



Memorandum

July 22, 2016

To: Nate Nemani (U.S. EPA)

Ref. No.: 058502

From: ^{J.E.P.} John-eric Pardys/kf/17

CC: Dave Favero (RACER)

**Subject: Transformer Pad Excavation Verification Sampling Results
Saginaw Nodular Industrial Land, 2100 Veterans Memorial Parkway, Saginaw, MI**

The following memorandum presents the results of the transformer pad excavation verification sampling conducted as part the on-going Waste Water Treatment Plant Area (WWTP) demolition activities at Revitalizing Auto Community Environmental Response's (RACER's) Saginaw Nodular Industrial Land (Site) in Saginaw, Michigan.

The following files were prepared in support of this memorandum and are herein attached.

Table 1 – Analytical Results Summary

Figure 1 – Soil Investigative Locations

Attachment A – Disposal Manifests

Attachment B - Analytical Report

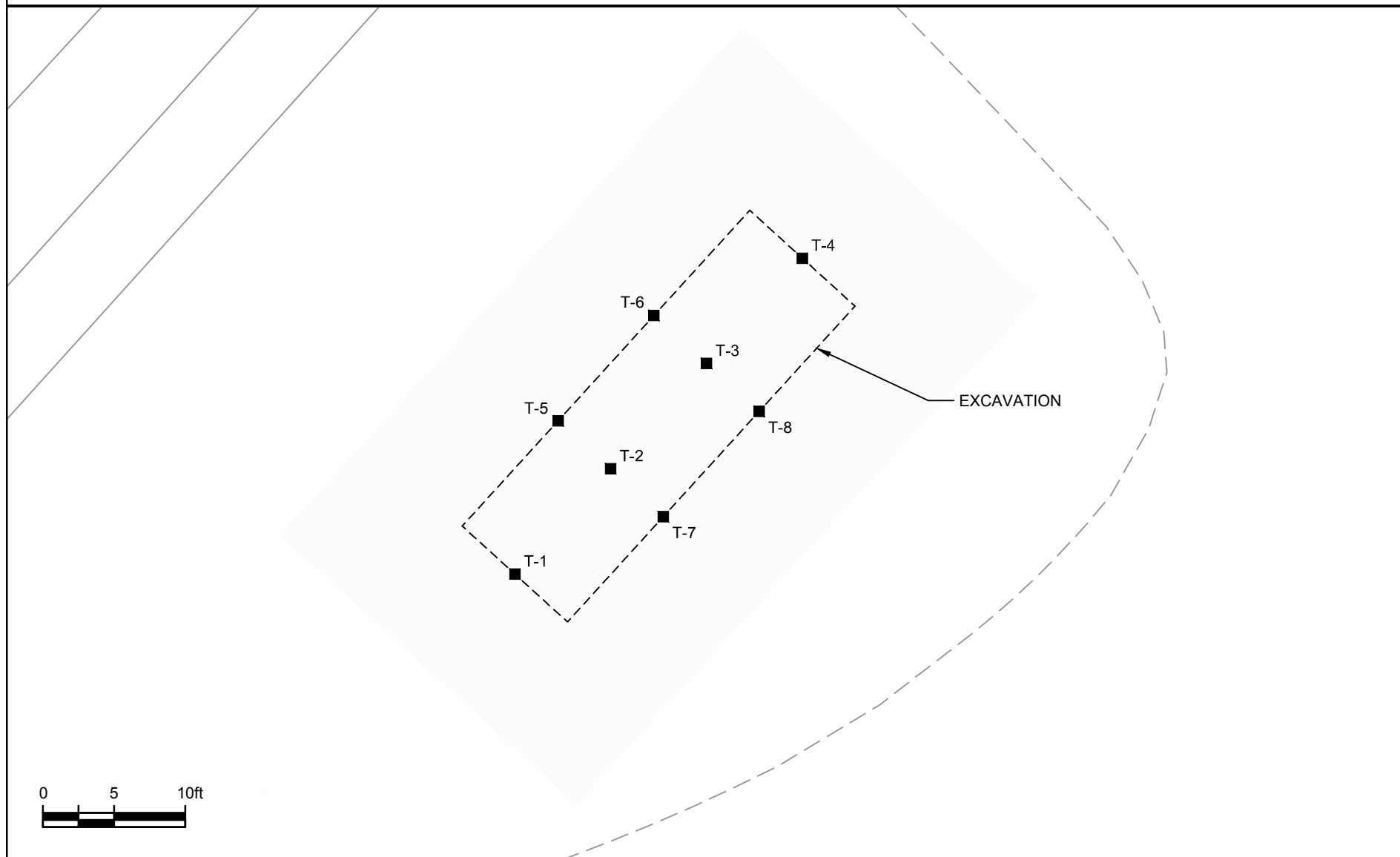
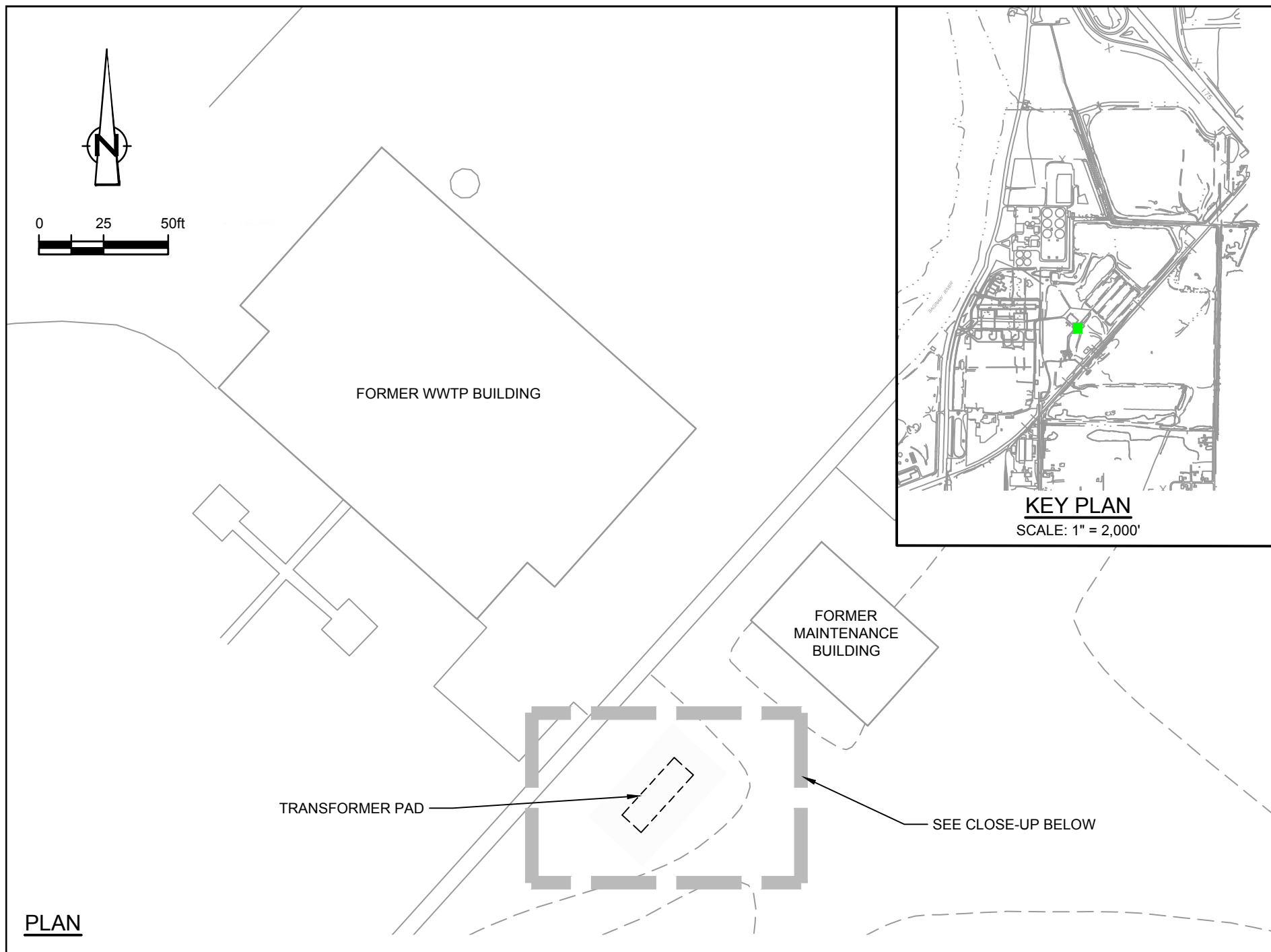
As part of the pre-demolition inspection conducted in the fall of 2015, Bierlein Companies Inc. (Bierlein) (selected demolition contractor) identified that two inactive transformers associated with the WWTP were damaged and as a result leaked oil onto the transformer pad. The damage to the transformers is suspected to have been caused by trespassing metal scrappers and as a result up to approximately 160 gallons of oil leaked from the transformers onto the concrete pad as evidenced by staining. Prior to decommissioning the transformers, Bierlein collected a sample of the oil from each of the transformers, and of the stained concrete and submitted the samples to the laboratory for analysis of PCBs. The results of the transformer oil analysis were 18 parts per million (ppm) and 33 ppm PCBs and the results of the stained concrete was non-detect for PCBs. Following the demolition, removal, and proper disposal of the transformers, the 10 feet (ft) by 30 ft concrete pad, and adjacent materials by Bierlein, GHD conducted excavation verification sampling. A copy of the disposal manifests are provided in Attachment A.

