gravel, slightly moist, dark brown to black.
4				End of boring at 4 feet.	
6					



SOIL BORING LOG

BORING NO.: **SSB-7**

TOTAL DEPTH: **24** feet bls

PROJECT INFORMATION

CLIENT: **RACER Trust**
 PROJECT: **South Tank Farm**
 SITE LOCATION: **Moraine, Ohio**
 PROJECT NUMBER: **OH000294.2015**
 LOGGED BY: **K. Eldridge**
 DATE STARTED: **05/27/2015**
 DATE COMPLETED: **05/27/2015**

DRILLING INFORMATION AMSL

DRILLING CO.: **EnviroCore**
 DRILLER: **Craig Smallwood**
 DRILLING METHOD: **Direct Push/Geoprobe**
 GROUND ELEVATION: **NM**
 NORTHING: **NM**
 EASTING: **NM**

DEPTH (feet)	Recovery (inches)	PID (ppm)	Soil Symbols	USCS Classification	SOIL DESCRIPTION
0	Hand Auger	1.1		CONCRETE	(0.0 - 0.6) CONCRETE.
2	Hand Auger	2.0		FILL	(0.6 - 4.0) FILL, cinders, slag like materials, sand, gravel, very moist, black.
4	16	3.2		FILL	(4.0 - 5.0) FILL, layers of silt and cinders with slag like materials, moist, light gray and black.
6	41	0.4		FILL	(5.0 - 7.0) FILL, sand, poorly sorted, fine to coarse, some clay, wet, dark gray.
8		8.2		SW	(8.5 - 24.0) SAND and GRAVEL, poorly sorted, very fine sand to large pebbles, angular to round, little silt, moist, tan dense. Note: At 10 to 20 feet dry.
10	14	*14.9			
12	29	11.6			
14		*2.4			
16	34	5.5			
18		3.7			
20	21	0.7		Note: At 20.5 feet saturated.	
22		0.9			
24					End of boring at 24 feet.
26					



Attachment 3

Laboratory Analytical Report

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

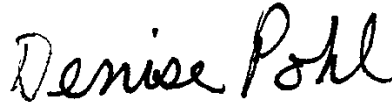
ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

TestAmerica Job ID: 240-51254-1
Client Project/Site: Racer Moraine OH - OH000294.2015.0002F

For:
ARCADIS U.S., Inc.
100 E. Campus View Blvd
Suite 200
Columbus, Ohio 43235

Attn: Ms. Emily B Christy



Authorized for release by:
6/5/2015 5:53:07 PM

Denise Pohl, Project Manager II
(330)966-9789
denise.pohl@testamericainc.com

LINKS

Review your project
results through
TotalAccess

Have a Question?



Visit us at:
www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

- 1
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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Moraine OH - OH000294.2015.0002F

TestAmerica Job ID: 240-51254-1

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Racer Moraine OH - OH000294.2015.0002F

TestAmerica Job ID: 240-51254-1

Job ID: 240-51254-1

Laboratory: TestAmerica Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Racer Moraine OH - OH000294.2015.0002F

Report Number: 240-51254-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

TestAmerica Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

RECEIPT

The samples were received on 5/28/2015 9:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.4° C.

DIESEL RANGE ORGANICS (DRO)

Samples SSB-4(0-2) (240-51254-1), SSB-4(2-4) (240-51254-2), SSB-5(0-2) (240-51254-3), SSB-5(2-4) (240-51254-4), SSB-6(0-2) (240-51254-5), SSB-6(2-4) (240-51254-6), SSB-7(10-12) (240-51254-7) and SSB-7(15') (240-51254-8) were analyzed for diesel range organics (DRO) in accordance with EPA SW-846 Method 8015B - DRO. The samples were prepared on 06/01/2015 and analyzed on 06/03/2015.

Surrogates are added during the extraction process prior to dilution. When the sample dilution is 5X or greater, surrogate recoveries are diluted out and no corrective action is required.

