

Data Usability Summary

Test America Work Orders: 280-51308-1

Sample Dates: January 17, 2014 Project No.: 1302086

Laboratory: Test America Client: Exide Technologies Inc.

(Houston TLAP Certification

T104704223)

(Denver TLAP Certification

T104704183-13-8)

Work Orders: Work Orders: 280-51308-1

Intended Use Affected Property Assessment Report (APAR)

Site: Exide Former Operating Plant (FOP), 7471 5th Street, Frisco, TX

TESTS/ METHODS

Perfluorinated Compounds (PFCs) by TestAmerica Proprietary Method – Liquid Chromatography (LC)/MS (DV-LC-0012). The analyses were performed by the TestAmerica Denver, CO laboratory.

SAMPLES

1 groundwater sample, 1 field blank, and 1 field MS/MSD pair. See Table 1 for a complete cross-referenced listing of samples.

Golder completed a review of the above chemical analysis data for conformance with the requirements of the Texas Risk Reduction Program (TRRP) guidance document, Review and Reporting of COC Concentration Data (RGG-366/TRRP-13 Revised May 2010) and for adherence to project objectives. The results of the review are discussed in this data usability summary (DUS).

Golder completed the review using the following laboratory and project submittals:

- Laboratory reportable data as defined in TRRP-13;
- Laboratory review checklists (LRC) with the associated exception reports;
- Laboratory Electronic Data Deliverable (EDD); and
- Project field notes from the sampling event.

The review of the reportable data included the quality control (QC) parameters listed below, as required per TRRP-13, using the applicable analytical method and project requirements:

- Data Completeness
- Chain-of-Custody Procedures
- Sample Condition Holding Time, Preservation, and Containers
- Field Procedures
- Results Reporting Procedures





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- Laboratory and Field QC Blanks
- Laboratory Control Spike and Matrix Spike Recoveries
- Surrogate Recoveries
- Laboratory and Field Duplicate Precision

Additionally, Golder used the LRC to evaluate the following QC parameters:

- Method Quantitation Limits (MQLs)
- Method Detection Limits (MDLs)
- Instrument Tuning, Calibration, and Performance
- Internal Standards

Criteria used for this data usability review are as follows:

- Organics: 60-140% spike recovery (and not less than 10% or data is rejected) and ± MQL difference or 40% RPD (for laboratory duplicates) as recommended in TRRP-13
- Aqueous Samples: ± 2x MQL difference (if either result is less than 5x MQL) or 30% RPD (for field duplicates) as recommended in TRRP-13

If an item was found outside of the review criteria, the reviewer applied a data qualifier (DQ) and bias code to the results for the affected samples in accordance with TRRP-13. A list of all qualified results and definitions of the qualifier and bias codes are given in Table 2.

GLOSSARY OF TERMS

The following definitions apply for terms related to analyte reporting limits:

MDL (Method Detection Limit) – the minimum concentration of an analyte that the laboratory can measure and report with 99% confidence that the analyte concentration is greater than zero. The MDL is determined by the laboratory for each analyte in a given reagent matrix (water or soil) generally using the procedures specified in 40 CFR Part 136, Appendix B. It is a measure of the concentration an instrument can detect or 'see' in a given reagent matrix. TRRP-13 requires that the laboratory routinely check the MDL for reasonableness.

<u>SDL</u> (Sample Detection Limit) – the MDL adjusted to reflect sample-specific actions, such as dilution or use of smaller aliquot sizes than prescribed in the analytical method, and taking into account sample characteristics, sample preparation, and analytical adjustments including dry-weight adjustments. It is a measure of the concentration an instrument can detect or 'see' in a given sample. For TRRP, non-detects are reported using the SDL. This term was originally called the SQL (Sample Quantitation Limit) before the TRRP rule revisions effective March 19, 2007.





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<u>Unadjusted MQL (Method Quantitation Limit)</u> – the lowest non-zero concentration standard in the laboratory's initial calibration curve calculated using the normal aliquot sizes and final volumes prescribed in the analytical method. The unadjusted MQL is reported by the laboratory for each analyte in a given matrix (water or soil). It is a measure of the concentration an instrument can accurately measure in a typical sample. Per TRRP, the Unadjusted MQLs should be below the Levels of Required Performance (LORPs) for purposes of assessment as well as demonstration of conformance with critical Protective Concentration Levels (PCLs).

<u>MQL</u> – the unadjusted MQL adjusted to reflect sample-specific actions, such as dilution or use of smaller aliquot sizes than prescribed in the analytical method, and takes into account sample characteristics, sample preparation, and analytical adjustments including dry-weight adjustments. It is a measure of the concentration an instrument can accurately measure in a given sample. Analytes with concentrations above the SDL but below the MQL, though present in the sample, may not be accurately measured and are thus flagged as estimated (J).

LABORATORY CERTIFICATION

At the time the laboratory data were generated for this project, the laboratory was NELAC accredited under the Texas Laboratory Accreditation Program (TLAP) for the matrices, methods and parameters of analysis requested on the chain-of-custody forms. A copy of the applicable pages of the laboratory's National Environmental Laboratory Accreditation Program (NELAP) certificate valid during the period in which the laboratory generated the data in this report is included in Appendix 10.5 to this DUS.

USABILITY SUMMARY

- 1. Usability of Unqualified Non-Detects Non-detects are reported at the sample detection limit (SDL) as required per TRRP. Additionally, according to the LRC, an MDL study was performed for each analyte and the MDLs were checked for reasonableness for each applicable analyte. The levels of required performance (LORPs) have been established by Golder/PBW as the Residential Assessment Levels (RALs), which are the minimum of the TRRP residential Tier 1 GWGW_{Ing} PCLs or GWGW_{Inh-v} applicable for Class 1/Class 2 groundwater. However Tier 1 PCLs have not been developed for PFCs, and thus, the laboratory MQL is acceptable as the LORP. The analytical methods are appropriate and the results can be used to demonstrate conformance with the criteria.
- 2. Usability of Qualified Data There are no major QC deficiencies, and thus all data is usable as qualified for the intended use. No qualifications were made by the reviewer in this data package.

Reviewer: Jing Song Xi 3/10/14



QUALITY CONTROL PARAMETERS AND OUTCOMES

Data Completeness

The laboratory data packages contain all necessary data (i.e., the laboratory reportable data per TRRP-13) and the EDD contain all sample results in acceptable format.

Chain-of-Custody

Proper sample custody procedures were used, which confirms that the integrity of the samples was maintained. Additionally, the information on the custody records is complete and agrees with that in the field notes and laboratory reports.

Sample Condition

Samples were collected in appropriate containers, properly preserved in the field, and prepared and analyzed within the holding times as required in the analytical methods, which ensures that the samples were not affected by analyte degradation:

■ For 280-51308-1, the temperature of the cooler at receipt was 2.8°C.

Field Procedures

The samples were collected and placed immediately into sterilized jars provided by the laboratory and then into a cooler with ice for overnight delivery to the laboratory.

One site-specific MS/MSD sample and one field blank were collected with the investigative sample.

Results Reporting Procedures

Because PFCs are not regulated by TRRP, a TRRP package was not provided. The laboratory indicated the Reporting Limit (RL) is equivalent to the MQL and the MDL is equivalent the SDL. Equis format EDDs were provided.

Results are reported in mg/L. Non-detects are reported using the SDL as specified per TRRP and detects between the SDL and MQL are reported with a laboratory J-flag. The concentration reported for detects between the SDL and MQL is below the calibration range and thus is considered estimated.

MQLs- The LORPs have been established by Golder/PBW as the Resident Assessment Levels (RALs), which are the minimum of the TRRP residential Tier 1 ^{GW}GW_{Ing} PCLs or ^{GW}GW_{Inh-v} applicable for Class 1/Class 2 groundwater. However Tier 1 PCLs have not been developed for PFCs, and thus, the laboratory MQL is acceptable as the LORP.





Data Usability Summary Test America Work Orders: 280-51308-1

MDLs- According to the LRC, an MDL study was performed for each analyte, and the MDLs were checked for reasonableness and either adjusted or supported by the analysis of detectability check standards (DCS) for each applicable analyte as required per TRRP-13. Results for the DCS are included in the data packages.

Laboratory Blanks – Results for samples prepared in the same QC batch as a contaminated method blank may be affected by laboratory contamination. There were no detections in laboratory blanks for this work order.

Field QC Blanks

One field blank was collected to document ambient conditions and if potential contaminants were present in the area of sampling. No analytes were detected in the field QC blank, thus there is no effect on data quality.

Laboratory Control Sample

The laboratory prepared one laboratory control sample (LCS) for each analytical batch and reported recoveries for all of the analytes for each test. The LCS recoveries are within the TRRP recommended criteria, which indicates good accuracy for the preparation and analysis technique on a sample, free of matrix effects.

Matrix Spike Recovery

The laboratory prepared one or more matrix spike (MS) and matrix spike duplicate (MSD) with each analytical batch. MS/MSD recoveries are reported for the same analytes as the LCS for MS/MSD prepared using a sample from the site, which includes 1 MS/MSD for PFCs, as shown in Table 1.

The MS/MSD recoveries are within the TRRP recommended criteria, which indicates good accuracy for the preparation and analysis technique on a sample free of matrix effects.

Surrogate Recovery

Surrogate recoveries are within the TRRP recommended criteria, which indicates good accuracy for the extraction of surrogates from the samples.

Laboratory Duplicate Precision

The laboratory prepared one or more Matrix Spike Duplicate (MSD) with each analytical batch for each test. RPDs are reported for the same analytes as the LCS for MSD/MD prepared using a sample from the site, which includes 1 MSD and MD for PFCs, as shown in Table 1.



The MSD and MD RPDs are within the TRRP recommended criteria, which indicates good precision for the preparation and analysis technique for the given sample matrix.

Field Duplicate Precision

No field duplicates were collected with the sample for this work order.

Instrument Tuning

According to the LRC, instrument tuning met method requirements for the samples, which indicates the

GC/MS instrument was properly set up to identify analytes.

Instrument Calibration

According to the LRC, initial and continuing calibration data met method requirements for all reported results, which indicates the instruments were properly calibrated to measure analyte concentrations.

Instrument Performance

According to the LRC, the serial dilution and ICP interference check samples met method requirements, which indicates that no significant matrix interference exists.

Internal Standards

According to the LRC, area counts and retention times were within method requirements.



TABLE 1
CROSS REFERENCE OF FIELD SAMPLE IDENTIFICATIONS AND LABORATORY IDENTIFICATIONS

Lab Sample ID	Field Sample ID	Prep Batch/ Analysis Batch Sample Date		Matrix	Comments	
280-51308-1	MW-43	209118,209253/ 209567,209694	1/17/2014	Water	site-specific MS/MSD	
280-51308-2	Field Blank	209118,209253/ 209567,209694	1/17/2014	Water	Field Blank	

TABLE 2 - QUALIFIED DATA

Lab Sample ID	Field Sample ID	Analyte	Result Units Qualifer		Explanation			
No samples affected								

Note

Detected results between the SDL and MQL (i.e., results with a laboratory J-flag) have been included in the above table since the reported concentration is below the calibration range.

- J Estimated data; The analyte was detected and identified. The associated numerical value (i.e., the reported sample concentration) is the approximate concentration of the analyte in the sample.
- NJ Tentatively identified, estimated data; The analysis indicates the presence of the analyte for which there is presumptive evidence to make a tentative identification and the associated numerical value represents its approximate concentration.
- NS Not selected; Another result (from a secondary dilution, different analytical method, re-sampling, etc.) is selected for use based on QC outcomes and/or reported concentrations.
- R Rejected data; The data is unusable. Serious QC deficiencies make it impossible to verify the absence or presence of this analyte.
- U Not detected; The analyte was not detected >5x (10x for common contaminants) the level in an associated blank and thus should be considered not detected above the level of the associated numerical value (i.e., the reported sample concentration).
- UJ Estimated data; The analyte was not detected above the reported sample detection limit (SDL). The numerical value of the SDL is estimated and may be inaccurate.
- H Bias in sample result is likely to be high
- L Bias in sample result is likely to be low

TABLE 3 - FIELD DUPLICATE PRECISION CALCULATIONS

Duplicate and Parent Sample Field Identification	Analyte	Sample Result	Duplicate Result	RPD ^a	Accept or Reject	Qualifier Added		
No Field Duplicates Collected								

 a RPD = ((SR - DR)*200)/(SR + DR)

A - Acceptable Data

NA - Not Analyzed

The RPD test (<50%) applies if both results are greater than 5x MQL. Otherwise, the absolute difference test (< 3x MQL) applies.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Denver 4955 Yarrow Street Arvada, CO 80002 Tel: (303)736-0100

TestAmerica Job ID: 280-51308-1

Client Project/Site: Exide Recycling Center PFC

For:

Golder Associates Inc. 500 Century Plaza Drive Suite 190 Houston, Texas 77073

Attn: Christina Higginbotham

Dear a. Joiner

Authorized for release by: 1/31/2014 6:43:47 PM

Dean Joiner, Project Manager II (713)690-4444

dean.joiner@testamericainc.com

.....LINKS

Review your project results through Total Access

Have a Question?



Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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.

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Case Narrative

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center PFC

TestAmerica Job ID: 280-51308-1

Job ID: 280-51308-1

Laboratory: TestAmerica Denver

Narrative

Job Narrative 280-51308-1

Comments

No additional comments.

Receipt

The samples were received on 1/18/2014 9:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.8° C.

LCMS

No analytical or quality issues were noted.

Organic Prep

No analytical or quality issues were noted.

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Definitions/Glossary

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center PFC

TestAmerica Job ID: 280-51308-1

Qualifiers

LCMS

Qualifier	Qualifier Description
U	Analyte was not detected at or above the SDL.
J	Result is less than the MQL but greater than or equal to the SDL and the concentration is an estimated value.

Glossary

TEQ

Toxicity Equivalent Quotient (Dioxin)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
n	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
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)

Detection Summary

Client: Golder Associates Inc.

Client Sample ID: MW-43

Project/Site: Exide Recycling Center PFC

TestAmerica Job ID: 280-51308-1

Lab Sample ID: 280-51308-1

No Detections.

Client Sample ID: FIELD BLANK Lab Sample ID: 280-51308-2

No Detections.

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Method Summary

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center PFC

TestAmerica Job ID: 280-51308-1

Method	Method Description	Protocol	Laboratory
DV-LC-0012	Perfluorinated Hydrocarbons	TAL-DEN	TAL DEN
PFC -FOSA	FOSA in Water (LC/MS/MS)	TAL-DEN	TAL DEN

Protocol References:

TAL-DEN = TestAmerica Laboratories, Denver, Facility Standard Operating Procedure.

Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

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Sample Summary

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center PFC

TestAmerica Job ID: 280-51308-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-51308-1	MW-43	Water	01/17/14 09:45	01/18/14 09:00
280-51308-2	FIELD BLANK	Water	01/17/14 09:50	01/18/14 09:00

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Client Sample Results

Client: Golder Associates Inc.

Client Sample ID: MW-43

Project/Site: Exide Recycling Center PFC

Method: DV-LC-0012 - Perfluorinated Hydrocarbons

TestAmerica Job ID: 280-51308-1

Lab Sample ID: 280-51308-1

Date Collected: 01/17/14 09:45								Matrix	c: Water
Date Received: 01/18/14 09:00						_	_		
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutane Sulfonate	0.00000847	U	0.0000206	0.0000084	mg/L		01/19/14 11:07	01/22/14 19:27	1
				7	_				
Perfluorobutyric acid	0.0000101	U	0.0000206	0.0000101	mg/L		01/19/14 11:07	01/22/14 19:27	1
Perfluorodecane Sulfonate	0.00000941	U	0.0000206	0.0000094	mg/L		01/19/14 11:07	01/22/14 19:27	1
				1					
Perfluorodecanoic acid	0.00000804	U	0.0000206	0.0000080	mg/L		01/19/14 11:07	01/22/14 19:27	1
Deall and dealers with	0.0000450		0.000000	4			04/40/44 44 07	04/00/44 40 07	
Perfluorododecanoic acid	0.0000153		0.0000309	0.0000153	Ü		01/19/14 11:07	01/22/14 19:27	1
Perfluoroheptanoic acid	0.0000136	U	0.0000309	0.0000136	mg/L		01/19/14 11:07	01/22/14 19:27	1
Perfluorohexane Sulfonate	0.00000717	U	0.0000309	0.0000071	mg/L		01/19/14 11:07	01/22/14 19:27	1
				7					
Perfluorohexanoic acid	0.00000299	U	0.0000206	0.0000029	mg/L		01/19/14 11:07	01/22/14 19:27	1
				9			044044440=	04/00/44 40 07	
Perfluorononanoic acid	0.0000179	. U	0.0000411	0.0000179	mg/L		01/19/14 11:07	01/22/14 19:27	
Perfluorooctanoic acid	0.0000101	U	0.0000206	0.0000101	mg/L		01/19/14 11:07	01/22/14 19:27	1
Perfluorooctanoic Sulfonate	0.0000137	U	0.0000309	0.0000137	mg/L		01/19/14 11:07	01/22/14 19:27	1
Perfluoropentanoic acid	0.0000112	U	0.0000309	0.0000112	mg/L		01/19/14 11:07	01/22/14 19:27	1
Perfluorotetradecanoic acid	0.0000151	U	0.0000309	0.0000151	mg/L		01/19/14 11:07	01/22/14 19:27	1
Perfluorotridecanoic acid	0.0000182	U	0.0000411	0.0000182	mg/L		01/19/14 11:07	01/22/14 19:27	1
Perfluoroundecanoic acid	0.00000709	U	0.0000206	0.0000070	mg/L		01/19/14 11:07	01/22/14 19:27	1
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Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C8 PEOA	106		60 155				01/19/14 11:07	01/22/14 19:27	

01/19/14 11:07 13C8 PFOA 01/22/14 19:27 13C8 PFOS 103 01/19/14 11:07 01/22/14 19:27 45 - 130 **Client Sample ID: FIELD BLANK** Lab Sample ID: 280-51308-2

Date Collected: 01/17/14 09:50 Date Received: 01/18/14 09:00

Matrix: Water Result Qualifier Analyte RL MDL Unit Prepared Analyzed Dil Fac Perfluorobutane Sulfonate 0.00000815 U 0.0000198 mg/L 01/19/14 11:07 01/22/14 20:04 0.0000081 0.00000969 U 0.00001980.0000096 01/19/14 11:07 01/22/14 20:04 0.00000905 U 0.0000198 01/19/14 11:07 01/22/14 20:04

Perfluorobutyric acid Perfluorodecane Sulfonate 0.0000090 mg/L Perfluorodecanoic acid 0.00000773 U 0.0000198 01/19/14 11:07 01/22/14 20:04 0.0000077 mg/L 0.0000147 U 01/19/14 11:07 Perfluorododecanoic acid 0.0000297 0.0000147 mg/L 01/22/14 20:04 0.0000131 U Perfluoroheptanoic acid 0.0000297 0.0000131 mg/L 01/19/14 11:07 01/22/14 20:04 Perfluorohexane Sulfonate 0.00000689 U 0.0000297 0.0000068 mg/L 01/19/14 11:07 01/22/14 20:04 9 Perfluorohexanoic acid 0.00000288 U 0.0000198 01/19/14 11:07 01/22/14 20:04 0.0000028 mg/L 8 0.0000172 U 0.0000396 0.0000172 mg/L Perfluorononanoic acid 01/19/14 11:07 01/22/14 20:04 Perfluorooctanoic acid 0.00000968 U 0.0000198 01/19/14 11:07 01/22/14 20:04 0.0000096 mg/L Perfluorooctanoic Sulfonate 0.0000132 U 0.0000297 0.0000132 mg/L 01/19/14 11:07 01/22/14 20:04 0.0000108 U 0.0000297 0.0000108 mg/L 01/19/14 11:07 01/22/14 20:04 Perfluoropentanoic acid Perfluorotetradecanoic acid 0.0000145 U 0.0000297 0.0000145 mg/L 01/19/14 11:07 01/22/14 20:04 Perfluorotridecanoic acid 0.0000175 U 0.0000396 0.0000175 mg/L 01/19/14 11:07 01/22/14 20:04 Perfluoroundecanoic acid 0.00000681 U 0.0000198 0.0000068 mg/L 01/19/14 11:07 01/22/14 20:04

TestAmerica Denver

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Client Sample Results

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center PFC

TestAmerica Job ID: 280-51308-1

Method: DV-LC-0012 - Perfluorinated Hydrocarbons (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOA	107		60 - 155	01/19/14 11:07	01/22/14 20:04	1
13C8 PFOS	103		45 - 130	01/19/14 11:07	01/22/14 20:04	1

Method: PFC -FOSA - FOSA in Water (LC/MS/MS)

Client Sample ID: MW-43	Lab Sample ID: 280-51308-1
Date Collected: 01/17/14 09:45	Matrix: Water
Date Received: 01/18/14 09:00	

Analyte	Result	Qualifier	RL	MDL	Unit	I	D	Prepared	Analyzed	Dil Fac
Perfluorooctane Sulfonamide	0.00000573	U	0.0000502	0.0000057	mg/L			01/20/14 18:06	01/22/14 01:14	1
				3						

Client Sample ID: FIELD BLANK	Lab Sample ID: 280-51308-2
Date Collected: 01/17/14 09:50	Matrix: Water

Date Received: 01/18/14 09:00									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctane Sulfonamide	0.00000560	U	0.0000490	0.0000056	mg/L		01/20/14 18:06	01/22/14 01:51	1

TestAmerica Job ID: 280-51308-1

Client: Golder Associates Inc. Project/Site: Exide Recycling Center PFC

Method: DV-LC-0012 - Perfluorinated Hydrocarbons

Lab Sample ID: MB 280-209118/1-A

Matrix: Water

Analysis Batch: 209694

Client Sample ID: Method Blank

Prep Batch: 209118

Prep Type: Total/NA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutane Sulfonate	0.00000824	U	0.0000200	0.0000082	mg/L	_	01/19/14 11:07	01/22/14 19:03	1
Perfluorobutyric acid	0.00000980	U	0.0000200	0.0000098	mg/L		01/19/14 11:07	01/22/14 19:03	1
Perfluorodecane Sulfonate	0.00000915	U	0.0000200	0.0000091	mg/L		01/19/14 11:07	01/22/14 19:03	1
Perfluorodecanoic acid	0.00000782	Ü	0.0000200	0.0000078	mg/L		01/19/14 11:07	01/22/14 19:03	1
Perfluorododecanoic acid	0.0000149	U	0.0000300	0.0000149	mg/L		01/19/14 11:07	01/22/14 19:03	1
Perfluoroheptanoic acid	0.0000132	U	0.0000300	0.0000132	mg/L		01/19/14 11:07	01/22/14 19:03	1
Perfluorohexane Sulfonate	0.00000697	U	0.0000300	0.0000069	mg/L		01/19/14 11:07	01/22/14 19:03	1
Perfluorohexanoic acid	0.00000291	U	0.0000200	0.0000029	mg/L		01/19/14 11:07	01/22/14 19:03	1
Perfluorononanoic acid	0.0000174	U	0.0000400	0.0000174	mg/L		01/19/14 11:07	01/22/14 19:03	1
Perfluorooctanoic acid	0.00000979	U	0.0000200	0.0000097	mg/L		01/19/14 11:07	01/22/14 19:03	1
Perfluorooctanoic Sulfonate	0.0000133	U	0.0000300	0.0000133	mg/L		01/19/14 11:07	01/22/14 19:03	1
Perfluoropentanoic acid	0.0000109	U	0.0000300	0.0000109	mg/L		01/19/14 11:07	01/22/14 19:03	1
Perfluorotetradecanoic acid	0.0000147	U	0.000300	0.0000147	mg/L		01/19/14 11:07	01/22/14 19:03	1
Perfluorotridecanoic acid	0.0000177	U	0.0000400	0.0000177	mg/L		01/19/14 11:07	01/22/14 19:03	1
Perfluoroundecanoic acid	0.00000689	U	0.0000200	0.0000068	mg/L		01/19/14 11:07	01/22/14 19:03	1
				9					

MB MB

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOA	100		60 - 155	01/19/14 11:07	01/22/14 19:03	1
13C8 PFOS	94		45 - 130	01/19/14 11:07	01/22/14 19:03	1

Lab Sample ID: LCS 280-209118/2-A

Matrix: Water

Analysis Batch: 209694

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

Prep Batch: 209118

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Perfluorobutane Sulfonate	0.000177	0.0001684		mg/L		95	70 - 134	
Perfluorobutyric acid	0.000200	0.0002000		mg/L		100	70 - 130	
Perfluorodecane Sulfonate	0.000193	0.0001532		mg/L		79	34 - 130	
Perfluorodecanoic acid	0.000200	0.0001983		mg/L		99	70 - 130	
Perfluorododecanoic acid	0.000200	0.0001975		mg/L		99	66 - 133	
Perfluoroheptanoic acid	0.000200	0.0002052		mg/L		103	70 - 135	
Perfluorohexane Sulfonate	0.000189	0.0001796		mg/L		95	70 - 132	
Perfluorohexanoic acid	0.000200	0.0001957		mg/L		98	70 - 130	
Perfluorononanoic acid	0.000200	0.0001925		mg/L		96	69 - 143	
Perfluorooctanoic acid	0.000200	0.0002094		mg/L		105	70 - 130	
Perfluorooctanoic Sulfonate	0.000191	0.0001960		mg/L		103	70 - 130	
Perfluoropentanoic acid	0.000200	0.0002065		mg/L		103	66 - 134	
Perfluorotetradecanoic acid	0.000200	0.0001678		mg/L		84	23 _ 149	
Perfluorotridecanoic acid	0.000200	0.0001572		mg/L		79	26 - 136	
Perfluoroundecanoic acid	0.000200	0.0002096		mg/L		105	70 - 130	

TestAmerica Denver

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Client: Golder Associates Inc.

Project/Site: Exide Recycling Center PFC

Method: DV-LC-0012 - Perfluorinated Hydrocarbons (Continued)

Lab Sample ID: LCS 280-209118/2-A

Matrix: Water

Analysis Batch: 209694

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

Prep Batch: 209118

LCS LCS

Surrogate	%Recovery	Qualifier	Limits
13C8 PFOA	107		60 - 155
13C8 PFOS	101		45 - 130

Lab Sample ID: 280-51308-1 MS

Matrix: Water

Analysis Batch: 209694

Client Sample ID: MW-43 Prep Type: Total/NA

Prep Batch: 209118

	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Perfluorobutane Sulfonate	0.00000847	U	0.000178	0.0001943		mg/L		109	70 - 134	
Perfluorobutyric acid	0.0000101	U	0.000201	0.0002025		mg/L		101	70 - 130	
Perfluorodecane Sulfonate	0.00000941	U	0.000194	0.0001970		mg/L		102	34 - 130	
Perfluorodecanoic acid	0.00000804	U	0.000201	0.0002100		mg/L		105	70 - 130	
Perfluorododecanoic acid	0.0000153	U	0.000201	0.0002005		mg/L		100	66 - 133	
Perfluoroheptanoic acid	0.0000136	U	0.000201	0.0002255		mg/L		112	70 _ 135	
Perfluorohexane Sulfonate	0.00000717	U	0.000190	0.0001753		mg/L		92	70 - 132	
Perfluorohexanoic acid	0.00000299	U	0.000201	0.0001948		mg/L		97	70 - 130	
Perfluorononanoic acid	0.0000179	U	0.000201	0.0002161		mg/L		108	69 - 143	
Perfluorooctanoic acid	0.0000101	U	0.000201	0.0002170		mg/L		108	70 - 130	
Perfluorooctanoic Sulfonate	0.0000137	U	0.000192	0.0002263		mg/L		118	70 - 130	
Perfluoropentanoic acid	0.0000112	U	0.000201	0.0002014		mg/L		100	66 - 134	
Perfluorotetradecanoic acid	0.0000151	U	0.000201	0.0002286		mg/L		114	23 _ 149	
Perfluorotridecanoic acid	0.0000182	U	0.000201	0.0002268		mg/L		113	26 - 136	
Perfluoroundecanoic acid	0.00000709	U	0.000201	0.0002181		mg/L		109	70 - 130	

MS MS

Surrogate %Recovery Qualifier Limits 13C8 PFOA 60 - 155 107 13C8 PFOS 106 45 - 130

Lab Sample ID: 280-51308-1 MSD

Matrix: Water

Analysis Batch: 209694

Client Sample ID: MW-43 Prep Type: Total/NA **Prep Batch: 209118**

Analysis Baton: 200004									1.00.	Jutoii. L	
	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Perfluorobutane Sulfonate	0.00000847	U	0.000178	0.0001820		mg/L		102	70 - 134	7	30
Perfluorobutyric acid	0.0000101	U	0.000202	0.0002090		mg/L		104	70 - 130	3	30
Perfluorodecane Sulfonate	0.00000941	U	0.000195	0.0001659		mg/L		85	34 - 130	17	30
Perfluorodecanoic acid	0.00000804	U	0.000202	0.0002197		mg/L		109	70 - 130	4	30
Perfluorododecanoic acid	0.0000153	U	0.000202	0.0001992		mg/L		99	66 - 133	1	30
Perfluoroheptanoic acid	0.0000136	U	0.000202	0.0002050		mg/L		102	70 - 135	10	30
Perfluorohexane Sulfonate	0.00000717	U	0.000191	0.0001907		mg/L		100	70 - 132	8	30
Perfluorohexanoic acid	0.00000299	U	0.000202	0.0002050		mg/L		102	70 - 130	5	30
Perfluorononanoic acid	0.0000179	U	0.000202	0.0001965		mg/L		97	69 - 143	9	30
Perfluorooctanoic acid	0.0000101	U	0.000202	0.0001996		mg/L		99	70 - 130	8	20
Perfluorooctanoic Sulfonate	0.0000137	U	0.000193	0.0002076		mg/L		108	70 - 130	9	20
Perfluoropentanoic acid	0.0000112	U	0.000202	0.0001996		mg/L		99	66 - 134	1	30
Perfluorotetradecanoic acid	0.0000151	U	0.000202	0.0002338		mg/L		116	23 - 149	2	30
Perfluorotridecanoic acid	0.0000182	U	0.000202	0.0002272		mg/L		113	26 - 136	0	30
Perfluoroundecanoic acid	0.00000709	U	0.000202	0.0002224		mg/L		110	70 - 130	2	30

TestAmerica Denver

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TestAmerica Job ID: 280-51308-1

Project/Site: Exide Recycling Center PFC

Method: DV-LC-0012 - Perfluorinated Hydrocarbons (Continued)

Lab Sample ID: 280-51308-1 MSD

Matrix: Water

Analysis Batch: 209694

Client: Golder Associates Inc.