On February 3, 2016 GHD collected 8 surface soil samples, 1 on each of the short north-west and south-east sidewalls, 2 on each of the longer north-east and south-west sidewalls, and the 2 remaining samples were taken from the floor of the excavation. The locations of the samples are presented on Figure 1.

Table 1 presents a summary of the soil sample results for Total PCBs and the laboratory analytical report is provided in Attachment B. All samples had reported concentrations of Total PCBs below 1 milligram per



kilogram (mg/kg), which is the cleanup level for bulk PCB remediation waste in high occupancy areas without further conditions, therefore no further action is recommended for this area.



TRANSFORMER PAD

LEGEND

- T-1 SOIL BORING LOCATION



SOURCE:
MICHIGAN STATE PLANE SOUTH, NAD 83 USING
INTERNATIONAL FEET, NGVD 88, TOPO - SANBORN, 1996.

**TRANSFORMER PAD EXCAVATION VERIFICATION SAMPLE LOCATIONS
SAGINAW NODULAR INDUSTRIAL LAND
Saginaw, Michigan**

figure 1

Table 1
Transformer Pad Excavation Verification Sampling Results
RACER - Saginaw Nodular Industrial Land
Saginaw, MI

Sample Location:	T1	T2	T3	T4	T5	T6	T7	T8	
Sample ID:	S-58502-020316-SSH-1603	S-58502-020316-SSH-1609	S-58502-020316-SSH-1610	S-58502-020316-SSH-1606	S-58502-020316-SSH-1604	S-58502-020316-SSH-1605	S-58502-020316-SSH-1608	S-58502-020316-SSH-1607	
Sample Date:	2/3/2016	2/3/2016	2/3/2016	2/3/2016	2/3/2016	2/3/2016	2/3/2016	2/3/2016	
Sample Depth Interval:	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"	
	SW Sidewall Sample	Floor Sample	Floor Sample	NE Sidewall Sample	NW Sidewall Sample	NW Sidewall Sample	SE Sidewall Sample	SE Sidewall Sample	
Parameters	Units								
PCBs									
Aroclor-1016 (PCB-1016)	mg/kg	0.036 U	0.036 U	0.037 U	0.039 U	0.035 U	0.035 U	0.076 U	0.075 U
Aroclor-1221 (PCB-1221)	mg/kg	0.036 U	0.036 U	0.037 U	0.039 U	0.035 U	0.035 U	0.076 U	0.075 U
Aroclor-1232 (PCB-1232)	mg/kg	0.036 U	0.036 U	0.037 U	0.039 U	0.035 U	0.035 U	0.076 U	0.075 U
Aroclor-1242 (PCB-1242)	mg/kg	0.094	0.036 U	0.099	0.039 U	0.035 U	0.035 U	0.36	0.075 U
Aroclor-1248 (PCB-1248)	mg/kg	0.036 U	0.036 U	0.037 U	0.15	0.035 U	0.035 U	0.076 U	0.075 U
Aroclor-1254 (PCB-1254)	mg/kg	0.036 U	0.036 U	0.037 U	0.039 U	0.035 U	0.035 U	0.076 U	0.13
Aroclor-1260 (PCB-1260)	mg/kg	0.036 U	0.036 U	0.037 U	0.039 U	0.035 U	0.035 U	0.076 U	0.075 U
Aroclor-1262 (PCB-1262)	mg/kg	0.036 U	0.036 U	0.037 U	0.039 U	0.035 U	0.035 U	0.076 U	0.075 U
Aroclor-1268 (PCB-1268)	mg/kg	0.036 U	0.036 U	0.037 U	0.039 U	0.035 U	0.035 U	0.076 U	0.075 U

Footnotes:
 U Not detected at the associated reporting limit.

Attachment A Disposal Manifests

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number M I D 0 4 1 7 9 3 3 4 0	2. Page 1 of 1	3. Emergency Response Phone (734) 437-9677	4. Manifest Tracking Number 008702339 FLE		
5. Generator's Name and Mailing Address Racer Trust 2100 Veteran Memorial Parkway Saginaw, MI 48506 Generator's Phone: 989 205-6574 Kevin Overly							
6. Transporter 1 Company Name ERG Environmental Services				U.S. EPA ID Number M I D 0 5 9 9 1 2 9 5 6			
7. Transporter 2 Company Name Environmental Recycling				U.S. EPA ID Number O H R 0 0 0 0 3 4 0 2 5			
8. Designated Facility Name and Site Address Environmental Recycling 527 East Woodland Circle, PO Box 167 Bowling Green, OH 43402 Facility's Phone: (800) 284-9107				U.S. EPA ID Number O H R 0 0 0 0 3 4 0 2 5			
GENERATOR	9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No. Type		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
		1. Used Oil, Non-Hazardous Liquid	006	DM	330	G	021L
		2.					
		3.					
		4.					
14. Special Handling Instructions and Additional Information 1: Approval # PCB012916-01 (Transformer Oil, <33ppm PCB) 2: 3: 4:							
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true. 4WM012716-D							
Generator's/Offendor's Printed/Typed Name KARAC WINTER				Signature <i>[Signature]</i>		Month Day Year 01 28 16	
TRANSPORTER INTL	16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: _____ Date leaving U.S.: _____						
	Transporter signature (for exports only): _____						
TRANSPORTER	17. Transporter Acknowledgment of Receipt of Materials						
	Transporter 1 Printed/Typed Name TIAUN JONES				Signature <i>[Signature]</i>		Month Day Year 11 29 16
Transporter 2 Printed/Typed Name Sandra May				Signature <i>[Signature]</i>		Month Day Year 12 05 16	
DESIGNATED FACILITY	18. Discrepancy						
	18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection						
	Manifest Reference Number: _____						
18b. Alternate Facility (or Generator)				U.S. EPA ID Number			
Facility's Phone: _____				Month Day Year			
18c. Signature of Alternate Facility (or Generator)				Month Day Year			
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)							
1.		2.		3.		4.	
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a							
Printed/Typed Name				Signature		Month Day Year	

Innovative recycling and waste services, inc. (248) 521-3338
1397 Genoa Ct. Highland, MI. 48356

Ticket # 11825764
BILL OF LADING

Number: _____

From: Name: <u>Revere Trust / Nodular</u> Address: <u>2100 Memorial Hwy</u> City/State/Zip: <u>Saginaw, MI. 48506</u> Phone: <u>989 205 6574</u>	To: Name: <u>WM Peoples Landfill</u> Address: <u>4143 E. Rathbun Rd</u> City/State/Zip: <u>Birch Run, MI. 48445</u> Phone: <u>989-777-1145</u>
---------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------