Method(s) 8015B: The continuing calibration verification (CCV) associated with batch 240-183380 recovered above the upper control limit for diesel. The sample associated with this CCV was non-detect for the affected analyte; therefore, the data have been reported. The following sample is impacted: SSB-7(15') (240-51254-8).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Racer Moraine OH - OH000294.2015.0002F

TestAmerica Job ID: 240-51254-1

Job ID: 240-51254-1 (Continued)

Laboratory: TestAmerica Canton (Continued)

PERCENT SOLIDS

Samples SSB-4(0-2) (240-51254-1), SSB-4(2-4) (240-51254-2), SSB-5(0-2) (240-51254-3), SSB-5(2-4) (240-51254-4), SSB-6(0-2) (240-51254-5), SSB-6(2-4) (240-51254-6), SSB-7(10-12) (240-51254-7) and SSB-7(15') (240-51254-8) were analyzed for percent solids in accordance with EPA Method 160.3 MOD. The samples were analyzed on 05/29/2015.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

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Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Moraine OH - OH000294.2015.0002F

TestAmerica Job ID: 240-51254-1

Method	Method Description	Protocol	Laboratory
8015B	Diesel Range Organics (DRO) (GC)	SW846	TAL CAN
Moisture	Percent Moisture	EPA	TAL CAN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

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Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Moraine OH - OH000294.2015.0002F

TestAmerica Job ID: 240-51254-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-51254-1	SSB-4(0-2)	Solid	05/27/15 09:50	05/28/15 09:30
240-51254-2	SSB-4(2-4)	Solid	05/27/15 10:45	05/28/15 09:30
240-51254-3	SSB-5(0-2)	Solid	05/27/15 10:05	05/28/15 09:30
240-51254-4	SSB-5(2-4)	Solid	05/27/15 10:10	05/28/15 09:30
240-51254-5	SSB-6(0-2)	Solid	05/27/15 10:20	05/28/15 09:30
240-51254-6	SSB-6(2-4)	Solid	05/27/15 10:35	05/28/15 09:30
240-51254-7	SSB-7(10-12)	Solid	05/27/15 10:25	05/28/15 09:30
240-51254-8	SSB-7(15')	Solid	05/27/15 11:35	05/28/15 09:30



Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Moraine OH - OH000294.2015.0002F

TestAmerica Job ID: 240-51254-1

Client Sample ID: SSB-4(0-2)

Lab Sample ID: 240-51254-1

No Detections.

Client Sample ID: SSB-4(2-4)

Lab Sample ID: 240-51254-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C10-C20	32		19	7.3	mg/Kg	1	☼	8015B	Total/NA
C20-C34	77		19	7.3	mg/Kg	1	☼	8015B	Total/NA

Client Sample ID: SSB-5(0-2)

Lab Sample ID: 240-51254-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C10-C20	45		20	7.5	mg/Kg	1	☼	8015B	Total/NA
C20-C34	230		20	7.5	mg/Kg	1	☼	8015B	Total/NA

Client Sample ID: SSB-5(2-4)

Lab Sample ID: 240-51254-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C10-C20	35		19	7.1	mg/Kg	1	☼	8015B	Total/NA
C20-C34	300		19	7.1	mg/Kg	1	☼	8015B	Total/NA

Client Sample ID: SSB-6(0-2)

Lab Sample ID: 240-51254-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C10-C20	15	J	20	7.6	mg/Kg	1	☼	8015B	Total/NA
C20-C34	86		20	7.6	mg/Kg	1	☼	8015B	Total/NA

Client Sample ID: SSB-6(2-4)

Lab Sample ID: 240-51254-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C10-C20	43		19	7.2	mg/Kg	1	☼	8015B	Total/NA
C20-C34	120		19	7.2	mg/Kg	1	☼	8015B	Total/NA

Client Sample ID: SSB-7(10-12)

Lab Sample ID: 240-51254-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C10-C20	14	J	20	7.5	mg/Kg	1	☼	8015B	Total/NA
C20-C34	110		20	7.5	mg/Kg	1	☼	8015B	Total/NA

Client Sample ID: SSB-7(15')

Lab Sample ID: 240-51254-8

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Racer Moraine OH - OH000294.2015.0002F

TestAmerica Job ID: 240-51254-1

Client Sample ID: SSB-4(0-2)