Client Sample ID: MW-43 Prep Type: Total/NA

Prep Batch: 209118

MSD MSD

Surrogate	%Recovery Q	ualifier	Limits
13C8 PFOA	100		60 - 155
13C8 PFOS	103		45 - 130

Lab Sample ID: DLCK 280-209694/14

DLCK DLCK

0.547 U

0.728 U

0.886 U

0.5267 J

Matrix: Water

Analysis Batch: 209694

Client Sample	ID: L	_ab	Control	Sample
		2	Turner	Total/NIA

%Rec.

70 - 130

70 - 130

70 - 130

70 - 130

106

126

107

105

Prep Type: Total/NA

Spike Added Result Qualifier Analyte Unit %Rec Limits 0.443 Perfluorobutane Sulfonate 0.4726 J ug/L 107 70 _ 130 Perfluorobutyric acid 0.500 0.4997 J ug/L 100 70 - 130 0.483 Perfluorodecane Sulfonate 0.4717 J ug/L 98 70 - 130 Perfluorodecanoic acid 0.500 0.4452 J ug/L 89 70 - 130 Perfluorododecanoic acid 0.500 0.746 U ug/L 97 70 - 130Perfluoroheptanoic acid 0.500 0.658 U ug/L 96 70 - 130 0.473 0.5207 J 110 70 - 130 Perfluorohexane Sulfonate ug/L Perfluorohexanoic acid 0.500 0.4851 J ug/L 97 70 - 130 Perfluorononanoic acid 0.500 0.872 U ug/L 98 70 - 130 Perfluorooctanoic acid 0.500 0.5474 J ug/L 109 70 - 130 Perfluorooctanoic Sulfonate 0.478 0.666 U ug/L 108 70 - 130

0.500

0.500

0.500

0.500

DLCK DLCK Qualifier %Recovery 104

83

Limits 60 - 155

45 - 130

Method: PFC -FOSA - FOSA in Water (LC/MS/MS)

Lab Sample ID: DLCK 280-207250/13

Matrix: Water

Analyte

Surrogate

13C8 PFOA

13C8 PFOS

Perfluoropentanoic acid

Perfluorotridecanoic acid

Perfluoroundecanoic acid

Perfluorotetradecanoic acid

Analysis Batch: 207250

Perfluorooctane Sulfonamide

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

ug/L

ug/L

ug/L

ug/L

DLCK DLCK Spike %Rec. Added Result Qualifier Unit %Rec Limits 0.500 0.4335 J ug/L 87 70 - 130

Lab Sample ID: MB 280-209253/1-A

Matrix: Water

Analysis Batch: 209567

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

Prep Batch: 209253

мв мв Result Qualifier MDL Unit Prepared Analyzed Dil Fac 0.00000571 U 0.0000500 01/20/14 18:06 01/22/14 00:37 Perfluorooctane Sulfonamide mg/L 0.0000057

TestAmerica Denver

QC Sample Results

Client: Golder Associates Inc.

Analysis Batch: 209567

Analysis Batch: 209567

Perfluorooctane Sulfonamide

Matrix: Water

Matrix: Water

Analyte

Project/Site: Exide Recycling Center PFC

Lab Sample ID: LCS 280-209253/2-A

Lab Sample ID: 280-51308-1 MS

Method: PFC -FOSA - FOSA in Water (LC/MS/MS) (Continued)

Sample Sample

0.00000573 U

Result Qualifier

TestAmerica Job ID: 280-51308-1

57 - 133

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

Prep Batch: 209253

Analyte Added Result Qualifier Limits Unit %Rec 57 - 133 Perfluorooctane Sulfonamide 0.000200 0.0002426 mg/L 121

Spike

Spike

Added

0.000199

LCS LCS

MS MS

0.0002482

Result Qualifier

Unit

mg/L

%Rec

125

Client Sample ID: MW-43 Prep Type: Total/NA

Prep Batch: 209253

Limits

Client Sample ID: MW-43 Lab Sample ID: 280-51308-1 MSD

Matrix: Water Prep Type: Total/NA Analysis Batch: 209567 **Prep Batch: 209253**

Spike MSD MSD RPD Sample Sample %Rec. Limit Result Qualifier Added Result Qualifier Unit %Rec Limits **RPD** Perfluorooctane Sulfonamide 0.00000573 U 0.000196 0.0002381 122 57 - 133 mg/L

QC Association Summary

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center PFC

TestAmerica Job ID: 280-51308-1

LCMS

Analysis Batch: 207250

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
DLCK 280-207250/13	Lab Control Sample	Total/NA	Water	PFC -FOSA	

Prep Batch: 209118

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-51308-1	MW-43	Total/NA	Water	3535	
280-51308-1 MS	MW-43	Total/NA	Water	3535	
280-51308-1 MSD	MW-43	Total/NA	Water	3535	
280-51308-2	FIELD BLANK	Total/NA	Water	3535	
LCS 280-209118/2-A	Lab Control Sample	Total/NA	Water	3535	
MB 280-209118/1-A	Method Blank	Total/NA	Water	3535	

Prep Batch: 209253

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-51308-1	MW-43	Total/NA	Water	3535	_
280-51308-1 MS	MW-43	Total/NA	Water	3535	
280-51308-1 MSD	MW-43	Total/NA	Water	3535	
280-51308-2	FIELD BLANK	Total/NA	Water	3535	
LCS 280-209253/2-A	Lab Control Sample	Total/NA	Water	3535	
MB 280-209253/1-A	Method Blank	Total/NA	Water	3535	

Analysis Batch: 209567

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-51308-1	MW-43	Total/NA	Water	PFC -FOSA	209253
280-51308-1 MS	MW-43	Total/NA	Water	PFC -FOSA	209253
280-51308-1 MSD	MW-43	Total/NA	Water	PFC -FOSA	209253
280-51308-2	FIELD BLANK	Total/NA	Water	PFC -FOSA	209253
LCS 280-209253/2-A	Lab Control Sample	Total/NA	Water	PFC -FOSA	209253
MB 280-209253/1-A	Method Blank	Total/NA	Water	PFC -FOSA	209253

Analysis Batch: 209694

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-51308-1	MW-43	Total/NA	Water	DV-LC-0012	209118
280-51308-1 MS	MW-43	Total/NA	Water	DV-LC-0012	209118
280-51308-1 MSD	MW-43	Total/NA	Water	DV-LC-0012	209118
280-51308-2	FIELD BLANK	Total/NA	Water	DV-LC-0012	209118
DLCK 280-209694/14	Lab Control Sample	Total/NA	Water	DV-LC-0012	
LCS 280-209118/2-A	Lab Control Sample	Total/NA	Water	DV-LC-0012	209118
MB 280-209118/1-A	Method Blank	Total/NA	Water	DV-LC-0012	209118

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Lab Chronicle

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center PFC

TestAmerica Job ID: 280-51308-1

Lab Sample ID: 280-51308-1

Matrix: Water

Client Sample ID: MW-43 Date Collected: 01/17/14 09:45 Date Received: 01/18/14 09:00

_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	3535			249 mL	5 mL	209253	01/20/14 18:06	CDC	TAL DEN
Total/NA	Analysis	PFC -FOSA		1	249 mL	5 mL	209567	01/22/14 01:14	MK	TAL DEN
Total/NA	Prep	3535			243.1 mL	5 mL	209118	01/19/14 11:07	CDC	TAL DEN
Total/NA	Analysis	DV-LC-0012		1	243.1 mL	5 mL	209694	01/22/14 19:27	MK	TAL DEN

Client Sample ID: FIELD BLANK Lab Sample ID: 280-51308-2

Date Collected: 01/17/14 09:50 Matrix: Water

Date Received: 01/18/14 09:00

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	3535			254.9 mL	5 mL	209253	01/20/14 18:06	CDC	TAL DEN
Total/NA	Analysis	PFC -FOSA		1	254.9 mL	5 mL	209567	01/22/14 01:51	MK	TAL DEN
Total/NA	Prep	3535			252.8 mL	5 mL	209118	01/19/14 11:07	CDC	TAL DEN
Total/NA	Analysis	DV-LC-0012		1	252.8 mL	5 mL	209694	01/22/14 20:04	MK	TAL DEN

Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

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Login Sample Receipt Checklist

Client: Golder Associates Inc. Job Number: 280-51308-1

Login Number: 51308 List Source: TestAmerica Denver

List Number: 1

Creator: O'Tormey, Stephanie R

Creator. O formey, Stephanie K		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td>	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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Labor	ratory	Review Checklist: Reportable Data					
Laborat	ory Nam	ne: TestAmerica Denver LRC Date: 1/31/14					
Project	Name: C	Golder Associates, Exide Recycling Center, Frisco TX Laboratory Job Number: 280-51308-1					
		: Teresa Williams Prep Batch Number(s): 209253, 20918					
#1	A^2	Description	Yes	No	NA^3	NR ⁴	ER# ⁵
		Chain-of-custody (C-O-C)					
R1	OI	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	OI	Sample and quality control (QC) identification					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	Test reports					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results <mql, all="" bracketed="" by="" calibration="" other="" raw="" standards?<="" th="" values="" were=""><th>X</th><th></th><th></th><th></th><th></th></mql,>	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample quantitation limits reported for all analytes not detected?	X		v		
		Were all results for soil and sediment samples reported on a dry weight basis? Were % moisture (or solids) reported for all soil and sediment samples?	 	 	X		
		If required for the project, TICs reported?			X		
D4	0				Λ		
R4	U	Surrogate recovery data Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
R5	OI	Test reports/summary forms for blank samples	2				
KS	OI	Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if					
		applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	Laboratory control samples (LCS):					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL					
		used to calculate the SQLs?	X				
		Was the LCSD RPD within QC limits?	X				
R 7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits? Were MS/MSD RPDs within laboratory QC limits?	X	-			<u> </u>
Do	OI		Λ				
R8	OI	Analytical duplicate data Were appropriate analytical duplicates analyzed for each matrix?			X		
		Were analytical duplicates analyzed at the appropriate frequency?			X		
		Were RPDs or relative standard deviations within the laboratory QC limits?			X		
R9	OI	Practical quantitation limits (MQLs):			2.2		
K)	01	Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs included in the laboratory data package?	X				
R10	OI	Other problems/anomalies					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SQL minimize the matrix					
		interference affects on the sample results?	X				
				_			

Items identified by the letter "R" must be included in the laboratory data package submitted in the required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

² O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);

³ NA = Not applicable;

⁴ NR = Not Reviewed;

⁵ ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the LRC).

Labo	ratory	Review Checklist: Reportable Data					
		ne: TestAmerica Denver LRC Date: 1/31/14					
Project	Name: C	Golder Associates, Exide Recycling Center, Frisco TX Laboratory Job Number: 280-51308-1					
Review	er Name	e: Teresa Williams Prep Batch Number(s): 209253, 20918					
# ¹	A^2	Description	Yes	No	NA^3	NR ⁴	ER# ⁵
S1	OI	Initial calibration (ICAL)	100	1,0	1111	1120	EIT.
51	01	Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?					
			X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	Initial and continuing calibration verification (ICCV and CCV) and continuing calibration					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
L	<u>L</u>	Was the absolute value of the analyte concentration in the inorganic CCB <mdl?< td=""><td></td><td></td><td>X</td><td></td><td></td></mdl?<>			X		
S3	О	Mass spectral tuning:					
		Was the appropriate compound for the method used for tuning?	X				
		Were ion abundance data within the method-required QC limits?	X				
S4	0	Internal standards (IS):					
		Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	Raw data (NELAC Section 1 Appendix A glossary, and Section 5.12 or ISO/IEC 17025					
		Section 4.12.2) (Only use data for epa level 3 qa/qc revieW, if raw data not applicable, then change					
		appropriately)					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	О	Dual column confirmation					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	Tentatively identified compounds (TICs):					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	Interference Check Sample (ICS) results:					
		Were percent recoveries within method QC limits?			X		
S9	I	Serial dilutions, post digestion spikes, and method of standard additions					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the					
		method?			X		
S10	OI	Method detection limit (MDL) studies					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	Proficiency test reports:					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation					
		studies?	X				
S12	OI	Standards documentation					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate					
		sources?	X				
S13	OI	Compound/analyte identification procedures					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	Demonstration of analyst competency (DOC)					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X				
	0-	Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	Verification/validation documentation for methods (NELAC Chap 5 or ISO/IEC 17025					
	1	Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where	¥7				
017	OT	applicable?	X				
S16	OI	Laboratory standard operating procedures (SOPs)	T 7				
		Are laboratory SOPs current and on file for each method performed?	X				

Items identified by the letter "R" must be included in the laboratory data package submitted in the required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

 $[\]label{eq:optimizero} O = organic \ analyses; \quad I = inorganic \ analyses \ (and \ general \ chemistry, \ when \ applicable);$

³ NA = Not applicable;

⁴ NR = Not Reviewed;

⁵ ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the LRC).