Emergency Contact: Phone #: _____	Shipping Or PO# <u>16-030</u>
---------------------------------------------	-----------------------------------------

HM	Container		Total Only	DOT Description	Common Name	Comments
	Count	Type	Crt or WT			
				RQ UN2809, Mercury contained in manufactured articles, 8, PG III, ERG #172	Mercury Containing Articles (Refer to State Regulations)	
				RQ UN2809, Mercury, 8, PG III, ERG #172		
				UN2785, Batteries, wet filled with alkali, 8, PGIII, ERG #154	NiCad Batteries, Wet	
				UN2800, Batteries, wet, non spillable, electric storage, 8, PGIII, ERG #154	Lead Acid Batteries - Sealed	
				UN2794, Batteries, wet, filled with acid, 8, PGIII, ERG #154	Lead Acid Batteries	
				UN3077, Environmentally Hazardous Substance, solid, n.e.s., 9, PGIII (Mercury) ERG #171	Mercury Batteries	
				UN3090, Lithium Battery, 9, PGIII, ERG #135	Lithium Batteries	
				Batteries, dry, non-DOT regulated	NiCad Batteries, Alkaline	
				Lamps, Non-DOT Regulated (per 49 CFR 173.164(e))	Fluorescent Lamps 4/B	
				Lamps, Non-DOT Regulated (per 49 CFR 173.164(e))	Circular/U-tube Lamps	
				Lamps, Non-DOT Regulated (per 49 CFR 173.164(e))	HID Lamps	
				Lamps, Non-DOT Regulated (per 49 CFR 173.164(e))	Other Lamps - describe	
				Non-DOT Regulated Ballasts	Non PCB Light Ballasts	
				Non-DOT Regulated Electronic Equipment for Recycling/Reuse/Remanufacture	Electronics	
	1	Roll off 10.21 Top?		Non-Hazardous Solid (concrete)		

Generator/Shipper's Certification This is to certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. All containers of waste are fully described above and are presumed to be full unless the Generator has provided a detailed, verifiable breakdown of the wastes being picked up or delivered. Actual quantities will be determined upon receipt at the Designation Facility.

Signature: *James W. [Signature]* Date: 2/2/16

Transporter 1 Name: <u>Rilly's Contracting</u> Phone Number: <u>989 757 775</u> Signature: <u><i>[Signature]</i></u> Date: <u>2/2/16</u>	Transporter 2 Name: _____ Phone Number: _____ Signature: _____ Date: _____
------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------

Received, subject to the classifications and regulations in effect on the date of this Bill of Lading, the property described above in apparent good order, except as noted. Per 40 CFR 273.18(d), 40 CFR 273.38(d), and 40 CFR 264.12(b) the Designated Facility agrees to receive shipments of Universal Waste from the Generator

BILL OF LADING

Number:

From: Name: <u>Racer Trust / Nodular</u> Address: <u>2100 Memorial Hwy</u> City/State/Zip: <u>Saginaw, MI. 48506</u> Phone: <u>989 205 6574</u>	To: Name: <u>WM Peoples Landfill</u> Address: <u>4143 E. Rathbun Rd</u> City/State/Zip: <u>Branch Run, MI. 48845</u> Phone: <u>989-777-1145</u>
--------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------

Emergency Contact: Phone #: _____	Shipping Or PO# <u>16-030</u>
---------------------------------------------	-----------------------------------------

HAZ	Containers		Total Only	DOT Description	Common Name	Comments
	Count	Type	Cnt or WT			
				RQ UN2809, Mercury contained in manufactured articles, 8, PG III, ERG #172	Mercury Containing Articles (Refer to State Regulations)	
				RQ UN2809, Mercury, 8, PG III, ERG #172		
				UN2795, Batteries, wet filled with alkali, 8, PGIII, ERG #154	NiCed Batteries, Wet	
				UN2800, Batteries, wet, non spillable, electric storage, 8, PGIII, ERG #154	Lead Acid Batteries - Sealed	
				UN2794, Batteries, wet, filled with acid, 8, PGIII, ERG #154	Lead Acid Batteries	
				UN2977, Environmentally Hazardous Substance, solid, n.e.s., 9, PGIII (Mercury) ERG #171	Mercury Batteries	
				UN3590, Lithium Battery, 9, PGIII, ERG #138	Lithium Batteries	
				Batteries, dry, non-DOT regulated	NiCed Batteries, Alkaline	
				Lamps, Non-DOT Regulated (per 49 CFR 173.164(e))	Fluorescent Lamps 4/8	
				Lamps, Non-DOT Regulated (per 49 CFR 173.164(e))	Circular/U-tube Lamps	
				Lamps, Non-DOT Regulated (per 49 CFR 173.164(e))	HID Lamps	
				Lamps, Non-DOT Regulated (per 49 CFR 173.164(e))	Other Lamps - describe	
				Non-DOT Regulated Ballasts	Non PCB Light Ballasts	
				Non-DOT Regulated Electronic Equipment for Recycling/Reuse/Remanufacture	Electronics	
	1	Roll Off	12.67 Tons	Non-Hazardous Solid (concrete)		

Generator/Shipper's Certification: This is to certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. All containers of waste are fully described above and are presumed to be full unless the Generator has provided a detailed, verifiable breakdown of the waste being picked up or delivered. Actual quantities will be determined upon receipt at the Designation Facility.

Signature: Patricia W. [Signature] Date: 2/1/16

Transporter 1 Name: <u>B. H. Contracting</u> Phone Number: <u>989 753-7719</u> Signature: <u>[Signature]</u> Date: <u>2/1/16</u>	Transporter 2 Name: _____ Phone Number: _____ Signature: _____ Date: _____
----------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------

Received, subject to the classifications and regulations in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted. Per 40 CFR 273.18(d), 40 CFR 273.38(c), and 40 CFR 264.12(b) the Designated Facility agrees to receive shipments of Universal Waste from the Generator

Attachment B 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: 240-60568-1

Client Project/Site: 58502-016, RACER Nodular Iron

For:

GHD Services Inc.

14496 Sheldon Road, Suite 200

Plymouth, Michigan 48170

Attn: Rawa Fleisher



Authorized for release by:

2/22/2016 1:14:36 PM

Denise Heckler, Project Manager II

(330)966-9477

denise.heckler@testamericainc.com



LINKS

Review your project
results through

Total Access

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

2

3

4

5

6

7

8

9

10

11

12

13

14



Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Definitions/Glossary	5
Sample Summary	6
Detection Summary	7
Method Summary	8
Client Sample Results	9
QC Association Summary	25
QC Sample Results	26
Surrogate Summary	27
Lab Chronicle	28
Certification Summary	31
Chain of Custody	32

Case Narrative

Client: GHD Services Inc.
Project/Site: 58502-016, RACER Nodular Iron

TestAmerica Job ID: 240-60568-1

Job ID: 240-60568-1

Laboratory: TestAmerica Canton

Narrative

CASE NARRATIVE

Client: GHD Services Inc.

Project: 58502-016, RACER Nodular Iron

Report Number: 240-60568-1

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 02/04/2016; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 0.3 C.

POLYCHLORINATED BIPHENYLS (PCBS)

Samples S-58502-020316-SSH-1603 (240-60568-1), S-58502-020316-SSH-1604 (240-60568-2), S-58502-020316-SSH-1605 (240-60568-3), S-58502-020316-SSH-1606 (240-60568-4), S-58502-020316-SSH-1607 (240-60568-5), S-58502-020316-SSH-1608 (240-60568-6), S-58502-020316-SSH-1609 (240-60568-7) and S-58502-020316-SSH-1610 (240-60568-8) were analyzed for polychlorinated biphenyls (PCBs) in accordance with EPA SW-846 Method 8082. The samples were prepared on 02/05/2016 and analyzed on 02/15/2016 and 02/19/2016.