Lab Sample ID: 240-51254-1

Date Collected: 05/27/15 09:50

Matrix: Solid

Date Received: 05/28/15 09:30

Percent Solids: 96.9

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C20	17	U	17	6.6	mg/Kg	☼	06/01/15 07:58	06/03/15 02:00	1
C20-C34	17	U	17	6.6	mg/Kg	☼	06/01/15 07:58	06/03/15 02:00	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl (Surr)	57		40 - 160				06/01/15 07:58	06/03/15 02:00	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	97		0.10	0.10	%			05/29/15 16:28	1

- 1
- 2
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Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Racer Moraine OH - OH000294.2015.0002F

TestAmerica Job ID: 240-51254-1

Client Sample ID: SSB-4(2-4)

Lab Sample ID: 240-51254-2

Date Collected: 05/27/15 10:45

Matrix: Solid

Date Received: 05/28/15 09:30

Percent Solids: 88.5

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C20	32		19	7.3	mg/Kg	☼	06/01/15 07:58	06/03/15 02:32	1
C20-C34	77		19	7.3	mg/Kg	☼	06/01/15 07:58	06/03/15 02:32	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl (Surr)	73		40 - 160				06/01/15 07:58	06/03/15 02:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	88		0.10	0.10	%	-		05/29/15 16:28	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Racer Moraine OH - OH000294.2015.0002F

TestAmerica Job ID: 240-51254-1

Client Sample ID: SSB-5(0-2)

Lab Sample ID: 240-51254-3

Date Collected: 05/27/15 10:05

Matrix: Solid

Date Received: 05/28/15 09:30

Percent Solids: 86.9

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C20	45		20	7.5	mg/Kg	☼	06/01/15 07:58	06/03/15 03:03	1
C20-C34	230		20	7.5	mg/Kg	☼	06/01/15 07:58	06/03/15 03:03	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl (Surr)	93		40 - 160				06/01/15 07:58	06/03/15 03:03	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	87		0.10	0.10	%			05/29/15 16:28	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Racer Moraine OH - OH000294.2015.0002F

TestAmerica Job ID: 240-51254-1

Client Sample ID: SSB-5(2-4)

Lab Sample ID: 240-51254-4

Date Collected: 05/27/15 10:10

Matrix: Solid

Date Received: 05/28/15 09:30

Percent Solids: 91.1

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C20	35		19	7.1	mg/Kg	☼	06/01/15 07:58	06/03/15 03:35	1
C20-C34	300		19	7.1	mg/Kg	☼	06/01/15 07:58	06/03/15 03:35	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl (Surr)	78		40 - 160				06/01/15 07:58	06/03/15 03:35	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	91		0.10	0.10	%	-		05/29/15 16:28	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Racer Moraine OH - OH000294.2015.0002F

TestAmerica Job ID: 240-51254-1

Client Sample ID: SSB-6(0-2)

Lab Sample ID: 240-51254-5

Date Collected: 05/27/15 10:20

Matrix: Solid

Date Received: 05/28/15 09:30

Percent Solids: 84.2

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C20	15	J	20	7.6	mg/Kg	☼	06/01/15 07:58	06/03/15 04:06	1
C20-C34	86		20	7.6	mg/Kg	☼	06/01/15 07:58	06/03/15 04:06	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl (Surr)	70		40 - 160				06/01/15 07:58	06/03/15 04:06	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	84		0.10	0.10	%	-		05/29/15 16:28	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Racer Moraine OH - OH000294.2015.0002F

TestAmerica Job ID: 240-51254-1

Client Sample ID: SSB-6(2-4)

Lab Sample ID: 240-51254-6

Date Collected: 05/27/15 10:35

Matrix: Solid

Date Received: 05/28/15 09:30

Percent Solids: 89.9

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C20	43		19	7.2	mg/Kg	☼	06/01/15 07:58	06/03/15 04:37	1
C20-C34	120		19	7.2	mg/Kg	☼	06/01/15 07:58	06/03/15 04:37	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl (Surr)	84		40 - 160				06/01/15 07:58	06/03/15 04:37	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	90		0.10	0.10	%	-		05/29/15 16:28	1