Prep Batch Number(s): 209253, 20918

ER# ¹	Description
	0
¹ ER# = 1	Exception Report identification number (an exception Report should be completed for an item if "NR" or "No" is checked on the LRC).

Laboratory Name: TestAmerica Denver

Reviewer Name: Teresa Williams

Detection Check Standard TA Denver

Matrix: Water Method: PFC_FOSA **Prep Method:** 3535 12/10/2013 Date Analyzed: Job #: 280-49946-1 **TALS Batch:** 204567 **Units:** ug/L

Analyte	instrument #	MDL	DCS Spike	Measured Result	MQL
Perfluorooctane Sulfonamide	LC_LCMS5	0.006	0.015	0.012	0.05

Detection Check Standard TA Denver

 Matrix:
 Water

 Method:
 PFC

 Prep Method:
 3535

 Date Analyzed:
 12/12/2013

 Job #:
 280-49946-1

 TALS Batch:
 205162

 Units:
 ug/L

Analyte	Instrument #	MDL	DCS Spike	Measured Result	MQL
Perfluorobutane Sulfonate	LC_LCMS5	0.008	0.018	0.017	0.02
Perfluorobutyric acid	LC_LCMS5	0.010	0.020	0.022	0.02
Perfluorodecane Sulfonate	LC_LCMS5	0.009	0.019	0.018	0.02
Perfluorodecanoic acid	LC_LCMS5	0.008	0.008	0.010	0.02
Perfluorododecanoic acid	LC_LCMS5	0.015	0.020	0.019	0.03
Perfluoroheptanoic acid	LC_LCMS5	0.013	0.020	0.021	0.03
Perfluorohexane Sulfonate	LC_LCMS5	0.007	0.008	0.011	0.03
Perfluorohexanoic acid	LC_LCMS5	0.003	0.008	0.010	0.02
Perfluorononanoic acid	LC_LCMS5	0.017	0.020	0.020	0.04
Perfluorooctanoic acid	LC_LCMS5	0.010	0.020	0.022	0.02
Perfluorooctanoic Sulfonate	LC_LCMS5	0.013	0.019	0.022	0.03
Perfluoropentanoic acid	LC_LCMS5	0.011	0.020	0.016	0.03
Perfluorotetradecanoic acid	LC_LCMS5	0.015	0.020	0.016	0.03
Perfluorotridecanoic acid	LC_LCMS5	0.018	0.020	0.018	0.04
Perfluoroundecanoic acid	LC_LCMS5	0.007	0.008	0.009	0.02

DCS = Detection Check Standard MQL = Method Quantitation Limit

6

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12



Data Usability Summary

Test America Work Orders: 280-51308-1

Sample Dates: January 17, 2014 Project No.: 1302086

Laboratory: Test America Client: Exide Technologies Inc.

(Houston TLAP Certification

T104704223)

(Denver TLAP Certification

T104704183-13-8)

Work Orders: Work Orders: 280-51308-1

Intended Use Affected Property Assessment Report (APAR)

Site: Exide Former Operating Plant (FOP), 7471 5th Street, Frisco, TX

TESTS/ METHODS

Perfluorinated Compounds (PFCs) by TestAmerica Proprietary Method – Liquid Chromatography (LC)/MS (DV-LC-0012). The analyses were performed by the TestAmerica Denver, CO laboratory.

SAMPLES

1 groundwater sample, 1 field blank, and 1 field MS/MSD pair. See Table 1 for a complete cross-referenced listing of samples.

Golder completed a review of the above chemical analysis data for conformance with the requirements of the Texas Risk Reduction Program (TRRP) guidance document, Review and Reporting of COC Concentration Data (RGG-366/TRRP-13 Revised May 2010) and for adherence to project objectives. The results of the review are discussed in this data usability summary (DUS).

Golder completed the review using the following laboratory and project submittals:

- Laboratory reportable data as defined in TRRP-13;
- Laboratory review checklists (LRC) with the associated exception reports;
- Laboratory Electronic Data Deliverable (EDD); and
- Project field notes from the sampling event.

The review of the reportable data included the quality control (QC) parameters listed below, as required per TRRP-13, using the applicable analytical method and project requirements:

- Data Completeness
- Chain-of-Custody Procedures
- Sample Condition Holding Time, Preservation, and Containers
- Field Procedures
- Results Reporting Procedures





Data Usability Summary Test America Work Orders: 280-51308-1

- Laboratory and Field QC Blanks
- Laboratory Control Spike and Matrix Spike Recoveries
- Surrogate Recoveries
- Laboratory and Field Duplicate Precision

Additionally, Golder used the LRC to evaluate the following QC parameters:

- Method Quantitation Limits (MQLs)
- Method Detection Limits (MDLs)
- Instrument Tuning, Calibration, and Performance
- Internal Standards

Criteria used for this data usability review are as follows:

- Organics: 60-140% spike recovery (and not less than 10% or data is rejected) and ± MQL difference or 40% RPD (for laboratory duplicates) as recommended in TRRP-13
- Aqueous Samples: ± 2x MQL difference (if either result is less than 5x MQL) or 30% RPD (for field duplicates) as recommended in TRRP-13

If an item was found outside of the review criteria, the reviewer applied a data qualifier (DQ) and bias code to the results for the affected samples in accordance with TRRP-13. A list of all qualified results and definitions of the qualifier and bias codes are given in Table 2.

GLOSSARY OF TERMS

The following definitions apply for terms related to analyte reporting limits:

MDL (Method Detection Limit) – the minimum concentration of an analyte that the laboratory can measure and report with 99% confidence that the analyte concentration is greater than zero. The MDL is determined by the laboratory for each analyte in a given reagent matrix (water or soil) generally using the procedures specified in 40 CFR Part 136, Appendix B. It is a measure of the concentration an instrument can detect or 'see' in a given reagent matrix. TRRP-13 requires that the laboratory routinely check the MDL for reasonableness.

<u>SDL</u> (Sample Detection Limit) – the MDL adjusted to reflect sample-specific actions, such as dilution or use of smaller aliquot sizes than prescribed in the analytical method, and taking into account sample characteristics, sample preparation, and analytical adjustments including dry-weight adjustments. It is a measure of the concentration an instrument can detect or 'see' in a given sample. For TRRP, non-detects are reported using the SDL. This term was originally called the SQL (Sample Quantitation Limit) before the TRRP rule revisions effective March 19, 2007.





Data Usability Summary Test America Work Orders: 280-51308-1

<u>Unadjusted MQL (Method Quantitation Limit)</u> – the lowest non-zero concentration standard in the laboratory's initial calibration curve calculated using the normal aliquot sizes and final volumes prescribed in the analytical method. The unadjusted MQL is reported by the laboratory for each analyte in a given matrix (water or soil). It is a measure of the concentration an instrument can accurately measure in a typical sample. Per TRRP, the Unadjusted MQLs should be below the Levels of Required Performance (LORPs) for purposes of assessment as well as demonstration of conformance with critical Protective Concentration Levels (PCLs).

<u>MQL</u> – the unadjusted MQL adjusted to reflect sample-specific actions, such as dilution or use of smaller aliquot sizes than prescribed in the analytical method, and takes into account sample characteristics, sample preparation, and analytical adjustments including dry-weight adjustments. It is a measure of the concentration an instrument can accurately measure in a given sample. Analytes with concentrations above the SDL but below the MQL, though present in the sample, may not be accurately measured and are thus flagged as estimated (J).

LABORATORY CERTIFICATION

At the time the laboratory data were generated for this project, the laboratory was NELAC accredited under the Texas Laboratory Accreditation Program (TLAP) for the matrices, methods and parameters of analysis requested on the chain-of-custody forms. A copy of the applicable pages of the laboratory's National Environmental Laboratory Accreditation Program (NELAP) certificate valid during the period in which the laboratory generated the data in this report is included in Appendix 10.5 to this DUS.

USABILITY SUMMARY

- 1. Usability of Unqualified Non-Detects Non-detects are reported at the sample detection limit (SDL) as required per TRRP. Additionally, according to the LRC, an MDL study was performed for each analyte and the MDLs were checked for reasonableness for each applicable analyte. The levels of required performance (LORPs) have been established by Golder/PBW as the Residential Assessment Levels (RALs), which are the minimum of the TRRP residential Tier 1 GWGW_{Ing} PCLs or GWGW_{Inh-v} applicable for Class 1/Class 2 groundwater. However Tier 1 PCLs have not been developed for PFCs, and thus, the laboratory MQL is acceptable as the LORP. The analytical methods are appropriate and the results can be used to demonstrate conformance with the criteria.
- 2. Usability of Qualified Data There are no major QC deficiencies, and thus all data is usable as qualified for the intended use. No qualifications were made by the reviewer in this data package.

Reviewer: Jing Song Xi 3/10/14



QUALITY CONTROL PARAMETERS AND OUTCOMES

Data Completeness

The laboratory data packages contain all necessary data (i.e., the laboratory reportable data per TRRP-13) and the EDD contain all sample results in acceptable format.

Chain-of-Custody

Proper sample custody procedures were used, which confirms that the integrity of the samples was maintained. Additionally, the information on the custody records is complete and agrees with that in the field notes and laboratory reports.

Sample Condition

Samples were collected in appropriate containers, properly preserved in the field, and prepared and analyzed within the holding times as required in the analytical methods, which ensures that the samples were not affected by analyte degradation:

■ For 280-51308-1, the temperature of the cooler at receipt was 2.8°C.

Field Procedures

The samples were collected and placed immediately into sterilized jars provided by the laboratory and then into a cooler with ice for overnight delivery to the laboratory.

One site-specific MS/MSD sample and one field blank were collected with the investigative sample.

Results Reporting Procedures

Because PFCs are not regulated by TRRP, a TRRP package was not provided. The laboratory indicated the Reporting Limit (RL) is equivalent to the MQL and the MDL is equivalent the SDL. Equis format EDDs were provided.

Results are reported in mg/L. Non-detects are reported using the SDL as specified per TRRP and detects between the SDL and MQL are reported with a laboratory J-flag. The concentration reported for detects between the SDL and MQL is below the calibration range and thus is considered estimated.

MQLs- The LORPs have been established by Golder/PBW as the Resident Assessment Levels (RALs), which are the minimum of the TRRP residential Tier 1 ^{GW}GW_{Ing} PCLs or ^{GW}GW_{Inh-v} applicable for Class 1/Class 2 groundwater. However Tier 1 PCLs have not been developed for PFCs, and thus, the laboratory MQL is acceptable as the LORP.





Data Usability Summary Test America Work Orders: 280-51308-1

MDLs- According to the LRC, an MDL study was performed for each analyte, and the MDLs were checked for reasonableness and either adjusted or supported by the analysis of detectability check standards (DCS) for each applicable analyte as required per TRRP-13. Results for the DCS are included in the data packages.

Laboratory Blanks – Results for samples prepared in the same QC batch as a contaminated method blank may be affected by laboratory contamination. There were no detections in laboratory blanks for this work order.

Field QC Blanks

One field blank was collected to document ambient conditions and if potential contaminants were present in the area of sampling. No analytes were detected in the field QC blank, thus there is no effect on data quality.

Laboratory Control Sample

The laboratory prepared one laboratory control sample (LCS) for each analytical batch and reported recoveries for all of the analytes for each test. The LCS recoveries are within the TRRP recommended criteria, which indicates good accuracy for the preparation and analysis technique on a sample, free of matrix effects.

Matrix Spike Recovery

The laboratory prepared one or more matrix spike (MS) and matrix spike duplicate (MSD) with each analytical batch. MS/MSD recoveries are reported for the same analytes as the LCS for MS/MSD prepared using a sample from the site, which includes 1 MS/MSD for PFCs, as shown in Table 1.

The MS/MSD recoveries are within the TRRP recommended criteria, which indicates good accuracy for the preparation and analysis technique on a sample free of matrix effects.

Surrogate Recovery

Surrogate recoveries are within the TRRP recommended criteria, which indicates good accuracy for the extraction of surrogates from the samples.

Laboratory Duplicate Precision

The laboratory prepared one or more Matrix Spike Duplicate (MSD) with each analytical batch for each test. RPDs are reported for the same analytes as the LCS for MSD/MD prepared using a sample from the site, which includes 1 MSD and MD for PFCs, as shown in Table 1.



The MSD and MD RPDs are within the TRRP recommended criteria, which indicates good precision for the preparation and analysis technique for the given sample matrix.

Field Duplicate Precision

No field duplicates were collected with the sample for this work order.

Instrument Tuning

According to the LRC, instrument tuning met method requirements for the samples, which indicates the

GC/MS instrument was properly set up to identify analytes.

Instrument Calibration

According to the LRC, initial and continuing calibration data met method requirements for all reported results, which indicates the instruments were properly calibrated to measure analyte concentrations.

Instrument Performance

According to the LRC, the serial dilution and ICP interference check samples met method requirements, which indicates that no significant matrix interference exists.

Internal Standards

According to the LRC, area counts and retention times were within method requirements.