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. All of the samples in this data set analyzed for PCBs were subjected to the sulfuric acid clean-up procedure before instrumental analysis, per EPA Method 3665A.

The following samples required a tetrabutylammonium sulfite (TBA) clean-up to reduce matrix interferences caused by sulfur: S-58502-020316-SSH-1603 (240-60568-1), S-58502-020316-SSH-1604 (240-60568-2), S-58502-020316-SSH-1605 (240-60568-3), S-58502-020316-SSH-1606 (240-60568-4), S-58502-020316-SSH-1609 (240-60568-7), S-58502-020316-SSH-1610 (240-60568-8), (240-60559-E-1-C), (240-60559-E-1-D MS) and (240-60559-E-1-E MSD). Reagents: 2391676,2103101 and 2333856.

Case Narrative

Client: GHD Services Inc.
Project/Site: 58502-016, RACER Nodular Iron

TestAmerica Job ID: 240-60568-1

Job ID: 240-60568-1 (Continued)

Laboratory: TestAmerica Canton (Continued)

The following samples appears to contain polychlorinated biphenyls (PCBs); however, due to weathering or other environmental processes, the PCBs in the sample do not closely match any of the laboratory's Aroclor standards used for instrument calibration: S-58502-020316-SSH-1606 (240-60568-4), S-58502-020316-SSH-1609 (240-60568-7) and S-58502-020316-SSH-1610 (240-60568-8). Due to the poor match with the Aroclor standard(s), there is increased qualitative and quantitative uncertainty associated with this result.

The following sample required a tetrabutylammonium sulfite (TBA) clean-up to reduce matrix interferences caused by sulfur: S-58502-020316-SSH-1608 (240-60568-6). Reagents: 2391676,2103101 and 2333856.

The following sample appears to contain polychlorinated biphenyls (PCBs); however, due to weathering or other environmental processes, the PCBs in the sample do not closely match any of the laboratory's Aroclor standards used for instrument calibration: S-58502-020316-SSH-1607 (240-60568-5). Due to the poor match with the Aroclor standard(s), there is increased qualitative and quantitative uncertainty associated with this result.

The following sample required a tetrabutylammonium sulfite (TBA) clean-up to reduce matrix interferences caused by sulfur: S-58502-020316-SSH-1607 (240-60568-5). Reagents: 2391676,2103101 and 2333856.

Samples S-58502-020316-SSH-1607 (240-60568-5)[2X] and S-58502-020316-SSH-1608 (240-60568-6)[2X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

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



Definitions/Glossary

Client: GHD Services Inc.
Project/Site: 58502-016, RACER Nodular Iron

TestAmerica Job ID: 240-60568-1

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	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)

Sample Summary

Client: GHD Services Inc.
Project/Site: 58502-016, RACER Nodular Iron

TestAmerica Job ID: 240-60568-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-60568-1	S-58502-020316-SSH-1603	Solid	02/03/16 11:00	02/04/16 09:40
240-60568-2	S-58502-020316-SSH-1604	Solid	02/03/16 11:05	02/04/16 09:40
240-60568-3	S-58502-020316-SSH-1605	Solid	02/03/16 11:10	02/04/16 09:40
240-60568-4	S-58502-020316-SSH-1606	Solid	02/03/16 11:15	02/04/16 09:40
240-60568-5	S-58502-020316-SSH-1607	Solid	02/03/16 11:20	02/04/16 09:40
240-60568-6	S-58502-020316-SSH-1608	Solid	02/03/16 11:25	02/04/16 09:40
240-60568-7	S-58502-020316-SSH-1609	Solid	02/03/16 11:30	02/04/16 09:40
240-60568-8	S-58502-020316-SSH-1610	Solid	02/03/16 12:35	02/04/16 09:40

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Detection Summary

Client: GHD Services Inc.
Project/Site: 58502-016, RACER Nodular Iron

TestAmerica Job ID: 240-60568-1

Client Sample ID: S-58502-020316-SSH-1603

Lab Sample ID: 240-60568-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Aroclor-1242	94		36	ug/Kg	1	☒	8082	Total/NA

Client Sample ID: S-58502-020316-SSH-1604

Lab Sample ID: 240-60568-2

No Detections.

Client Sample ID: S-58502-020316-SSH-1605

Lab Sample ID: 240-60568-3

No Detections.

Client Sample ID: S-58502-020316-SSH-1606

Lab Sample ID: 240-60568-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Aroclor-1248	150		39	ug/Kg	1	☒	8082	Total/NA

Client Sample ID: S-58502-020316-SSH-1607

Lab Sample ID: 240-60568-5

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Aroclor-1254	130		75	ug/Kg	2	☒	8082	Total/NA

Client Sample ID: S-58502-020316-SSH-1608

Lab Sample ID: 240-60568-6

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Aroclor-1242	360		76	ug/Kg	2	☒	8082	Total/NA

Client Sample ID: S-58502-020316-SSH-1609

Lab Sample ID: 240-60568-7

No Detections.

Client Sample ID: S-58502-020316-SSH-1610

Lab Sample ID: 240-60568-8

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Aroclor-1242	99		37	ug/Kg	1	☒	8082	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Method Summary

Client: GHD Services Inc.
Project/Site: 58502-016, RACER Nodular Iron

TestAmerica Job ID: 240-60568-1

Method	Method Description	Protocol	Laboratory
8082	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	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



Client Sample Results

Client: GHD Services Inc.
 Project/Site: 58502-016, RACER Nodular Iron

TestAmerica Job ID: 240-60568-1

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID: S-58502-020316-SSH-1603

Date Collected: 02/03/16 11:00

Date Received: 02/04/16 09:40

Lab Sample ID: 240-60568-1

Matrix: Solid

Percent Solids: 92.4

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	36	U	36	ug/Kg	☼	02/05/16 08:34	02/15/16 19:35	1
Aroclor-1221	36	U	36	ug/Kg	☼	02/05/16 08:34	02/15/16 19:35	1
Aroclor-1232	36	U	36	ug/Kg	☼	02/05/16 08:34	02/15/16 19:35	1
Aroclor-1242	94		36	ug/Kg	☼	02/05/16 08:34	02/15/16 19:35	1
Aroclor-1248	36	U	36	ug/Kg	☼	02/05/16 08:34	02/15/16 19:35	1
Aroclor-1254	36	U	36	ug/Kg	☼	02/05/16 08:34	02/15/16 19:35	1
Aroclor-1260	36	U	36	ug/Kg	☼	02/05/16 08:34	02/15/16 19:35	1
Aroclor-1262	36	U	36	ug/Kg	☼	02/05/16 08:34	02/15/16 19:35	1
Aroclor-1268	36	U	36	ug/Kg	☼	02/05/16 08:34	02/15/16 19:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	70		13 - 134	02/05/16 08:34	02/15/16 19:35	1
DCB Decachlorobiphenyl	79		10 - 155	02/05/16 08:34	02/15/16 19:35	1

Client Sample Results

Client: GHD Services Inc.
 Project/Site: 58502-016, RACER Nodular Iron

TestAmerica Job ID: 240-60568-1

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID: S-58502-020316-SSH-1604

Date Collected: 02/03/16 11:05

Date Received: 02/04/16 09:40

Lab Sample ID: 240-60568-2

Matrix: Solid

Percent Solids: 93.5

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	35	U	35	ug/Kg	☼	02/05/16 08:34	02/15/16 19:53	1
Aroclor-1221	35	U	35	ug/Kg	☼	02/05/16 08:34	02/15/16 19:53	1
Aroclor-1232	35	U	35	ug/Kg	☼	02/05/16 08:34	02/15/16 19:53	1
Aroclor-1242	35	U	35	ug/Kg	☼	02/05/16 08:34	02/15/16 19:53	1
Aroclor-1248	35	U	35	ug/Kg	☼	02/05/16 08:34	02/15/16 19:53	1
Aroclor-1254	35	U	35	ug/Kg	☼	02/05/16 08:34	02/15/16 19:53	1
Aroclor-1260	35	U	35	ug/Kg	☼	02/05/16 08:34	02/15/16 19:53	1
Aroclor-1262	35	U	35	ug/Kg	☼	02/05/16 08:34	02/15/16 19:53	1
Aroclor-1268	35	U	35	ug/Kg	☼	02/05/16 08:34	02/15/16 19:53	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
<i>Tetrachloro-m-xylene</i>	68		13 - 134			02/05/16 08:34	02/15/16 19:53	1
<i>DCB Decachlorobiphenyl</i>	67		10 - 155			02/05/16 08:34	02/15/16 19:53	1