- 1
- 2
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Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Racer Moraine OH - OH000294.2015.0002F

TestAmerica Job ID: 240-51254-1

Client Sample ID: SSB-7(10-12)

Lab Sample ID: 240-51254-7

Date Collected: 05/27/15 10:25

Matrix: Solid

Date Received: 05/28/15 09:30

Percent Solids: 86.0

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C20	14	J	20	7.5	mg/Kg	☼	06/01/15 07:58	06/03/15 05:09	1
C20-C34	110		20	7.5	mg/Kg	☼	06/01/15 07:58	06/03/15 05:09	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl (Surr)	62		40 - 160				06/01/15 07:58	06/03/15 05:09	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	86		0.10	0.10	%			05/29/15 16:28	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Racer Moraine OH - OH000294.2015.0002F

TestAmerica Job ID: 240-51254-1

Client Sample ID: SSB-7(15')

Lab Sample ID: 240-51254-8

Date Collected: 05/27/15 11:35

Matrix: Solid

Date Received: 05/28/15 09:30

Percent Solids: 97.1

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C20	17	U	17	6.5	mg/Kg	☼	06/01/15 07:58	06/03/15 06:12	1
C20-C34	17	U	17	6.5	mg/Kg	☼	06/01/15 07:58	06/03/15 06:12	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl (Surr)	48		40 - 160				06/01/15 07:58	06/03/15 06:12	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	97		0.10	0.10	%			05/29/15 16:28	1

- 1
- 2
- 3
- 4
- 5
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- 13
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Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Moraine OH - OH000294.2015.0002F

TestAmerica Job ID: 240-51254-1

Method: 8015B - Diesel Range Organics (DRO) (GC)

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	OTPH1 (40-160)
240-51254-1	SSB-4(0-2)	57
240-51254-2	SSB-4(2-4)	73
240-51254-3	SSB-5(0-2)	93
240-51254-4	SSB-5(2-4)	78
240-51254-5	SSB-6(0-2)	70
240-51254-6	SSB-6(2-4)	84
240-51254-7	SSB-7(10-12)	62
240-51254-8	SSB-7(15')	48
LCS 240-183076/24-A	Lab Control Sample	55
MB 240-183076/23-A	Method Blank	52

Surrogate Legend

OTPH = o-Terphenyl (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Racer Moraine OH - OH000294.2015.0002F

TestAmerica Job ID: 240-51254-1

Method: 8015B - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 240-183076/23-A
Matrix: Solid
Analysis Batch: 183380

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 183076

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C20	17	U	17	6.4	mg/Kg	-	06/01/15 07:58	06/02/15 18:38	1
C20-C34	17	U	17	6.4	mg/Kg	-	06/01/15 07:58	06/02/15 18:38	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl (Surr)	52		40 - 160	06/01/15 07:58	06/02/15 18:38	1

Lab Sample ID: LCS 240-183076/24-A
Matrix: Solid
Analysis Batch: 183380

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 183076

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Organics [C10 - C28]	83.3	45.1		mg/Kg	-	54	52 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
<i>o</i> -Terphenyl (Surr)	55		40 - 160

Method: Moisture - Percent Moisture

Lab Sample ID: 240-51254-3 DU
Matrix: Solid
Analysis Batch: 182974

Client Sample ID: SSB-5(0-2)
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Solids	87		90		%	-	3	20

QC Association Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Racer Moraine OH - OH000294.2015.0002F

TestAmerica Job ID: 240-51254-1

GC Semi VOA

Prep Batch: 183076

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-51254-1	SSB-4(0-2)	Total/NA	Solid	3540C	
240-51254-2	SSB-4(2-4)	Total/NA	Solid	3540C	
240-51254-3	SSB-5(0-2)	Total/NA	Solid	3540C	
240-51254-4	SSB-5(2-4)	Total/NA	Solid	3540C	
240-51254-5	SSB-6(0-2)	Total/NA	Solid	3540C	
240-51254-6	SSB-6(2-4)	Total/NA	Solid	3540C	
240-51254-7	SSB-7(10-12)	Total/NA	Solid	3540C	
240-51254-8	SSB-7(15')	Total/NA	Solid	3540C	
LCS 240-183076/24-A	Lab Control Sample	Total/NA	Solid	3540C	
MB 240-183076/23-A	Method Blank	Total/NA	Solid	3540C	