TABLE 1
CROSS REFERENCE OF FIELD SAMPLE IDENTIFICATIONS AND LABORATORY IDENTIFICATIONS

Field Sample ID	Prep Batch/ Analysis Batch	Sample Date	Matrix	Comments
<u>.</u>				
N. 100	125474/125593	1/16/2014	Water	site-specific MS/MSD
IVIVV-38				·
DAVA/ 41		1/17/2014	Water	
10100-41				
M/M/ 4.2		1/17/2014	Water	
10100-42				
		1/17/2014	Motor	oita angoifia MC/MCD
NAM 42		1/1//2014	water	site-specific MS/MSD
		1/17/2014	Motor	
rielu biatik		1/11/2014	water	
M/M 45		1/17/2014	Water	
10100-45				
R/D		1/17/2014	Water	
DAIX				
DLID-1		1/17/2014	Water	Duplicate of MW-43
D01 - 1				
DLID-2		1/16/2014	Water	Duplicate of MW-38
_D01 -2	123327/123000			
Dun-1	125713/126158	1/17/2014	Water	Duplicate of MW-43
Δαρ-1		1/1//2014	Water	Duplicate of WW-43
		1/17/2014	Water	
MW-40		1/1//2014	vvatci	
10100				
		1/17/2014	Water	
MW-39		1/1//2017	vvator	
	MW-38 MW-41 MW-42 MW-43 Field Blank MW-45 B4R DUP-1 DUP-2 Dup-1 MW-40 MW-39	MW-38 125474/125593 125529/125606 125474/125593 MW-41 125529 125474/125593 MW-42 125529 125734 125621/126089 MW-43 125734 125734 125734 125529 Field Blank 125734 125529 125474/125593 MW-45 125529 125474/125593 B4R 125529 125474/125593 B4R 125529 125474/125593 DUP-1 125734 DUP-1 125734 DUP-1 125734 DUP-1 125734 DUP-1 125734 DUP-2 125474/125593 DUP-2 125474/125593 DUP-2 125474/125757 125474/125757 125474/125757 125474/125757 125474/125757 125474/125757	MW-38	MW-38

TABLE 2 - QUALIFIED DATA

Lab Sample ID	Field Sample ID	Analyte	Result	Units	Qualifer	Explanation
		Acetone	< 0.00227	mg/L	UJ	CCV outside control limits
		Benzidine	< 0.0179	mg/L	R	LCS recovery below 10%; MS/MSD recovery below 10% (non-detected results)
		4-chloroaniline	< 0.000110	mg/L	UJ	LCS recovery and MS/MSD recovery below specifications, >10%
		2-chloronaphthalene	< 0.000190	mg/L	UJ	MS/MSD recovery below specifications, >10%
		1,2-dichlorobenzene	< 0.000210	mg/L	UJ	MS/MSD recovery below specifications, >10%
		1,3-dichlorobenzene	<0.000100	mg/L	UJ	MS/MSD recovery below specifications, >10%
		1,4-dichlorobenzene	<0.000160	mg/L	UJ	MS/MSD recovery below specifications, >10%
		3,3'-Dichlorobenzidine	<0.000320 <0.000250	mg/L	UJ	MS/MSD recovery below specifications, >10%
600-85797-4	MW-43	Hexachlorocyclopentadiene Hexachloroethane	<0.000250	mg/L	UJ	LCS recovery and MS recovery below specifications, >10% MS/MSD recovery below specifications, >10%
000-03/9/-4	WW-43	Hexachlorobutadiene	<0.000170	mg/L mg/L	UJ	MS/MSD recovery below specifications, >10% MS/MSD recovery below specifications, >10%
		2-Nitroaniline	<0.000170	mg/L	UJ	MS/MSD recovery below specifications, >10%
		N-Nitrosodimethylamine	<0.000350	mg/L	UJ	MS/MSD recovery below specifications, >10%
		1,2,4-Trichlorobenzene	<0.000160	mg/L	ÜĴ	MS/MSD recovery below specifications, >10%
		4,6-Dinitro-2-methylphenol	<0.000160	mg/L	UJ	MS/MSD recovery below specifications, >10%
		2,4-dinitrophenol	< 0.000330	mg/L	UJ	MS/MSD recovery below specifications, >10%
		Phenol	< 0.000140	mg/L	UJ	MS/MSD recovery below specifications, >10%
		Pentachlorophenol	< 0.000960	mg/L	UJ	LCS recovery below specifications, CCV outside control limits
		2,4,6-trichlorophenol	< 0.000330	mg/L	UJ	MS/MSD recovery below specifications, >10%
600-85797-5	Field Blank	Acetone	< 0.00227	mg/L	UJ	CCV outside control limits
600-85797-8	Dup-1	Acetone	< 0.00227	mg/L	UJ	CCV outside control limits
		Benzidine	< 0.0179	mg/L	R	LCS/LCSD recovery below 10%, CCV outside control limits (non-detected results)
j		4,6-Dinitro-2-methylphenol	<0.000160	mg/L	UJ	CCV outside control limits
		bis (2-chloroisopropyl) ether	<0.000180	mg/L	UJ	CCV outside control limits
		Acenaphthene	< 0.00016	mg/L	UJ	LCS/LCSD RPD above specifications
		Acenaphthylene	<0.00016	mg/L	UJ	LCS/LCSD RPD above specifications LCS/LCSD RPD above specifications
		Anthracene Benzo[a]anthracene	<0.00044 <0.00025	mg/L mg/L	UJ	LCS/LCSD RPD above specifications LCS/LCSD RPD above specifications
		Benzo[b]fluoranthene	<0.00025	mg/L	UJ	LCS/LCSD RPD above specifications
		Benzo[k]fluoranthene	<0.00016	mg/L	UJ	LCS/LCSD RPD above specifications
		Benzo[g,h,i]perylene	< 0.00035	mg/L	UJ	LCS/LCSD RPD above specifications
		Benzo[a]pyrene	< 0.00013	mg/L	UJ	LCS/LCSD RPD above specifications
		Bis(2-chloroethoxy)methane	< 0.00019	mg/L	UJ	LCS/LCSD RPD above specifications
		Bis(2-chloroethyl)ether	<0.00018	mg/L	UJ	LCS/LCSD RPD above specifications
		Bis(2-ethylhexyl) phthalate	< 0.00059	mg/L	UJ	LCS/LCSD RPD above specifications
		4-Bromophenyl phenyl ether	< 0.00025	mg/L	UJ	LCS/LCSD RPD above specifications
		Butyl benzyl phthalate	<0.00085	mg/L	UJ	LCS/LCSD RPD above specifications
		4-Chloroaniline	<0.00011 <0.00019	mg/L	UJ	LCS/LCSD RPD above specifications
		2-Chloronaphthalene 4-Chlorophenyl phenyl ether	<0.00019	mg/L mg/L	UJ	LCS/LCSD RPD above specifications LCS/LCSD RPD above specifications
		Carbazole	<0.00025	mg/L	UJ	LCS/LCSD RPD above specifications
		Chrysene	<0.00033	mg/L	UJ	LCS/LCSD RPD above specifications
		Di-n-butyl phthalate	< 0.00187	mg/L	UJ	LCS/LCSD RPD above specifications
		Dibenz(a,h)anthracene	< 0.00029	mg/L	UJ	LCS/LCSD RPD above specifications
		Dibenzofuran	< 0.00016	mg/L	UJ	LCS/LCSD RPD above specifications
600-85830-1	Dup-1	1,2-Dichlorobenzene	< 0.00021	mq/L	UJ	LCS/LCSD RPD above specifications
000-03030-1	Dup-1	1,3-Dichlorobenzene	< 0.0001	mg/L	UJ	LCS/LCSD RPD above specifications
		1,4-Dichlorobenzene	< 0.00016	mg/L	UJ	LCS/LCSD RPD above specifications
		3,3'-Dichlorobenzidine	< 0.00032	mg/L	UJ	LCS/LCSD RPD above specifications
		Diethyl phthalate	< 0.00419	mg/L	UJ	LCS/LCSD RPD above specifications
		Dimethyl phthalate 2,4-Dinitrotoluene	<0.00018 <0.00032	mg/L	UJ	LCS/LCSD RPD above specifications LCS/LCSD RPD above specifications
		Di-n-octyl phthalate	<0.00032	mg/L mg/L	UJ	LCS/LCSD RPD above specifications LCS/LCSD RPD above specifications
		Fluoranthene	<0.00016	mg/L	UJ	LCS/LCSD RPD above specifications
		Fluorene	<0.00031	mg/L	UJ	LCS/LCSD RPD above specifications
		Hexachlorobenzene	< 0.00012	mg/L	UJ	LCS/LCSD RPD above specifications
		Hexachlorocyclopentadiene	< 0.00015	mg/L	UJ	LCS/LCSD RPD above specifications
		Hexachloroethane	<0.00017	mg/L	UJ	LCS/LCSD RPD above specifications
		Hexachlorobutadiene	< 0.00019	mg/L	ÜJ	LCS/LCSD RPD above specifications
		Indeno[1,2,3-cd]pyrene	< 0.00029	mg/L	UJ	LCS/LCSD RPD above specifications
		Isophorone	< 0.00015	mg/L	UJ	LCS/LCSD RPD above specifications
		2-Methylnaphthalene	< 0.00014	mg/L	UJ	LCS/LCSD RPD above specifications
		Naphthalene	< 0.00016	mg/L	UJ	LCS/LCSD RPD above specifications
		2-Nitroaniline	< 0.00035	mg/L	UJ	LCS/LCSD RPD above specifications
		4-Nitroaniline	<0.00023	mg/L	UJ	LCS/LCSD RPD above specifications
		Nitrobenzene	< 0.0002	mg/L	UJ	LCS/LCSD RPD above specifications
		N-Nitrosodimethylamine	<0.00016	mg/L	UJ	LCS/LCSD RPD above specifications
		N-Nitrosodiphenylamine	<0.00033 <0.00024	mg/L	UJ UJ	LCS/LCSD RPD above specifications LCS/LCSD RPD above specifications
		N-Nitrosodi-n-propylamine Phenanthrene	<0.00024	mg/L mg/L	UJ	LCS/LCSD RPD above specifications LCS/LCSD RPD above specifications
		Prienantifrene Pyrene	<0.00029	mg/L mg/l	UJ	LCS/LCSD RPD above specifications
		FYICHE	<0.00033	HIQ/L	UJ	FC3/FC3D KFD above Specifications

Note:
Detected results between the SDL and MOL (i.e., results with a laboratory J-flag) have been included in the above table since the reported concentration is below the calibration range.

J Estimated data; The analyte was detected and identified. The associated numerical value (i.e., the reported sample concentration) is the approximate concentration of the analyte in the sample in the sample.

NJ Tentatively identified, estimated data; The analysis includes the presence of the analyte for which three presents presumptive vedience to make a tentative identification and the associated numerical value represents its approximate concentration. NS Not selected; Another result (from a secondary dilution, different analytical method, re-sampling, etc.) is selected for use based on CC outcomes and/or reported concentrations.

R Rejected data; The data is unusable. Serious CC deficiencies make it impossible to verify the absence or presence of this analyte.

U Not detected; The analyte was not detected >Sx (10x for common contaminants) the level in an associated blank and thus should be considered not detected above the level of the associated numerical value (i.e., the reported sample concentration and the standard presents its likely to be high.

L Bias in sample result its likely to be high.

TABLE 3 - FIELD DUPLICATE PRECISION CALCULATIONS

Duplicate and Parent Sample Field Identification	Analyte	Sample Result	Duplicate Result	RPD ^a	Accept or Reject	Qualifier Added
DUP-1/MW-43	No Analytes Detected			-	А	-
DUP-2/MW-38*	Selenium	0.00603	0.00630	4.4	А	-

^{*} DUP-2/MW-38 parent and duplicate sample concentrations were "J" flagged according to lab analysis

A - Acceptable Data

NA - Not Analyzed

The RPD test (<50%) applies if both results are greater than 5x MQL. Otherwise, the absolute difference test (< 3x MQL) applies.

 $^{^{}a}$ RPD = ((SR - DR)*200)/(SR + DR)



THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Houston 6310 Rothway Street Houston, TX 77040 Tel: (713)690-4444

TestAmerica Job ID: 600-85797-1

Client Project/Site: Exide Recycling Center

For:

Golder Associates Inc. 500 Century Plaza Drive Suite 190 Houston, Texas 77073

Attn: Christina Higginbotham

SML

Authorized for release by: 1/30/2014 11:30:43 AM Sophia Shah, Project Management Assistant I sophia.shah@testamericainc.com

Designee for

Dean Joiner, Project Manager II (713)690-4444 dean.joiner@testamericainc.com

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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.

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Appendix A

Laboratory Data Package Cover Page - Page 1 of 4

This data package is for TestAmerica Houston job number 600-85797-1 and consists of:

- ☑ R1 Field chain-of-custody documentation;
- ☑ R2 Sample identification cross-reference;
- ☑ R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - a. Items consistent with NELAC Chapter 5,
 - b. dilution factors,
 - c. preparation methods,
 - d. cleanup methods, and
 - e. if required for the project, tentatively identified compounds (TICs).
- ☑ R4 Surrogate recovery data including:
 - a. Calculated recovery (%R), and
 - b. The laboratory's surrogate QC limits.
- ☑ R5 Test reports/summary forms for blank samples;
- ☑ R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - a. LCS spiking amounts,
 - b. Calculated %R for each analyte, and
 - c. The laboratory's LCS QC limits.
- ☑ R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a. Samples associated with the MS/MSD clearly identified,
 - b. MS/MSD spiking amounts,
 - c. Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d. Calculated %Rs and relative percent differences (RPDs), and
 - e. The laboratory's MS/MSD QC limits
- ☑ R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - a. The amount of analyte measured in the duplicate,
 - b. The calculated RPD, and
 - c. The laboratory's QC limits for analytical duplicates.
- R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
- ☑ R10 Other problems or anomalies.

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

SIN

 Sophia Shah
 1/30/2014

 Name (printed)
 Signature
 Date

Project Management Assistant

Official Title (printed)

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Laboratory Review Checklist: Reportable Data - Page 2 of 4

Laboratory Name:	TestAmerica Houston	LRC Date:	1/30/2014
Project Name:	Exide Recycling Center	Laboratory Job Number:	600-85797-1
Paviower Name:	Dean A Joiner		

					_	
# ¹ A ²	Description	Yes	No	NA ³	NR ⁴	ER#
	i-of-custody (C-O-C)					
	amples meet the laboratory's standard conditions of sample acceptability upon receipt?	Х				
	all departures from standard conditions described in an exception report?	Х				
	le and quality control (QC) identification					
	I field sample ID numbers cross-referenced to the laboratory ID numbers?	Х				
	l laboratory ID numbers cross-referenced to the corresponding QC data?	Х				
R3 OI Test re	eports					
Were a	all samples prepared and analyzed within holding times?	Х				
Other t	than those results < MQL, were all other raw values bracketed by calibration standards?	Х				
Were o	calculations checked by a peer or supervisor?	Х				
Were a	all analyte identifications checked by a peer or supervisor?	Х				
Were	sample detection limits reported for all analytes not detected?	Х				
Were a	all results for soil and sediment samples reported on a dry weight basis?			Χ		
Were ^c	% moisture (or solids) reported for all soil and sediment samples?			Χ		
Were b	bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			Χ		
	uired for the project, are TICs reported?			Χ		
	gate recovery data					
	surrogates added prior to extraction?	Х				
	surrogate percent recoveries in all samples within the laboratory QC limits?	Х				
	eports/summary forms for blank samples					
	appropriate type(s) of blanks analyzed?	Х				
	blanks analyzed at the appropriate frequency?	Х				
	method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup					
proced		Х				
	blank concentrations < MQL?	X				
	ratory control samples (LCS):					
	all COCs included in the LCS?	Х				
	each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
	LCSs analyzed at the required frequency?	X				
	LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	^	Х			R06D
			^			KUOD
	the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used	V				
	culate the SDLs?	X				
	he LCSD RPD within QC limits?	Х				
	x spike (MS) and matrix spike duplicate (MSD) data	.,				
	the project/method specified analytes included in the MS and MSD?	Х				
	MS/MSD analyzed at the appropriate frequency?	Х	,,			
	MS (and MSD, if applicable) %Rs within the laboratory QC limits?		Х			R07C
	MS/MSD RPDs within laboratory QC limits?		Х			R07D
	tical duplicate data					
	appropriate analytical duplicates analyzed for each matrix?	Х				
	analytical duplicates analyzed at the appropriate frequency?	Х				
	RPDs or relative standard deviations within the laboratory QC limits?	Х				
	od quantitation limits (MQLs):					
	e MQLs for each method analyte included in the laboratory data package?	Χ				
	e MQLs correspond to the concentration of the lowest non-zero calibration standard?	Χ				
Are un	nadjusted MQLs and DCSs included in the laboratory data package?	Х				
10 OI Other	problems/anomalies					
Are all	I known problems/anomalies/special conditions noted in this LRC and ER?	Х				
	applicable and available technology used to lower the SDL to minimize the matrix interference effects on the					
	le results?	Х				
	laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and					
	ods associated with this laboratory data package?	Ίx				
	identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required repo		tems			

- . Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
- $2. \quad O = organic \ analyses; \ I = inorganic \ analyses \ (and \ general \ chemistry, \ when \ applicable);$
- 3. NA = Not applicable;
- 4. NR = Not reviewed;
- 5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

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Laboratory Review checklist: Supporting Data - Page 3 of 4

Laboratory Name:	TestAmerica Houston	LRC Date:	1/30/2014
Project Name:	Exide Recycling Center	Laboratory Job Number:	600-85797-1
Reviewer Name:	Dean A Joiner		

# ¹	A ²	Description	Yes	No	NA ³	NP ⁴	ER# ⁵
<u>"</u> S1		Initial calibration (ICAL)	162	NO	INA	INIX	EN#
31	Oi	Were response factors and/or relative response factors for each analyte within QC limits?	Х				
		Were percent RSDs or correlation coefficient criteria met?	X	-			
		Was the number of standards recommended in the method used for all analytes?	X				
		•	X	-			
		Were all points generated between the lowest and highest standard used to calculate the curve?	_				
		Are ICAL data available for all instruments used?	X	-			
	1	Has the initial calibration curve been verified using an appropriate second source standard?	Х				
00		history and anationing a silk-action waitingtion (IOV) and COV) and anationing a silk-action blank (COD).					
S2	OI	Initial and continuing calibration verification (ICV and CCV) and continuing calibration blank (CCB):					
		Was the CCV analyzed at the method-required frequency?	X	<u> </u>			
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X	ļ.,			
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?		Х			S02D
S3		Mass spectral tuning					
		Was the appropriate compound for the method used for tuning?	X	<u> </u>			
		Were ion abundance data within the method-required QC limits?	Х	<u> </u>			
S4		Internal standards (IS)					
		Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	Raw data (NELAC Section 5.5.10)					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	Х				
		Were data associated with manual integrations flagged on the raw data?	Х				
S6	0	Dual column confirmation					
	•	Did dual column confirmation results meet the method-required QC?			Χ		
S7	0	Tentatively identified compounds (TICs)					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			Χ		
S8	I	Interference Check Sample (ICS) results					
		Were percent recoveries within method QC limits?	Х				
S9	l	Serial dilutions, post digestion spikes, and method of standard additions	1				
	1	Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	Х				
S10		Method detection limit (MDL) studies					
	١٠.	Was a MDL study performed for each reported analyte?	Х				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	ΟI	Proficiency test reports		1			
<u> </u>		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	Х				
212		Standards documentation		1			
312	Oi	Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	Х				
242		, , , ,	^	-			
313	Oi	Compound/analyte identification procedures		-			
24.4		Are the procedures for compound/analyte identification documented?	X	-			
514	Oi	Demonstration of analyst competency (DOC)		-			
		Was DOC conducted consistent with NELAC Chapter 5?	X				
	101	Is documentation of the analyst's competency up-to-date and on file?	Х				
S15	OI	Verification/validation documentation for methods (NELAC Chapter 5)					
	T	Are all the methods used to generate the data documented, verified, and validated, where applicable?	X	<u> </u>			
S16	OI	Laboratory standard operating procedures (SOPs)		ļ			
		Are laboratory SOPs current and on file for each method performed?	X	<u> </u>			
	1.	Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required re	port(s).	Items			
		identified by the letter "S" should be retained and made available upon request for the appropriate retention period.					
	2.	O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);					
	3.	NA = Not applicable;					
	4.	NR = Not reviewed;					
	5.	ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No"	' is checl	ked).			

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Laboratory Review Checklist: Exception Reports - Page 4 of 4

Laboratory Name:	TestAmerica Houston	LRC Date:	1/30/2014
Project Name:	Exide Recycling Center	Laboratory Job Number:	600-85797-1
Reviewer Name:	Dean A Joiner		

ER # ¹	Description
R06D	Method 8270C LL: The laboratory control sample (LCS) associated with batch 125621 was biased low for Benzidine and high for Aniline. Aniline and Benzidine have been identified as poor performing analytes when analyzed using this method; therefore, re-extraction/re-analyses were not performed.
R07C	Method 8260B: The matrix spike duplicate (MSD) recoveries and precision for batch 600-125734 were outside control limits. Sample matrix interference are suspected. Method 8270C LL: The matrix spike (MS) and matrix spike duplicate (MSD) recoveries associated with batch 125621 were biased low for Benzidine. MSD was also biased low for various analytes. Matrix interference is suspected. The matrix spike duplicate (MSD) precision for batch 125621 was outside control limits for various analytes. Non-homogeneity of the sample matrix is suspected.
R07D	Method 6010B: 600-85797-1 DU failed the RPD criteria for the following analyte(s): Selenium, Selenium, Dissolved. Non-homogeneity is suspected. Method 8260B: 600-85797-4 MSD failed the RPD criteria for the following analyte(s): Acetone. Matrix interference is suspected. Method 8270C LL: 600-85797-4 MSD failed the RPD criteria for the following analyte(s): 2,4,6-Trichlorophenol, 2-Nitroaniline, 4-Chloroaniline, Hexachlorocyclopentadiene. Matrix interference is suspected.
S02D	Method 8260B: The continuing calibration verification (CCV) associated with batch 600-125734 recovered above the upper control limit for Acetone. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: CCVIS 600-125734/2. Method 8270C LL: The continuing calibration verification (CCV) for analytical batch 126089 was biased high for CCC analyte Pentachlorophenol (52.0%) All oather target analytes has drif lower than 20% exept, but biased high, for 4-Nitroaniline, 3-Nitroaniline and 4-Chloroaniline was biased low. 4-Nitroaniline, 3-Nitroaniline and 4-Chloroaniline and Benzidine have been identified as poor performing analytes when analyzed using this method; none of these analytes were found in samples; therefore, re-extraction/re-analyses were not performed. The data have been qualified and reported.
Misc	COC filled out in pencil.
1. 2. 3. 4. 5.	Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable); NA = Not applicable; NR = Not reviewed; ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

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Detection Check Standard

Matrix: Water Method: 200.7/6010 200.7P/3010 Preparation: Date Analyzed: 12/31/2013 Date Prepared: 12/27/2013 Instrument: Spectro01 . 124030, 123788p TALs Batches: Units: mg/L

Analyte	MDL	DCS Spike	Measured Result	MQL
Aluminum	0.006	0.02	0.028176	0.5
Antimony	0.0063	0.01	0.010016	0.05
Arsenic	0.0033	0.01	0.008253	0.01
Barium	0.0022	0.005	0.004098	0.02
Beryllium	0.00134	0.002	0.004019	0.005
Boron	0.0077	0.02	0.019829	0.2
Cadmium	0.00073	0.001	0.001	0.005
Calcium	0.022	0.05	0.060829	1
Chromium	0.0016	0.002	0.003835	0.01
Cobalt	0.00063	0.001	0.000965	0.01
Copper	0.0014	0.002	0.002451	0.01
Iron	0.087	0.1	0.002258	0.4
Lithium	0.0024	0.005	0.006107	0.2
Lead	0.0029	0.005	0.005478	0.01
Selenium	0.0042	0.01	0.009953	0.04
Manganese	0.00084	0.002	0.001988	0.01
Molybdenum	0.0027	0.005	0.005867	0.01
Nickel	0.00179	0.005	0.005669	0.01
Silver	0.0012	0.0025	0.001901	0.01
Sodium	0.02	0.05	0.088115	1
Strontium	0.0005	0.001	0.000897	0.005
Thallium	0.0078	0.02	0.021503	0.03
Tin	0.0028	0.005	0.005708	0.01
Titanium	0.0011	0.002	0.001905	0.01
Vanadium	0.0017	0.002	0.003578	0.01
Zinc	0.0022	0.005	0.004189	0.01

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 Matrix:
 Water

 Method:
 8260B_LL

 Date Analyzed:
 12/10/2013

 TALS Batch:
 122598

 Units:
 ug/L

Analyte	MDL	DCS Spike	Measured Result	MQL
1,1,1,2-Tetrachloroethane	0.180	0.500	0.411	1
1,1,1-Trichloroethane	0.150	0.500	0.475	1
1,1,2,2-Tetrachloroethane	0.220	0.500	0.515	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.000	0.250	0.276	1
1,1,2-Trichloroethane	0.280	0.500	0.507	1
1,1-Dichloroethane	0.110	0.250	0.300	1
1,1-Dichloroethene	0.190	0.500	0.439	1
1,1-Dichloropropene	0.210	0.500	0.431	1
1,2,3-Trichlorobenzene	0.570	0.500	0.950	1
1,2,3-Trichloropropane	0.290	0.500	0.568	1
1,2,3-Trimethylbenzene	0.130	0.500	0.449	1
1,2,4-Trichlorobenzene	0.310	0.500	0.713	1
1,2,4-Trimethylbenzene	0.140	0.500	0.434	1
1,2-Dibromo-3-Chloropropane	0.810	0.500	0.665	1
1,2-Dichlorobenzene	0.100	0.250	0.349	1
1,2-Dichloroethane	0.140	0.500	0.500	1
1,2-Dichloroethene, Total	0.300	1.000	0.970	1
1,2-Dichloropropane	0.160	0.500	0.474	1
1,3,5-Trichlorobenzene	1.000	0.500	0.578	1
1,3,5-Trimethylbenzene	0.100	0.250	0.262	1
1,3-Dichlorobenzene	0.130	0.500	0.530	1
1,3-Dichloropropane	0.220	0.500	0.531	1
1,4-Dichlorobenzene	0.110	0.250	0.336	1
1,4-Dioxane	30.790	10.000	11.352	50
1-Chlorohexane	0.260	0.250	0.279	1
2,2-Dichloropropane	0.130	0.500	0.452	1
2-Butanone (MEK)	0.760	1.000	0.963	2
2-Chloro-1,3-butadiene	0.330	0.500	0.406	1
2-Chloroethyl vinyl ether	0.500	1.000	0.798	2
2-Chlorotoluene	0.130	0.500	0.439	1
2-Hexanone	0.350	1.000	0.789	2
3-Chloro-1-propene	0.240	0.500	0.425	2
4-Chlorotoluene	0.140	0.500	0.490	1
4-Isopropyltoluene	0.100	0.250	0.279	1
4-Methyl-2-pentanone (MIBK)	0.450	1.000	0.931	2
Acetone	0.990	1.000	1.452	5
Acrolein	1.630	2.500	2.455	5
Acrylonitrile	0.520	2.500	2.614	5
Benzene	0.080	0.250	0.304	1
Benzyl chloride	0.240	0.500	0.977	1
Bromobenzene	0.190	0.500	0.523	1
Bromoform	0.190	0.500	0.410	1
Bromomethane	0.250	0.500	0.468	2
Butadiene	0.210	0.500	0.496	1
Carbon disulfide	0.240	0.500	0.478	2
Carbon tetrachloride	0.150	0.500	0.378	1
Chlorobenzene	0.120	0.250	0.317	1
Chlorobromomethane	0.180	0.500	0.480	1

DCS = Detection Check Standard MQL = Method Quantitation Limit

Page 1 of 3

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 Matrix:
 Water

 Method:
 8260B_LL

 Date Analyzed:
 12/10/2013

 TALS Batch:
 122598

 Units:
 ug/L

Analyte	MDL	DCS Spike	Measured Result	MQL
Chlorodibromomethane	0.150	0.500	0.403	1
Chloroethane	0.080	0.250	0.313	2
Chloroform	0.130	0.500	0.471	1
Chloromethane	0.180	0.500	0.516	2
cis-1,2-Dichloroethene	0.060	0.250	0.324	1
cis-1,3-Dichloropropene	0.180	0.500	0.371	1
Cyclohexane	0.160	0.500	0.410	1
Cyclohexanone	8.640	25.000	30.305	50
Dibromomethane	0.520	0.500	0.962	1
Dichlorobromomethane	0.160	0.500	0.403	1
Dichlorodifluoromethane	0.120	0.250	0.245	1
Dichlorofluoromethane	1.000	0.500	0.472	1
Ethyl acetate	0.410	1.000	1.448	2
Ethyl acrylate	0.340	0.500	0.640	2
Ethyl ether	0.150	0.500	0.480	1
Ethyl methacrylate	0.260	0.500	0.415	2
Ethylbenzene	0.110	0.250	0.006	1
Ethylene Dibromide	0.180	0.500	0.474	1
Hexachlorobutadiene	0.170	0.500	0.620	1
Hexane	0.160	0.500	0.404	1
lodomethane	0.158	0.500	0.484	2
Isobutyl alcohol	3.320	12.500	13.826	10
Isooctane	0.330	0.500	1.097	1
Isopropyl alcohol	3.720	5.000	5.417	10
Isopropyl ether	0.090	0.250	0.271	1
Isopropylbenzene	0.180	0.500	0.427	1
Methyl acetate	0.550	1.250	1.371	2
Methyl methacrylate	0.330	1.000	0.835	1
Methyl tert-butyl ether	0.120	0.250	0.287	1
Methylcyclohexane	0.100	0.250	0.292	1
Methylene Chloride	0.150	0.500	0.488	5
m-Xylene & p-Xylene	0.170	0.500	0.442	1
Naphthalene	0.320	0.500	0.776	2
n-Butyl acetate	0.190	0.500	0.384	1
n-Butylbenzene	0.160	0.500	0.423	1
N-Propylbenzene	0.150	0.500	0.418	1
o-Xylene	0.120	0.250	0.265	1
Propionitrile	0.660	2.500	2.335	2
sec-Butylbenzene	0.120	0.250	0.266	1
Styrene	0.070	0.250	0.230	1
tert-Butylbenzene	0.080	0.250	0.290	1
Tetrachloroethene	0.130	0.500	0.598	1
Toluene	0.150	0.500	0.503	1
trans-1,2-Dichloroethene	0.090	0.250	0.287	1
trans-1,3-Dichloropropene	0.210	0.500	0.763	1
Trichloroethene	0.180	0.500	0.481	1
Trichlorofluoromethane	0.080	0.250	0.234	1
Trihalomethanes, Total	1.000	2.000	1.680	5