Client Sample Results

Client: GHD Services Inc.
 Project/Site: 58502-016, RACER Nodular Iron

TestAmerica Job ID: 240-60568-1

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID: S-58502-020316-SSH-1605

Date Collected: 02/03/16 11:10

Date Received: 02/04/16 09:40

Lab Sample ID: 240-60568-3

Matrix: Solid

Percent Solids: 94.0

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	35	U	35	ug/Kg	☼	02/05/16 08:34	02/15/16 20:11	1
Aroclor-1221	35	U	35	ug/Kg	☼	02/05/16 08:34	02/15/16 20:11	1
Aroclor-1232	35	U	35	ug/Kg	☼	02/05/16 08:34	02/15/16 20:11	1
Aroclor-1242	35	U	35	ug/Kg	☼	02/05/16 08:34	02/15/16 20:11	1
Aroclor-1248	35	U	35	ug/Kg	☼	02/05/16 08:34	02/15/16 20:11	1
Aroclor-1254	35	U	35	ug/Kg	☼	02/05/16 08:34	02/15/16 20:11	1
Aroclor-1260	35	U	35	ug/Kg	☼	02/05/16 08:34	02/15/16 20:11	1
Aroclor-1262	35	U	35	ug/Kg	☼	02/05/16 08:34	02/15/16 20:11	1
Aroclor-1268	35	U	35	ug/Kg	☼	02/05/16 08:34	02/15/16 20:11	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	75		13 - 134			02/05/16 08:34	02/15/16 20:11	1
DCB Decachlorobiphenyl	71		10 - 155			02/05/16 08:34	02/15/16 20:11	1

Client Sample Results

Client: GHD Services Inc.
 Project/Site: 58502-016, RACER Nodular Iron

TestAmerica Job ID: 240-60568-1

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID: S-58502-020316-SSH-1606

Date Collected: 02/03/16 11:15

Date Received: 02/04/16 09:40

Lab Sample ID: 240-60568-4

Matrix: Solid

Percent Solids: 83.0

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	39	U	39	ug/Kg	☼	02/05/16 08:34	02/15/16 20:30	1
Aroclor-1221	39	U	39	ug/Kg	☼	02/05/16 08:34	02/15/16 20:30	1
Aroclor-1232	39	U	39	ug/Kg	☼	02/05/16 08:34	02/15/16 20:30	1
Aroclor-1242	39	U	39	ug/Kg	☼	02/05/16 08:34	02/15/16 20:30	1
Aroclor-1248	150		39	ug/Kg	☼	02/05/16 08:34	02/15/16 20:30	1
Aroclor-1254	39	U	39	ug/Kg	☼	02/05/16 08:34	02/15/16 20:30	1
Aroclor-1260	39	U	39	ug/Kg	☼	02/05/16 08:34	02/15/16 20:30	1
Aroclor-1262	39	U	39	ug/Kg	☼	02/05/16 08:34	02/15/16 20:30	1
Aroclor-1268	39	U	39	ug/Kg	☼	02/05/16 08:34	02/15/16 20:30	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
<i>Tetrachloro-m-xylene</i>	45		13 - 134			02/05/16 08:34	02/15/16 20:30	1
<i>DCB Decachlorobiphenyl</i>	52		10 - 155			02/05/16 08:34	02/15/16 20:30	1

Client Sample Results

Client: GHD Services Inc.
 Project/Site: 58502-016, RACER Nodular Iron

TestAmerica Job ID: 240-60568-1

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID: S-58502-020316-SSH-1607

Date Collected: 02/03/16 11:20

Date Received: 02/04/16 09:40

Lab Sample ID: 240-60568-5

Matrix: Solid

Percent Solids: 87.2

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	75	U	75	ug/Kg	☼	02/05/16 08:34	02/19/16 13:10	2
Aroclor-1221	75	U	75	ug/Kg	☼	02/05/16 08:34	02/19/16 13:10	2
Aroclor-1232	75	U	75	ug/Kg	☼	02/05/16 08:34	02/19/16 13:10	2
Aroclor-1242	75	U	75	ug/Kg	☼	02/05/16 08:34	02/19/16 13:10	2
Aroclor-1248	75	U	75	ug/Kg	☼	02/05/16 08:34	02/19/16 13:10	2
Aroclor-1254	130		75	ug/Kg	☼	02/05/16 08:34	02/19/16 13:10	2
Aroclor-1260	75	U	75	ug/Kg	☼	02/05/16 08:34	02/19/16 13:10	2
Aroclor-1262	75	U	75	ug/Kg	☼	02/05/16 08:34	02/19/16 13:10	2
Aroclor-1268	75	U	75	ug/Kg	☼	02/05/16 08:34	02/19/16 13:10	2
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
<i>Tetrachloro-m-xylene</i>	74		13 - 134			02/05/16 08:34	02/19/16 13:10	2
<i>DCB Decachlorobiphenyl</i>	78		10 - 155			02/05/16 08:34	02/19/16 13:10	2

Client Sample Results

Client: GHD Services Inc.
 Project/Site: 58502-016, RACER Nodular Iron

TestAmerica Job ID: 240-60568-1

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID: S-58502-020316-SSH-1608

Date Collected: 02/03/16 11:25

Date Received: 02/04/16 09:40

Lab Sample ID: 240-60568-6

Matrix: Solid

Percent Solids: 87.6

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	76	U	76	ug/Kg	☼	02/05/16 08:34	02/19/16 05:22	2
Aroclor-1221	76	U	76	ug/Kg	☼	02/05/16 08:34	02/19/16 05:22	2
Aroclor-1232	76	U	76	ug/Kg	☼	02/05/16 08:34	02/19/16 05:22	2
Aroclor-1242	360		76	ug/Kg	☼	02/05/16 08:34	02/19/16 05:22	2
Aroclor-1248	76	U	76	ug/Kg	☼	02/05/16 08:34	02/19/16 05:22	2
Aroclor-1254	76	U	76	ug/Kg	☼	02/05/16 08:34	02/19/16 05:22	2
Aroclor-1260	76	U	76	ug/Kg	☼	02/05/16 08:34	02/19/16 05:22	2
Aroclor-1262	76	U	76	ug/Kg	☼	02/05/16 08:34	02/19/16 05:22	2
Aroclor-1268	76	U	76	ug/Kg	☼	02/05/16 08:34	02/19/16 05:22	2
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
<i>Tetrachloro-m-xylene</i>	62		13 - 134			02/05/16 08:34	02/19/16 05:22	2
<i>DCB Decachlorobiphenyl</i>	86		10 - 155			02/05/16 08:34	02/19/16 05:22	2