Analysis Batch: 183380

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-51254-1	SSB-4(0-2)	Total/NA	Solid	8015B	183076
240-51254-2	SSB-4(2-4)	Total/NA	Solid	8015B	183076
240-51254-3	SSB-5(0-2)	Total/NA	Solid	8015B	183076
240-51254-4	SSB-5(2-4)	Total/NA	Solid	8015B	183076
240-51254-5	SSB-6(0-2)	Total/NA	Solid	8015B	183076
240-51254-6	SSB-6(2-4)	Total/NA	Solid	8015B	183076
240-51254-7	SSB-7(10-12)	Total/NA	Solid	8015B	183076
240-51254-8	SSB-7(15')	Total/NA	Solid	8015B	183076
LCS 240-183076/24-A	Lab Control Sample	Total/NA	Solid	8015B	183076
MB 240-183076/23-A	Method Blank	Total/NA	Solid	8015B	183076

General Chemistry

Analysis Batch: 182974

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-51254-1	SSB-4(0-2)	Total/NA	Solid	Moisture	
240-51254-2	SSB-4(2-4)	Total/NA	Solid	Moisture	
240-51254-3	SSB-5(0-2)	Total/NA	Solid	Moisture	
240-51254-3 DU	SSB-5(0-2)	Total/NA	Solid	Moisture	
240-51254-4	SSB-5(2-4)	Total/NA	Solid	Moisture	
240-51254-5	SSB-6(0-2)	Total/NA	Solid	Moisture	
240-51254-6	SSB-6(2-4)	Total/NA	Solid	Moisture	
240-51254-7	SSB-7(10-12)	Total/NA	Solid	Moisture	
240-51254-8	SSB-7(15')	Total/NA	Solid	Moisture	

Lab Chronicle

Client: ARCADIS U.S., Inc.
 Project/Site: Racer Moraine OH - OH000294.2015.0002F

TestAmerica Job ID: 240-51254-1

Client Sample ID: SSB-4(0-2)

Date Collected: 05/27/15 09:50

Date Received: 05/28/15 09:30

Lab Sample ID: 240-51254-1

Matrix: Solid

Percent Solids: 96.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			183076	06/01/15 07:58	CSC	TAL CAN
Total/NA	Analysis	8015B		1	183380	06/03/15 02:00	DEB	TAL CAN
Total/NA	Analysis	Moisture		1	182974	05/29/15 16:28	DTN	TAL CAN

Client Sample ID: SSB-4(2-4)

Date Collected: 05/27/15 10:45

Date Received: 05/28/15 09:30

Lab Sample ID: 240-51254-2

Matrix: Solid

Percent Solids: 88.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			183076	06/01/15 07:58	CSC	TAL CAN
Total/NA	Analysis	8015B		1	183380	06/03/15 02:32	DEB	TAL CAN
Total/NA	Analysis	Moisture		1	182974	05/29/15 16:28	DTN	TAL CAN

Client Sample ID: SSB-5(0-2)

Date Collected: 05/27/15 10:05

Date Received: 05/28/15 09:30

Lab Sample ID: 240-51254-3

Matrix: Solid

Percent Solids: 86.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			183076	06/01/15 07:58	CSC	TAL CAN
Total/NA	Analysis	8015B		1	183380	06/03/15 03:03	DEB	TAL CAN
Total/NA	Analysis	Moisture		1	182974	05/29/15 16:28	DTN	TAL CAN

Client Sample ID: SSB-5(2-4)

Date Collected: 05/27/15 10:10

Date Received: 05/28/15 09:30

Lab Sample ID: 240-51254-4

Matrix: Solid

Percent Solids: 91.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			183076	06/01/15 07:58	CSC	TAL CAN
Total/NA	Analysis	8015B		1	183380	06/03/15 03:35	DEB	TAL CAN
Total/NA	Analysis	Moisture		1	182974	05/29/15 16:28	DTN	TAL CAN