DCS = Detection Check Standard MQL = Method Quantitation Limit

Page 2 of 3

Detection Check Standard TestAmerica Houston

 Matrix:
 Water

 Method:
 8260B_LL

 Date Analyzed:
 12/10/2013

 TALS Batch:
 122598

 Units:
 ug/L

Analyte	MDL	DCS Spike	Measured Result	MQL
Vinyl acetate	0.210	0.500	0.428	2
Vinyl chloride	0.110	0.250	0.293	2
Xylenes, Total	0.260	1.000	0.900	1

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 Matrix:
 Water

 Method:
 8270C

 Prep Method:
 3510C

 Date Analyzed:
 1/10/2014

 Job #:
 600-85250

 TALS Batch:
 124708

 Units:
 ug/L

Onits.	ug/L							
Analyte	MDL	DCS Spike	Measured Result	MQL				
1,1'-Biphenyl	1.120	2.500	2.599	10				
1,2,4,5-Tetrachlorobenzene	1.680	2.500	2.619	10				
1,2,4-Trichlorobenzene	1.140	2.500	2.512	10				
1,2-Dichlorobenzene	1.090	2.500	2.475	10				
1,2-Dinitrobenzene	1.020	2.500	2.003	10				
1,2-Diphenylhydrazine	0.900	2.500	2.890	10				
1,3-Dichlorobenzene	1.150	2.500	2.580	10				
1,3-Dinitrobenzene	3.470	5.000	4.860	10				
1,4-Dichlorobenzene	1.260	2.500	2.580	10				
1-Methylnaphthalene	0.530	2.500	2.645	10				
2,2'-oxybis[1-chloropropane]	1.700	2.500	2.849	10				
2,3,4,6-Tetrachlorophenol	0.830	2.500	1.973	10				
2,4,5-Trichlorophenol	1.260	2.500	2.284	10				
2,4,6-Trichlorophenol	0.920	2.500	2.319	10				
2,4-Dichlorophenol	1.540	2.500	2.415	10				
2,4-Dimethylphenol	1.340	2.500	2.781	10				
2,4-Dinitrophenol	0.890	5.000	8.242	50				
2,4-Dinitrotoluene	0.950	2.500	2.491	10				
2,6-Dimethylphenol	1.030	2.500	2.249	10				
2,6-Dinitrotoluene	0.640	2.500	2.481	10				
2-Chloronaphthalene	1.000	2.500	2.695	10				
2-Chlorophenol	0.670	2.500	2.420	10				
2-Methylnaphthalene	1.100	2.500	2.692	10				
2-Methylphenol	1.010	2.500	2.530	10				
2-Nitroaniline	1.130	2.500	2.804	50				
2-Nitrophenol	0.630	2.500	2.493	10				
3 & 4 Methylphenol	1.880	2.500	2.655	20				
3,3'-Dichlorobenzidine	0.580	2.500	4.823	20				
3-Nitroaniline	0.510	2.500	2.477	50				
4,6-Dinitro-2-methylphenol	1.880	5.000	3.164	50				
4-Bromophenyl phenyl ether	0.680	2.500	2.519	10				
4-Chloro-3-methylphenol	0.820	2.500	2.796	10				
4-Chloroaniline	0.980	2.500	2.228	10				
4-Chlorophenyl phenyl ether	0.790	2.500	2.875	10				
4-Nitroaniline	1.010	2.500	2.276	50				
4-Nitrophenol	0.990	5.000	3.057	50				
Acenaphthene	0.530	2.500	2.607	10				
Acenaphthylene	0.900	2.500	2.580	10				
Acetophenone	1.020	2.500	2.738	10				
Aniline	1.620	2.500	1.999	10				
Anthracene	0.670	2.500	2.528	10				
Azobenzene	10	2.500	2.890	10				
Benzidine	0.610	25.000	2.670	50				
Benzo[a]anthracene	0.580	2.500	2.537	10				
Benzo[a]pyrene	0.570	2.500	2.311	10				
Benzo[b]fluoranthene	1.050	2.500	2.564	10				

DCS = Detection Check Standard MQL = Method Quantitation Limit

4

 Matrix:
 Water

 Method:
 8270C

 Prep Method:
 3510C

 Date Analyzed:
 1/10/2014

 Job #:
 600-85250

 TALS Batch:
 124708

 Units:
 ug/L

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Analyte	MDL	DCS Spike	Measured Result	MQL
Benzo[g,h,i]perylene	0.830	2.500	2.142	10
Benzo[k]fluoranthene	0.930	2.500	2.470	10
Benzoic acid	2.510	5.000	2.420	50
Benzyl alcohol	1.180	2.500	2.395	10
Bis(2-chloroethoxy)methane	1.240	2.500	2.776	10
Bis(2-chloroethyl)ether	1.190	2.500	2.577	10
Bis(2-ethylhexyl) phthalate	0.520	2.500	2.735	10
Butyl benzyl phthalate	0.610	2.500	2.781	10
Caprolactam	2.320	5.000	4.190	10
Carbazole	1.140	2.500	2.630	10
Chrysene	0.600	2.500	2.639	10
Dibenz(a,h)anthracene	0.720	2.500	2.244	10
Dibenzofuran	0.990	2.500	2.671	10
Diethyl phthalate	1.140	2.500	2.795	10
Dimethyl phthalate	0.520	2.500	2.597	10
Di-n-butyl phthalate	1.040	2.500	2.836	10
Di-n-octyl phthalate	0.690	2.500	2.335	10
Fluoranthene	0.520	2.500	2.616	10
Fluorene	1.420	2.500	2.748	10
Hexachlorobenzene	0.900	2.500	2.763	10
Hexachlorobutadiene	1.110	2.500	2.591	10
Hexachlorocyclopentadiene	0.580	2.500	1.623	10
Hexachloroethane	1.160	2.500	2.427	10
Indeno[1,2,3-cd]pyrene	0.670	2.500	1.627	10
Isophorone	0.730	2.500	2.806	10
Naphthalene	0.510	2.500	2.664	10
Nitrobenzene	1.180	2.500	3.061	10
N-Nitrosodimethylamine	1.930	2.500	1.988	10
N-Nitrosodi-n-propylamine	0.660	2.500	2.808	10
N-Nitrosodiphenylamine	1.030	2.500	2.590	10
Pentachlorophenol	0.890	5.000	2.274	50
Phenanthrene	0.790	2.500	2.579	10
Phenol	0.950	2.500	2.010	10
Pyrene	1.120	2.500	2.619	10
Pyridine	1.040	2.500	0.536	10
Total Cresols	1.880	5.000	5.200	50

Detection Check Standard

Matrix: Water TX1005 Method: Preparation: Raymond Date Analyzed: 10/7/2013 Date Prepared: 10/4/2013

FID-07.i\A100413B.b\B100413_031.d Data File:

mg/L Units:

Analyte	MDL	DCS Spike	Measured Result	MQL
C6-C12	0.83	1	0.633	10
>C12-C28	0.96	1	0.738	10
Total C6-C35	1.56	2	1.37	10

Case Narrative

Client: Golder Associates Inc. Project/Site: Exide Recycling Center TestAmerica Job ID: 600-85797-1

Job ID: 600-85797-1

Laboratory: TestAmerica Houston

Narrative

Job Narrative 600-85797-1

Comments

No additional comments.

Receipt

The samples were received on 1/18/2014 11:09 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.5° C.

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Method Summary

Client: Golder Associates Inc. Project/Site: Exide Recycling Center TestAmerica Job ID: 600-85797-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL HOU
8270C LL	Semivolatile Organic Compounds by GCMS - Low Levels	SW846	TAL HOU
TX 1005	Texas - Total Petroleum Hydrocarbon (GC)	TCEQ	TAL HOU
6010B	Metals (ICP)	SW846	TAL HOU

Protocol References:

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

TCEQ = Texas Commission of Environmental Quality

Laboratory References:

TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

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Sample Summary

Client: Golder Associates Inc. Project/Site: Exide Recycling Center TestAmerica Job ID: 600-85797-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
600-85797-1	MW-38	Water	01/16/14 15:25	01/18/14 11:09
600-85797-2	MW-41	Water	01/17/14 12:30	01/18/14 11:09
600-85797-3	MW-42	Water	01/17/14 11:35	01/18/14 11:09
600-85797-4	MW-43	Water	01/17/14 09:45	01/18/14 11:09
600-85797-5	Field Blank	Water	01/17/14 09:50	01/18/14 11:09
600-85797-6	MW-45	Water	01/17/14 13:20	01/18/14 11:09
600-85797-7	B4R	Water	01/17/14 08:35	01/18/14 11:09
600-85797-8	DUP-1	Water	01/17/14 00:00	01/18/14 11:09
600-85797-9	DUP-2	Water	01/16/14 00:00	01/18/14 11:09

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1 A

Client: Golder Associates Inc.
Project/Site: Exide Recycling Center

Client Sample ID: MW-38

Selenium

TestAmerica Job ID: 600-85797-1

Lab Sample ID: 600-85797-1

01/22/14 15:10

01/21/14 13:26

Matrix: Water

Date Collected: 01/16/14 15:25
Date Received: 01/18/14 11:09

0.00603 J

Method: 6010B - Metals (ICP) Analyte Result Qualifier MOL MDL Unit D Prepared Analyzed Dil Fac 0.00328 U Arsenic 0.0100 0.00328 mg/L 01/21/14 13:26 01/22/14 15:10 0.000350 U 0.00500 Cadmium 0.000350 ma/L 01/21/14 13:26 01/22/14 15:10 Lead 0.00290 U 0.0100 0.00290 mg/L 01/21/14 13:26 01/22/14 15:10

0.0400

0.00417 mg/L

Method: 6010B - Metals (ICP) - Dissolved Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Arsenic, Dissolved 0.00328 0.0100 0.00328 mg/L 01/22/14 08:29 01/22/14 18:09 0.000350 0.00500 0.000350 U 01/22/14 08:29 01/22/14 18:09 Cadmium, Dissolved mg/L 0.0100 01/22/14 08:29 Lead, Dissolved 0.00290 U 0.00290 mg/L 01/22/14 18:09 01/22/14 08:29 0.0400 0.00417 mg/L 01/22/14 18:09 Selenium, Dissolved 0.00470 J

Client Sample ID: MW-41 Lab Sample ID: 600-85797-2

Date Collected: 01/17/14 12:30 Matrix: Water

Date Received: 01/18/14 11:09

Method: 6010B - Metals (ICP) Analyte Result Qualifier MQL MDL Unit D Prepared Analyzed Dil Fac 0.000350 U 0.00500 0.000350 01/21/14 13:26 01/22/14 15:19 Cadmium mg/L 0.0100 0.00290 01/21/14 13:26 01/22/14 15:19 0.00699 mg/L

Client Sample ID: MW-42 Lab Sample ID: 600-85797-3

Date Collected: 01/17/14 11:35 Matrix: Water

Date Received: 01/18/14 11:09

Date Received: 01/18/14 11:09

Method: 6010B - Metals (ICP) Analyte Result Qualifier MQL MDL Unit D Prepared Analyzed Dil Fac Cadmium 0.000350 0.00500 0.000350 mg/L 01/21/14 13:26 01/22/14 15:26 Lead 0.00369 J 0.0100 0.00290 mg/L 01/21/14 13:26 01/22/14 15:26

Client Sample ID: MW-43 Lab Sample ID: 600-85797-4

Date Collected: 01/17/14 09:45 Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) Analyte Result Qualifier MQL MDL Unit Prepared Analyzed Dil Fac D Acetone 0.00227 U 0.0100 0.00227 mg/L 01/23/14 19:38 Benzene 0.000560 U 0.00500 0.000560 mg/L 01/23/14 19:38 Chlorobromomethane 0.000810 U 0.00500 0.000810 ma/L 01/23/14 19:38 0.000770 Bromoform 0.000770 U 0.00500 mg/L 01/23/14 19:38 Bromomethane 0.00215 U 0.0100 0.00215 mg/L 01/23/14 19:38 2-Butanone (MEK) 0.0100 0.00157 0.00157 U mg/L 01/23/14 19:38 Carbon disulfide 0.00170 U 0.00500 0.00170 01/23/14 19:38 ma/L Carbon tetrachloride 0.000920 0.000920 U 0.00500 mg/L 01/23/14 19:38 Dibromochloromethane 0.000920 U 0.00500 0.000920 01/23/14 19:38 Chlorobenzene 0.000820 U 0.00500 0.000820 mg/L 01/23/14 19:38 Chloroethane 0.00173 U 0.0100 0.00173 01/23/14 19:38 Chloroform 0.00500 0.000820 0.000820 U ma/L 01/23/14 19:38 Chloromethane 0.000850 U 0.0100 0.000850 mg/L 01/23/14 19:38 1,1-Dichloroethane 0.000500 U 0.00500 0.000500 01/23/14 19:38 ma/L