Client Sample Results

Client: GHD Services Inc.
 Project/Site: 58502-016, RACER Nodular Iron

TestAmerica Job ID: 240-60568-1

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID: S-58502-020316-SSH-1609

Date Collected: 02/03/16 11:30

Date Received: 02/04/16 09:40

Lab Sample ID: 240-60568-7

Matrix: Solid

Percent Solids: 93.2

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	36	U	36	ug/Kg	☼	02/05/16 08:34	02/15/16 22:19	1
Aroclor-1221	36	U	36	ug/Kg	☼	02/05/16 08:34	02/15/16 22:19	1
Aroclor-1232	36	U	36	ug/Kg	☼	02/05/16 08:34	02/15/16 22:19	1
Aroclor-1242	36	U	36	ug/Kg	☼	02/05/16 08:34	02/15/16 22:19	1
Aroclor-1248	36	U	36	ug/Kg	☼	02/05/16 08:34	02/15/16 22:19	1
Aroclor-1254	36	U	36	ug/Kg	☼	02/05/16 08:34	02/15/16 22:19	1
Aroclor-1260	36	U	36	ug/Kg	☼	02/05/16 08:34	02/15/16 22:19	1
Aroclor-1262	36	U	36	ug/Kg	☼	02/05/16 08:34	02/15/16 22:19	1
Aroclor-1268	36	U	36	ug/Kg	☼	02/05/16 08:34	02/15/16 22:19	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
<i>Tetrachloro-m-xylene</i>	74		13 - 134			02/05/16 08:34	02/15/16 22:19	1
<i>DCB Decachlorobiphenyl</i>	76		10 - 155			02/05/16 08:34	02/15/16 22:19	1

Client Sample Results

Client: GHD Services Inc.
 Project/Site: 58502-016, RACER Nodular Iron

TestAmerica Job ID: 240-60568-1

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID: S-58502-020316-SSH-1610

Date Collected: 02/03/16 12:35

Date Received: 02/04/16 09:40

Lab Sample ID: 240-60568-8

Matrix: Solid

Percent Solids: 90.7

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	37	U	37	ug/Kg	☼	02/05/16 08:34	02/15/16 22:38	1
Aroclor-1221	37	U	37	ug/Kg	☼	02/05/16 08:34	02/15/16 22:38	1
Aroclor-1232	37	U	37	ug/Kg	☼	02/05/16 08:34	02/15/16 22:38	1
Aroclor-1242	99		37	ug/Kg	☼	02/05/16 08:34	02/15/16 22:38	1
Aroclor-1248	37	U	37	ug/Kg	☼	02/05/16 08:34	02/15/16 22:38	1
Aroclor-1254	37	U	37	ug/Kg	☼	02/05/16 08:34	02/15/16 22:38	1
Aroclor-1260	37	U	37	ug/Kg	☼	02/05/16 08:34	02/15/16 22:38	1
Aroclor-1262	37	U	37	ug/Kg	☼	02/05/16 08:34	02/15/16 22:38	1
Aroclor-1268	37	U	37	ug/Kg	☼	02/05/16 08:34	02/15/16 22:38	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
<i>Tetrachloro-m-xylene</i>	72		13 - 134			02/05/16 08:34	02/15/16 22:38	1
<i>DCB Decachlorobiphenyl</i>	83		10 - 155			02/05/16 08:34	02/15/16 22:38	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 58502-016, RACER Nodular Iron

TestAmerica Job ID: 240-60568-1

General Chemistry

Client Sample ID: S-58502-020316-SSH-1603

Date Collected: 02/03/16 11:00

Date Received: 02/04/16 09:40

Lab Sample ID: 240-60568-1

Matrix: Solid

Percent Solids: 92.4

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	92.4		0.1	%			02/08/16 15:04	1
Percent Moisture	7.6		0.1	%			02/08/16 15:04	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Client Sample Results

Client: GHD Services Inc.
Project/Site: 58502-016, RACER Nodular Iron

TestAmerica Job ID: 240-60568-1

General Chemistry

Client Sample ID: S-58502-020316-SSH-1604

Date Collected: 02/03/16 11:05

Date Received: 02/04/16 09:40

Lab Sample ID: 240-60568-2

Matrix: Solid

Percent Solids: 93.5

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	93.5		0.1	%			02/08/16 15:04	1
Percent Moisture	6.5		0.1	%			02/08/16 15:04	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Client Sample Results

Client: GHD Services Inc.
Project/Site: 58502-016, RACER Nodular Iron

TestAmerica Job ID: 240-60568-1

General Chemistry

Client Sample ID: S-58502-020316-SSH-1605

Date Collected: 02/03/16 11:10

Date Received: 02/04/16 09:40

Lab Sample ID: 240-60568-3

Matrix: Solid

Percent Solids: 94.0

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	94.0		0.1	%			02/08/16 15:50	1
Percent Moisture	6.0		0.1	%			02/08/16 15:50	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Client Sample Results

Client: GHD Services Inc.
Project/Site: 58502-016, RACER Nodular Iron

TestAmerica Job ID: 240-60568-1

General Chemistry

Client Sample ID: S-58502-020316-SSH-1606

Date Collected: 02/03/16 11:15

Date Received: 02/04/16 09:40

Lab Sample ID: 240-60568-4

Matrix: Solid

Percent Solids: 83.0

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	83.0		0.1	%			02/08/16 15:50	1
Percent Moisture	17.0		0.1	%			02/08/16 15:50	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Client Sample Results

Client: GHD Services Inc.
Project/Site: 58502-016, RACER Nodular Iron

TestAmerica Job ID: 240-60568-1

General Chemistry

Client Sample ID: S-58502-020316-SSH-1607

Date Collected: 02/03/16 11:20

Date Received: 02/04/16 09:40

Lab Sample ID: 240-60568-5

Matrix: Solid

Percent Solids: 87.2

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	87.2		0.1	%			02/08/16 15:50	1
Percent Moisture	12.8		0.1	%			02/08/16 15:50	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Client Sample Results

Client: GHD Services Inc.
Project/Site: 58502-016, RACER Nodular Iron

TestAmerica Job ID: 240-60568-1

General Chemistry

Client Sample ID: S-58502-020316-SSH-1608

Date Collected: 02/03/16 11:25

Date Received: 02/04/16 09:40

Lab Sample ID: 240-60568-6

Matrix: Solid

Percent Solids: 87.6

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	87.6		0.1	%			02/08/16 15:50	1
Percent Moisture	12.4		0.1	%			02/08/16 15:50	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Client Sample Results

Client: GHD Services Inc.
Project/Site: 58502-016, RACER Nodular Iron

TestAmerica Job ID: 240-60568-1

General Chemistry

Client Sample ID: S-58502-020316-SSH-1609

Date Collected: 02/03/16 11:30

Date Received: 02/04/16 09:40

Lab Sample ID: 240-60568-7

Matrix: Solid

Percent Solids: 93.2

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	93.2		0.1	%			02/08/16 15:50	1
Percent Moisture	6.8		0.1	%			02/08/16 15:50	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Client Sample Results

Client: GHD Services Inc.
Project/Site: 58502-016, RACER Nodular Iron

TestAmerica Job ID: 240-60568-1

General Chemistry

Client Sample ID: S-58502-020316-SSH-1610

Date Collected: 02/03/16 12:35

Date Received: 02/04/16 09:40

Lab Sample ID: 240-60568-8

Matrix: Solid

Percent Solids: 90.7

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	90.7		0.1	%			02/08/16 15:50	1
Percent Moisture	9.3		0.1	%			02/08/16 15:50	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

QC Association Summary

Client: GHD Services Inc.
Project/Site: 58502-016, RACER Nodular Iron

TestAmerica Job ID: 240-60568-1

GC Semi VOA

Prep Batch: 216785

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-60568-1	S-58502-020316-SSH-1603	Total/NA	Solid	3540C	
240-60568-2	S-58502-020316-SSH-1604	Total/NA	Solid	3540C	
240-60568-3	S-58502-020316-SSH-1605	Total/NA	Solid	3540C	
240-60568-4	S-58502-020316-SSH-1606	Total/NA	Solid	3540C	
240-60568-5	S-58502-020316-SSH-1607	Total/NA	Solid	3540C	
240-60568-6	S-58502-020316-SSH-1608	Total/NA	Solid	3540C	
240-60568-7	S-58502-020316-SSH-1609	Total/NA	Solid	3540C	
240-60568-8	S-58502-020316-SSH-1610	Total/NA	Solid	3540C	
LCS 240-216785/24-A	Lab Control Sample	Total/NA	Solid	3540C	
MB 240-216785/23-A	Method Blank	Total/NA	Solid	3540C	