Client Sample ID: SSB-6(0-2)

Date Collected: 05/27/15 10:20

Date Received: 05/28/15 09:30

Lab Sample ID: 240-51254-5

Matrix: Solid

Percent Solids: 84.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			183076	06/01/15 07:58	CSC	TAL CAN
Total/NA	Analysis	8015B		1	183380	06/03/15 04:06	DEB	TAL CAN
Total/NA	Analysis	Moisture		1	182974	05/29/15 16:28	DTN	TAL CAN

TestAmerica Canton

Lab Chronicle

Client: ARCADIS U.S., Inc.
 Project/Site: Racer Moraine OH - OH000294.2015.0002F

TestAmerica Job ID: 240-51254-1

Client Sample ID: SSB-6(2-4)

Date Collected: 05/27/15 10:35
 Date Received: 05/28/15 09:30

Lab Sample ID: 240-51254-6

Matrix: Solid
 Percent Solids: 89.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			183076	06/01/15 07:58	CSC	TAL CAN
Total/NA	Analysis	8015B		1	183380	06/03/15 04:37	DEB	TAL CAN
Total/NA	Analysis	Moisture		1	182974	05/29/15 16:28	DTN	TAL CAN

Client Sample ID: SSB-7(10-12)

Date Collected: 05/27/15 10:25
 Date Received: 05/28/15 09:30

Lab Sample ID: 240-51254-7

Matrix: Solid
 Percent Solids: 86.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			183076	06/01/15 07:58	CSC	TAL CAN
Total/NA	Analysis	8015B		1	183380	06/03/15 05:09	DEB	TAL CAN
Total/NA	Analysis	Moisture		1	182974	05/29/15 16:28	DTN	TAL CAN

Client Sample ID: SSB-7(15')

Date Collected: 05/27/15 11:35
 Date Received: 05/28/15 09:30

Lab Sample ID: 240-51254-8

Matrix: Solid
 Percent Solids: 97.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			183076	06/01/15 07:58	CSC	TAL CAN
Total/NA	Analysis	8015B		1	183380	06/03/15 06:12	DEB	TAL CAN
Total/NA	Analysis	Moisture		1	182974	05/29/15 16:28	DTN	TAL CAN

Laboratory References:

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Certification Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Racer Moraine OH - OH000294.2015.0002F

TestAmerica Job ID: 240-51254-1

Laboratory: TestAmerica Canton

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
California	NELAP	9	01144CA	06-30-14 *
California	State Program	9	2927	04-30-17
Connecticut	State Program	1	PH-0590	12-31-15
Florida	NELAP	4	E87225	06-30-15 *
Georgia	State Program	4	N/A	06-30-15 *
Illinois	NELAP	5	200004	07-31-15
Kansas	NELAP	7	E-10336	05-31-15 *
Kentucky (UST)	State Program	4	58	06-30-15 *
Kentucky (WW)	State Program	4	98016	12-31-15
L-A-B	DoD ELAP		L2315	07-18-16
Minnesota	NELAP	5	039-999-348	12-31-15
Nevada	State Program	9	OH-000482008A	07-31-15
New Jersey	NELAP	2	OH001	06-30-15 *
New York	NELAP	2	10975	03-31-16 *
Ohio VAP	State Program	5	CL0024	10-31-15
Oregon	NELAP	10	4062	02-23-16
Pennsylvania	NELAP	3	68-00340	08-31-15
Texas	NELAP	6		08-31-15
USDA	Federal		P330-13-00319	11-26-16
Virginia	NELAP	3	460175	09-14-15
Washington	State Program	10	C971	01-12-16
West Virginia DEP	State Program	3	210	12-31-15
Wisconsin	State Program	5	999518190	08-31-15

* Certification renewal pending - certification considered valid.