Analysis Batch: 217450

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-60568-1	S-58502-020316-SSH-1603	Total/NA	Solid	8082	216785
240-60568-2	S-58502-020316-SSH-1604	Total/NA	Solid	8082	216785
240-60568-3	S-58502-020316-SSH-1605	Total/NA	Solid	8082	216785
240-60568-4	S-58502-020316-SSH-1606	Total/NA	Solid	8082	216785
240-60568-7	S-58502-020316-SSH-1609	Total/NA	Solid	8082	216785
240-60568-8	S-58502-020316-SSH-1610	Total/NA	Solid	8082	216785
LCS 240-216785/24-A	Lab Control Sample	Total/NA	Solid	8082	216785
MB 240-216785/23-A	Method Blank	Total/NA	Solid	8082	216785

Analysis Batch: 217990

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-60568-6	S-58502-020316-SSH-1608	Total/NA	Solid	8082	216785

Analysis Batch: 218104

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-60568-5	S-58502-020316-SSH-1607	Total/NA	Solid	8082	216785

General Chemistry

Analysis Batch: 216933

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-60568-1	S-58502-020316-SSH-1603	Total/NA	Solid	Moisture	
240-60568-2	S-58502-020316-SSH-1604	Total/NA	Solid	Moisture	
240-60568-2 DU	S-58502-020316-SSH-1604	Total/NA	Solid	Moisture	
240-60568-3	S-58502-020316-SSH-1605	Total/NA	Solid	Moisture	
240-60568-4	S-58502-020316-SSH-1606	Total/NA	Solid	Moisture	
240-60568-5	S-58502-020316-SSH-1607	Total/NA	Solid	Moisture	
240-60568-6	S-58502-020316-SSH-1608	Total/NA	Solid	Moisture	
240-60568-7	S-58502-020316-SSH-1609	Total/NA	Solid	Moisture	
240-60568-8	S-58502-020316-SSH-1610	Total/NA	Solid	Moisture	

TestAmerica Canton

QC Sample Results

Client: GHD Services Inc.
Project/Site: 58502-016, RACER Nodular Iron

TestAmerica Job ID: 240-60568-1

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 240-216785/23-A
Matrix: Solid
Analysis Batch: 217450

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 216785

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	33	U	33	ug/Kg		02/05/16 08:34	02/15/16 20:48	1
Aroclor-1221	33	U	33	ug/Kg		02/05/16 08:34	02/15/16 20:48	1
Aroclor-1232	33	U	33	ug/Kg		02/05/16 08:34	02/15/16 20:48	1
Aroclor-1242	33	U	33	ug/Kg		02/05/16 08:34	02/15/16 20:48	1
Aroclor-1248	33	U	33	ug/Kg		02/05/16 08:34	02/15/16 20:48	1
Aroclor-1254	33	U	33	ug/Kg		02/05/16 08:34	02/15/16 20:48	1
Aroclor-1260	33	U	33	ug/Kg		02/05/16 08:34	02/15/16 20:48	1
Aroclor-1262	33	U	33	ug/Kg		02/05/16 08:34	02/15/16 20:48	1
Aroclor-1268	33	U	33	ug/Kg		02/05/16 08:34	02/15/16 20:48	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	81		13 - 134	02/05/16 08:34	02/15/16 20:48	1
DCB Decachlorobiphenyl	74		10 - 155	02/05/16 08:34	02/15/16 20:48	1

Lab Sample ID: LCS 240-216785/24-A
Matrix: Solid
Analysis Batch: 217450

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 216785

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Aroclor-1016	333	234		ug/Kg		70	51 - 120
Aroclor-1260	333	251		ug/Kg		75	48 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tetrachloro-m-xylene	76		13 - 134
DCB Decachlorobiphenyl	78		10 - 155

Method: Moisture - Percent Moisture

Lab Sample ID: 240-60568-2 DU
Matrix: Solid
Analysis Batch: 216933

Client Sample ID: S-58502-020316-SSH-1604
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Solids	93.5		93.8		%		0.3	20
Percent Moisture	6.5		6.2		%		5	20

Surrogate Summary

Client: GHD Services Inc.
Project/Site: 58502-016, RACER Nodular Iron

TestAmerica Job ID: 240-60568-1

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCX1 (13-134)	DCB1 (10-155)
240-60568-1	S-58502-020316-SSH-1603	70	79
240-60568-2	S-58502-020316-SSH-1604	68	67
240-60568-3	S-58502-020316-SSH-1605	75	71
240-60568-4	S-58502-020316-SSH-1606	45	52
240-60568-7	S-58502-020316-SSH-1609	74	76
240-60568-8	S-58502-020316-SSH-1610	72	83
LCS 240-216785/24-A	Lab Control Sample	76	78
MB 240-216785/23-A	Method Blank	81	74

Surrogate Legend

TCX = Tetrachloro-m-xylene

DCB = DCB Decachlorobiphenyl

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCX2 (13-134)	DCB2 (10-155)
240-60568-5	S-58502-020316-SSH-1607	74	78
240-60568-6	S-58502-020316-SSH-1608	62	86

Surrogate Legend

TCX = Tetrachloro-m-xylene

DCB = DCB Decachlorobiphenyl

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 58502-016, RACER Nodular Iron

TestAmerica Job ID: 240-60568-1

Client Sample ID: S-58502-020316-SSH-1603

Lab Sample ID: 240-60568-1

Date Collected: 02/03/16 11:00

Matrix: Solid

Date Received: 02/04/16 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	216933	02/08/16 15:04	GNR	TAL CAN

Client Sample ID: S-58502-020316-SSH-1603

Lab Sample ID: 240-60568-1

Date Collected: 02/03/16 11:00

Matrix: Solid

Date Received: 02/04/16 09:40

Percent Solids: 92.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			216785	02/05/16 08:34	SDE	TAL CAN
Total/NA	Analysis	8082		1	217450	02/15/16 19:35	HMB	TAL CAN

Client Sample ID: S-58502-020316-SSH-1604

Lab Sample ID: 240-60568-2

Date Collected: 02/03/16 11:05

Matrix: Solid

Date Received: 02/04/16 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	216933	02/08/16 15:04	GNR	TAL CAN

Client Sample ID: S-58502-020316-SSH-1604

Lab Sample ID: 240-60568-2

Date Collected: 02/03/16 11:05

Matrix: Solid

Date Received: 02/04/16 09:40

Percent Solids: 93.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			216785	02/05/16 08:34	SDE	TAL CAN
Total/NA	Analysis	8082		1	217450	02/15/16 19:53	HMB	TAL CAN

Client Sample ID: S-58502-020316-SSH-1605

Lab Sample ID: 240-60568-3

Date Collected: 02/03/16 11:10

Matrix: Solid

Date Received: 02/04/16 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	216933	02/08/16 15:50	GNR	TAL CAN

Client Sample ID: S-58502-020316-SSH-1605

Lab Sample ID: 240-60568-3

Date Collected: 02/03/16 11:10

Matrix: Solid

Date Received: 02/04/16 09:40

Percent Solids: 94.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			216785	02/05/16 08:34	SDE	TAL CAN
Total/NA	Analysis	8082		1	217450	02/15/16 20:11	HMB	TAL CAN

TestAmerica Canton

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 58502-016, RACER Nodular Iron

TestAmerica Job ID: 240-60568-1

Client Sample ID: S-58502-020316-SSH-1606

Lab Sample ID: 240-60568-4

Date Collected: 02/03/16 11:15

Matrix: Solid

Date Received: 02/04/16 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	216933	02/08/16 15:50	GNR	TAL CAN

Client Sample ID: S-58502-020316-SSH-1606

Lab Sample ID: 240-60568-4

Date Collected: 02/03/16 11:15

Matrix: Solid

Date Received: 02/04/16 09:40

Percent Solids: 83.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			216785	02/05/16 08:34	SDE	TAL CAN
Total/NA	Analysis	8082		1	217450	02/15/16 20:30	HMB	TAL CAN

Client Sample ID: S-58502-020316-SSH-1607

Lab Sample ID: 240-60568-5

Date Collected: 02/03/16 11:20

Matrix: Solid

Date Received: 02/04/16 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	216933	02/08/16 15:50	GNR	TAL CAN