CHAIN OF CUSTODY AND RECEIVING DOCUMENTS



240-51254 Chain of Custody



1.6/co.4

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Chain of Custody Record

TAL-4124 (1007)

Temperature on Receipt _____
Drinking Water? Yes No

Client: **ARCADIS** Chain of Custody Number: **259273**
 Address: **100 E. Campus View Blvd, Ste 200**
 City: **COLUMBUS** State: **OH** Zip Code: **43235**
 Project Name and Location (State): **RACER MORaine, OH**
 Contract/Purchase Order/Quote No.: **24006917**

Project Manager: **Carolyn Groogan Alason Manzo** Date: **5/27/15**
 Telephone Number (Area Code)/Fax Number: **614-485-9100**
 Site Contact: **Kari Adrzejewski** Lab Contact: **Denise Pohl**
 Carrier/Trailer Number: **604-485-9100**

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix			Containers & Preservatives					Special Instructions/ Conditions of Receipt	
			Air	Aqueous	Sed.	Soil	Unpres.	H2SO4	HNO3	HCl		NaOH
SSB-4 (0-2)	5/27/15	0950			X	X	X	X	X	X	X	
SSB-4 (2-4)		1045			X	X	X	X	X	X	X	
SSB-5 (0-2)		1005			X	X	X	X	X	X	X	
SSB-5 (2-4)		1010			X	X	X	X	X	X	X	
SSB-6 (0-2)		1020			X	X	X	X	X	X	X	
SSB-6 (2-4)		1035			X	X	X	X	X	X	X	
SSB-7 (0-2)		1125			X	X	X	X	X	X	X	
SSB-7 (15)		1135			X	X	X	X	X	X	X	

Possible Hazard Identification:
 Non-Hazard Flammable Skin Irritant Poison B Unknown Return To Client Disposal By Lab Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required:
 24 Hours 48 Hours 7 Days 14 Days 21 Days Other: **Standard**

Relinquished By: **Carolyn Groogan Alason Manzo** Date: **5/27/15** Time: **1230**
 Received By: **[Signature]** Date: **5-28-15** Time: **4:30**

Relinquished By: _____ Date: _____ Time: _____
 Received By: _____ Date: _____ Time: _____

Comments: _____

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy



Client Arcadis Site Name _____ Cooler-unpacked by: _____
 Cooler Received on 5-28-15 Opened on 5-28-15

FedEx: 1st Grd UPS FAS Stetson Client Drop Off TestAmerica Courier Other _____

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # _____ Foam Box Client Cooler Box Other _____
 Packing material used: Bubble Wrap Foam Plastic Bag None Other _____
 COOLANT: Water Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt
 - IR GUN# A (CF +4.0 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
 - IR GUN# 4 (CF +0.5 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C See Multiple Cooler Form
 - IR GUN# 5 (CF +0.4 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
 - IR GUN# 8 (CF -1.2 °C) Observed Cooler Temp. 1.6 °C Corrected Cooler Temp. 0.4 °C
2. Were custody seals on the outside of the cooler(s)? If Yes Quantity 1 Yes No No
 - Were custody seals on the outside of the cooler(s) signed & dated? Yes No NA
 - Were custody seals on the bottle(s)? Yes No No
3. Shippers' packing slip attached to the cooler(s)? Yes No No
4. Did custody papers accompany the sample(s)? Yes No No
5. Were the custody papers relinquished & signed in the appropriate place? Yes No No
6. Was/were the sampler(s) clearly identified on the COC? Yes No No
7. Did all bottles arrive in good condition (Unbroken)? Yes No No
8. Could all bottle labels be reconciled with the COC? Yes No No
9. Were correct bottle(s) used for the test(s) indicated? Yes No No
10. Sufficient quantity received to perform indicated analyses? Yes No No
11. Were sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC432654
12. Were VOAs on the COC? Yes No No
13. Were air bubbles >6 mm in any VOA vials? Yes No NA
14. Was a trip blank present in the cooler(s)? Trip Blank Lot # _____ Yes No No

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____
 Concerning _____

14. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES Samples processed by: _____

15. SAMPLE CONDITION
 Sample(s) _____ were received after the recommended holding time had expired.
 Sample(s) _____ were received in a broken container.
 Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

16. SAMPLE PRESERVATION
 Sample(s) _____ were further preserved in the laboratory.
 Time preserved: _____ Preservative(s) added/Lot number(s): _____