Client Sample ID: S-58502-020316-SSH-1607

Lab Sample ID: 240-60568-5

Date Collected: 02/03/16 11:20

Matrix: Solid

Date Received: 02/04/16 09:40

Percent Solids: 87.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			216785	02/05/16 08:34	SDE	TAL CAN
Total/NA	Analysis	8082		2	218104	02/19/16 13:10	HMB	TAL CAN

Client Sample ID: S-58502-020316-SSH-1608

Lab Sample ID: 240-60568-6

Date Collected: 02/03/16 11:25

Matrix: Solid

Date Received: 02/04/16 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	216933	02/08/16 15:50	GNR	TAL CAN

Client Sample ID: S-58502-020316-SSH-1608

Lab Sample ID: 240-60568-6

Date Collected: 02/03/16 11:25

Matrix: Solid

Date Received: 02/04/16 09:40

Percent Solids: 87.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			216785	02/05/16 08:34	SDE	TAL CAN
Total/NA	Analysis	8082		2	217990	02/19/16 05:22	HMB	TAL CAN

TestAmerica Canton

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 58502-016, RACER Nodular Iron

TestAmerica Job ID: 240-60568-1

Client Sample ID: S-58502-020316-SSH-1609

Lab Sample ID: 240-60568-7

Date Collected: 02/03/16 11:30

Matrix: Solid

Date Received: 02/04/16 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	216933	02/08/16 15:50	GNR	TAL CAN

Client Sample ID: S-58502-020316-SSH-1609

Lab Sample ID: 240-60568-7

Date Collected: 02/03/16 11:30

Matrix: Solid

Date Received: 02/04/16 09:40

Percent Solids: 93.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			216785	02/05/16 08:34	SDE	TAL CAN
Total/NA	Analysis	8082		1	217450	02/15/16 22:19	HMB	TAL CAN

Client Sample ID: S-58502-020316-SSH-1610

Lab Sample ID: 240-60568-8

Date Collected: 02/03/16 12:35

Matrix: Solid

Date Received: 02/04/16 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	216933	02/08/16 15:50	GNR	TAL CAN

Client Sample ID: S-58502-020316-SSH-1610

Lab Sample ID: 240-60568-8

Date Collected: 02/03/16 12:35

Matrix: Solid

Date Received: 02/04/16 09:40

Percent Solids: 90.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			216785	02/05/16 08:34	SDE	TAL CAN
Total/NA	Analysis	8082		1	217450	02/15/16 22:38	HMB	TAL CAN

Laboratory References:

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

Certification Summary

Client: GHD Services Inc.
 Project/Site: 58502-016, RACER Nodular Iron

TestAmerica Job ID: 240-60568-1

Laboratory: TestAmerica Canton

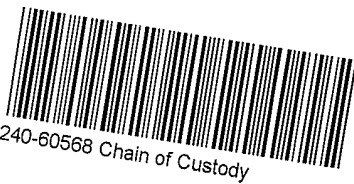
All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

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	12-31-17
Illinois	NELAP	5	200004	07-31-16
Kansas	NELAP	7	E-10336	01-31-16 *
Kentucky (UST)	State Program	4	58	02-26-16 *
Kentucky (WW)	State Program	4	98016	12-31-16
L-A-B	DoD ELAP		L2315	07-18-16
Minnesota	NELAP	5	039-999-348	12-31-16
Nevada	State Program	9	OH-000482008A	07-31-16
New Jersey	NELAP	2	OH001	06-30-16
New York	NELAP	2	10975	03-31-16 *
Ohio VAP	State Program	5	CL0024	09-14-17
Oregon	NELAP	10	4062	02-23-16 *
Pennsylvania	NELAP	3	68-00340	08-31-16
Texas	NELAP	6	T104704517-15-5	08-31-16
USDA	Federal		P330-13-00319	11-26-16
Virginia	NELAP	3	460175	09-14-16
Washington	State Program	10	C971	01-12-16 *
West Virginia DEP	State Program	3	210	12-31-15 *
Wisconsin	State Program	5	999518190	08-31-16

* Certification renewal pending - certification considered valid.



**CHAIN OF CUSTODY
AND
RECEIVING DOCUMENTS**



- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

TestAmerica Michigan
 10448 Citation Drive
 Suite 200
 Brighton, MI 48116
 Phone: 810.229.2763 Fax:

0.8/CO.3

Chain of Custody Record

105142

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING
 TestAmerica Laboratories, Inc.

TAL-8210 (0713)

Regulatory Program: DW NPDES RCRA Other:

Client Contact
 Company Name: GHG Services Inc.
 Address: 14496 N Sheldon Rd, Suite 200
 City/State/Zip: Plymouth, MI 48170
 Phone: 734 453 5723
 Fax:
 Project Name: Resort Trust Nohlar
 Site:
 P O # SSAW 58502-016

Project Manager: M. Tomber
 Tell/Fax: 519 827 0510
 Analysis Turnaround Time
 CALENDAR DAYS WORKING DAYS
 TAT if different from Below
 2 weeks
 1 week
 2 days
 1 day

Site Contact: S. Heisterkamp Date: 2/3/16
 Lab Contact: D. Heisterkamp Carrier: FedEx
 Perform MS/MSD (Y/N) PLS
 Filtered Sample (Y/N)
 Sample Specific Notes:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.
S-58502-020316-SSH-1603	2/3/16	1100	G Soil		1
-1607		1105	G		1
-1605		1110	G		1
-1606		1115	G		1
-1607		1120	G		1
-1608		1135	G		1
-1609		1130	G		1
S-58502-020316-SS4-1610		1135	G		1

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4= HNO3; 5= NaOH; 6= Other
 Possible Hazard Identification: ASH
 Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
 Non-Hazard Flammable Skin Irritant Poison B Unknown
 Return to Client Disposal by Lab Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Custody Seal No.: 553747
 Relinquished by: MSA Nam Date/Time: 2/3/16 1600
 Relinquished by: MSA Nam Date/Time: 2/4/16 0940
 Relinquished by: _____ Date/Time: _____
 Relinquished by: _____ Date/Time: _____



1
2
3
4
5
6
7
8
9
10
11
12
13
14

TestAmerica Canton Sample Receipt Form/Narrative Login # : 60568
 Canton Facility _____
 Client GHD SERVICES INC. Site Name _____ Cooler unpacked by: [Signature]
 Cooler Received on 2-4-16 Opened on 2-4-16
 FedEx: 1st Grd Exp 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: Wet Ice Blue Ice Dry Ice Water None _____
 1. Cooler temperature upon receipt See Multiple Cooler Form
 IR GUN# 48 (CF -1.9 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
 IR GUN# 36 (CF -1.5 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
 IR GUN# 18 (CF -0.5 °C) Observed Cooler Temp. 9.03 °C Corrected Cooler Temp. 0.3 °C
 2. Were custody seals on the outside of the cooler(s)? If Yes Quantity 1 Yes No
 -Were custody seals on the outside of the cooler(s) signed & dated? Yes No NA
 -Were custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
 3. Shippers' packing slip attached to the cooler(s)? Yes No
 4. Did custody papers accompany the sample(s)? Yes No
 5. Were the custody papers relinquished & signed in the appropriate place? Yes No
 6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
 7. Did all bottles arrive in good condition (Unbroken)? Yes No
 8. Could all bottle labels be reconciled with the COC? Yes No
 9. Were correct bottle(s) used for the test(s) indicated? Yes No
 10. Sufficient quantity received to perform indicated analyses? Yes No
 11. Are these work share samples? Yes No
 If yes, Questions 12-16 have been checked at the originating laboratory.
 12. Were sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC559158
 13. Were VOAs on the COC? Yes No NA
 14. Were air bubbles >6 mm in any VOA vials? Yes No NA
 15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____ Yes No
 16. Was a LL Hg or Me Hg trip blank present? Yes No
 Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____
 Concerning _____

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

18. 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)

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