TestAmerica Houston

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1/30/2014

Client: Golder Associates Inc.
Project/Site: Exide Recycling Center

TestAmerica Job ID: 600-85797-1

Lab Sample ID: 600-85797-4

Matrix: Water

Client Sample ID: MW-43

Date Collected: 01/17/14 09:45 Date Received: 01/18/14 11:09

4-Chloroaniline

2-Chloronaphthalene

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued) Result Qualifier MQL MDL Unit D Dil Fac Analyte Prepared Analyzed 1,2-Dichloroethane 0.00101 0.00500 0.00101 01/23/14 19:38 mg/L 1 1-Dichloroethene 0.000760 U 0.00500 0.000760 01/23/14 19:38 mg/L cis-1,2-Dichloroethene 0.000560 U 0.00500 0.000560 ma/L 01/23/14 19:38 trans-1.2-Dichloroethene 0.000880 U 0.00500 0.000880 01/23/14 19:38 mg/L 1,2-Dichloropropane 0.00141 U 0.00500 0.00141 mg/L 01/23/14 19:38 0.000970 cis-1,3-Dichloropropene 0.000970 U 0.00500 mg/L 01/23/14 19:38 trans-1,3-Dichloropropene 0.000590 U 0.00500 0.000590 mg/L 01/23/14 19:38 0.00129 U 0.00500 0.00129 Ethylbenzene ma/L 01/23/14 19:38 2-Hexanone 0.00142 U 0.0100 0.00142 mg/L 01/23/14 19:38 Methylene Chloride 0.00143 U 0.0100 0.00143 mg/L 01/23/14 19:38 4-Methyl-2-pentanone (MIBK) 0.00111 U 0.0100 0.00111 mg/L 01/23/14 19:38 Styrene 0.000560 U 0.00500 0.000560 ma/L 01/23/14 19:38 1,1,2,2-Tetrachloroethane 0.000800 U 0.00500 0.000800 ma/L 01/23/14 19:38 Tetrachloroethene 0.00124 0.00500 0.00124 mg/L 01/23/14 19:38 Toluene 0.000550 U 0.00500 0.000550 ma/L 01/23/14 19:38 0.000980 U 0.00500 0.000980 01/23/14 19:38 1.1.1-Trichloroethane ma/L 1.1.2-Trichloroethane 0.000530 U 0.00500 0.000530 mg/L 01/23/14 19:38 Trichloroethene 0.00158 0.00500 0.00158 01/23/14 19:38 0.000600 Vinvl acetate 0.000600 U 0.0100 mg/L 01/23/14 19:38 Vinyl chloride 0.000850 U 0.00500 0.000850 mg/L 01/23/14 19:38 o-Xvlene 0.000930 U 0.00500 0.000930 ma/L 01/23/14 19:38 m-Xylene & p-Xylene 0.00126 U 0.0100 0.00126 mg/L 01/23/14 19:38 Xylenes, Total 0.00198 U 0.00500 0.00198 mg/L 01/23/14 19:38 Bromodichloromethane 0.000760 U 0.00500 0.000760 mg/L 01/23/14 19:38 1,2-Dichloroethene, Total 0.000840 U 0.0100 0.000840 mg/L 01/23/14 19:38

	Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
	Toluene-d8 (Surr)	75		70 - 130		01/23/14 19:38	1
	Dibromofluoromethane	70		62 - 130		01/23/14 19:38	1
	4-Bromofluorobenzene	101		67 - 139		01/23/14 19:38	1
١	1,2-Dichloroethane-d4 (Surr)	77		50 - 134		01/23/14 19:38	1

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels

0.000110 U

0.000190 U

Result Qualifier Dil Fac Analyte MQL MDL Unit Prepared Analyzed 0.000160 U Acenaphthene 0.000500 0.000160 ma/L 01/22/14 16:35 01/25/14 01:38 Acenaphthylene 0.000160 U 0.000500 0.000160 01/22/14 16:35 01/25/14 01:38 Anthracene 0.000440 U 0.000500 0.000440 mg/L 01/22/14 16:35 01/25/14 01:38 Benzidine 0.0179 U 0.0500 0.0179 mg/L 01/22/14 16:35 01/25/14 01:38 0.000250 U 0.000500 0.000250 01/22/14 16:35 01/25/14 01:38 Benzolalanthracene ma/L Benzo[b]fluoranthene 0.000180 U 0.000500 0.000180 mg/L 01/22/14 16:35 01/25/14 01:38 Benzo[k]fluoranthene 0.000160 U 0.000500 0.000160 01/22/14 16:35 01/25/14 01:38 mg/L 01/22/14 16:35 Benzo[g,h,i]perylene 0.000350 U 0.000500 0.000350 ma/L 01/25/14 01:38 Benzo[a]pyrene 0.000130 U 0.000500 0.000130 mg/L 01/22/14 16:35 01/25/14 01:38 0.000190 U 0.000500 0.000190 01/22/14 16:35 01/25/14 01:38 Bis(2-chloroethoxy)methane mg/L Bis(2-chloroethyl)ether 0.000180 U 0.000500 0.000180 mg/L 01/22/14 16:35 01/25/14 01:38 0.000590 Bis(2-ethylhexyl) phthalate 0.000590 U 0.00150 mg/L 01/22/14 16:35 01/25/14 01:38 4-Bromophenyl phenyl ether 0.000250 U 0.000500 0.000250 01/22/14 16:35 01/25/14 01:38 Butyl benzyl phthalate 0.000850 U 0.00250 0.000850 01/22/14 16:35 01/25/14 01:38 mg/L

TestAmerica Houston

01/25/14 01:38

01/25/14 01:38

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0.000500

0.000500

0.000110

0.000190

mg/L

ma/L

01/22/14 16:35

01/22/14 16:35

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Client: Golder Associates Inc. Project/Site: Exide Recycling Center TestAmerica Job ID: 600-85797-1

Lab Sample ID: 600-85797-4

Matrix: Water

Client Sample ID: MW-43

Date Collected: 01/17/14 09:45 Date Received: 01/18/14 11:09

Analyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
4-Chlorophenyl phenyl ether	0.000230	U	0.000500	0.000230	mg/L		01/22/14 16:35	01/25/14 01:38	
Carbazole	0.000350	U	0.000500	0.000350	mg/L		01/22/14 16:35	01/25/14 01:38	
Chrysene	0.000240	U	0.000500	0.000240	mg/L		01/22/14 16:35	01/25/14 01:38	
Di-n-butyl phthalate	0.00187	U	0.00500	0.00187	mg/L		01/22/14 16:35	01/25/14 01:38	
Dibenz(a,h)anthracene	0.000290	U	0.000500	0.000290	mg/L		01/22/14 16:35	01/25/14 01:38	
Dibenzofuran	0.000160	U	0.000500	0.000160	mg/L		01/22/14 16:35	01/25/14 01:38	
1,2-Dichlorobenzene	0.000210	U	0.000500	0.000210	mg/L		01/22/14 16:35	01/25/14 01:38	
1,3-Dichlorobenzene	0.000100	U	0.000500	0.000100	mg/L		01/22/14 16:35	01/25/14 01:38	
1,4-Dichlorobenzene	0.000160	U	0.000500	0.000160	mg/L		01/22/14 16:35	01/25/14 01:38	
3,3'-Dichlorobenzidine	0.000320	U	0.000500	0.000320	mg/L		01/22/14 16:35	01/25/14 01:38	
Diethyl phthalate	0.00419	U	0.00500	0.00419	mg/L		01/22/14 16:35	01/25/14 01:38	
Dimethyl phthalate	0.000180	U	0.00500	0.000180	mg/L		01/22/14 16:35	01/25/14 01:38	
2,4-Dinitrotoluene	0.000320	U	0.000500	0.000320	mg/L		01/22/14 16:35	01/25/14 01:38	
Di-n-octyl phthalate	0.000160	U	0.00500	0.000160	mg/L		01/22/14 16:35	01/25/14 01:38	
Fluoranthene	0.000310	U	0.000500	0.000310	mg/L		01/22/14 16:35	01/25/14 01:38	
luorene	0.000120	U	0.000500	0.000120	mg/L		01/22/14 16:35	01/25/14 01:38	
Hexachlorobenzene	0.000250	U	0.000500	0.000250	mg/L		01/22/14 16:35	01/25/14 01:38	
Hexachlorocyclopentadiene	0.000150		0.000500	0.000150	mg/L		01/22/14 16:35	01/25/14 01:38	
Hexachloroethane	0.000170		0.000500	0.000170	mg/L		01/22/14 16:35	01/25/14 01:38	
Hexachlorobutadiene	0.000190		0.000500	0.000190	mg/L		01/22/14 16:35	01/25/14 01:38	
ndeno[1,2,3-cd]pyrene	0.000290		0.000500	0.000290	mg/L		01/22/14 16:35	01/25/14 01:38	
sophorone	0.000150		0.000500	0.000150	mg/L		01/22/14 16:35	01/25/14 01:38	
2-Methylnaphthalene	0.000140		0.000500	0.000140	•		01/22/14 16:35	01/25/14 01:38	
Naphthalene	0.000140		0.000500	0.000140	mg/L		01/22/14 16:35	01/25/14 01:38	
2-Nitroaniline	0.000350		0.000500	0.000160	mg/L		01/22/14 16:35	01/25/14 01:38	
3-Nitroaniline	0.000330		0.000500	0.000330	_		01/22/14 16:35	01/25/14 01:38	
	0.000130		0.000500	0.000130	mg/L		01/22/14 16:35	01/25/14 01:38	
4-Nitroaniline					mg/L				
Nitrobenzene	0.000200		0.000500	0.000200	mg/L		01/22/14 16:35	01/25/14 01:38	
N-Nitrosodimethylamine	0.000160 0.000330		0.000500	0.000160	mg/L		01/22/14 16:35	01/25/14 01:38	
N-Nitrosodiphenylamine	0.000330		0.000500	0.000330	mg/L		01/22/14 16:35	01/25/14 01:38	
N-Nitrosodi-n-propylamine			0.000500	0.000240	mg/L		01/22/14 16:35	01/25/14 01:38	
Phenanthrene	0.000290		0.000500	0.000290			01/22/14 16:35	01/25/14 01:38	
Pyrene	0.000330		0.000500	0.000330	_		01/22/14 16:35	01/25/14 01:38	
1,2,4-Trichlorobenzene	0.000160		0.000500	0.000160	•		01/22/14 16:35	01/25/14 01:38	
Benzyl alcohol	0.000510		0.000500	0.000510			01/22/14 16:35	01/25/14 01:38	
4-Chloro-3-methylphenol	0.000250		0.000500	0.000250	_		01/22/14 16:35	01/25/14 01:38	
2-Chlorophenol	0.000220		0.000500	0.000220			01/22/14 16:35	01/25/14 01:38	
2-Methylphenol	0.000190		0.000500	0.000190			01/22/14 16:35	01/25/14 01:38	
3 & 4 Methylphenol	0.000160		0.00100	0.000160	_		01/22/14 16:35	01/25/14 01:38	
2,4-Dichlorophenol	0.000260		0.000500		-		01/22/14 16:35	01/25/14 01:38	
2,4-Dimethylphenol	0.000180		0.000500	0.000180			01/22/14 16:35	01/25/14 01:38	
1,6-Dinitro-2-methylphenol	0.000160		0.00100	0.000160	_		01/22/14 16:35	01/25/14 01:38	
2,4-Dinitrophenol	0.000400		0.00100	0.000400	mg/L		01/22/14 16:35	01/25/14 01:38	
2-Nitrophenol	0.000220	U	0.000500	0.000220	mg/L		01/22/14 16:35	01/25/14 01:38	
1-Nitrophenol	0.000330	U	0.00100	0.000330	mg/L		01/22/14 16:35	01/25/14 01:38	
Pentachlorophenol	0.000960	U	0.00100	0.000960	mg/L		01/22/14 16:35	01/25/14 01:38	
Phenol	0.000140	U	0.000500	0.000140	mg/L		01/22/14 16:35	01/25/14 01:38	
2,4,5-Trichlorophenol	0.000290	U	0.000500	0.000290	mg/L		01/22/14 16:35	01/25/14 01:38	
2,4,6-Trichlorophenol	0.000330	U	0.000500	0.000330	ma/L		01/22/14 16:35	01/25/14 01:38	

TestAmerica Houston

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Client: Golder Associates Inc. Project/Site: Exide Recycling Center TestAmerica Job ID: 600-85797-1

Lab Sample ID: 600-85797-4

Matrix: Water

Client Sample ID: MW-43 Date Collected: 01/17/14 09:45

Date Received: 01/18/14 11:09

Analyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,6-Dinitrotoluene	0.000290	U	0.000500	0.000290	mg/L		01/22/14 16:35	01/25/14 01:38	1
bis (2-Chloroisopropyl) ether	0.000180	U	0.000500	0.000180	mg/L		01/22/14 16:35	01/25/14 01:38	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	83		33 - 141				01/22/14 16:35	01/25/14 01:38	1
Nitrobenzene-d5	65		47 - 120				01/22/14 16:35	01/25/14 01:38	1
2-Fluorophenol	59		18 - 120				01/22/14 16:35	01/25/14 01:38	1
2-Fluorobiphenyl	61		43 - 120				01/22/14 16:35	01/25/14 01:38	1
2,4,6-Tribromophenol	60		44 - 123				01/22/14 16:35	01/25/14 01:38	1
Phenol-d5 (Surr)	54		12 - 128				01/22/14 16:35	01/25/14 01:38	1

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Analyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	0.797	U	4.80	0.797	mg/L		01/21/14 13:18	01/21/14 20:07	1
>C12-C28	0.922	U	4.80	0.922	mg/L		01/21/14 13:18	01/21/14 20:07	1
>C28-C35	0.922	U	4.80	0.922	mg/L		01/21/14 13:18	01/21/14 20:07	1
C6-C35	1.50	U	4.80	1.50	mg/L		01/21/14 13:18	01/21/14 20:07	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	101		70 - 130				01/21/14 13:18	01/21/14 20:07	1

Lab Sample ID: 600-85797-5 Client Sample ID: Field Blank **Matrix: Water**

Date Collected: 01/17/14 09:50

Date Received: 01/18/14 11:09

Method: 8260B - Volatile Organ Analyte		Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	0.00227	U	0.0100	0.00227	mg/L			01/23/14 20:02	1
Benzene	0.000560	U	0.00500	0.000560	mg/L			01/23/14 20:02	1
Chlorobromomethane	0.000810	U	0.00500	0.000810	mg/L			01/23/14 20:02	1
Bromoform	0.000770	U	0.00500	0.000770	mg/L			01/23/14 20:02	1
Bromomethane	0.00215	U	0.0100	0.00215	mg/L			01/23/14 20:02	1
2-Butanone (MEK)	0.00157	U	0.0100	0.00157	mg/L			01/23/14 20:02	1
Carbon disulfide	0.00170	U	0.00500	0.00170	mg/L			01/23/14 20:02	1
Carbon tetrachloride	0.000920	U	0.00500	0.000920	mg/L			01/23/14 20:02	1
Dibromochloromethane	0.000920	U	0.00500	0.000920	mg/L			01/23/14 20:02	1
Chlorobenzene	0.000820	U	0.00500	0.000820	mg/L			01/23/14 20:02	1
Chloroethane	0.00173	U	0.0100	0.00173	mg/L			01/23/14 20:02	1
Chloroform	0.000820	U	0.00500	0.000820	mg/L			01/23/14 20:02	1
Chloromethane	0.000850	U	0.0100	0.000850	mg/L			01/23/14 20:02	1
1,1-Dichloroethane	0.000500	U	0.00500	0.000500	mg/L			01/23/14 20:02	1
1,2-Dichloroethane	0.00101	U	0.00500	0.00101	mg/L			01/23/14 20:02	1
1,1-Dichloroethene	0.000760	U	0.00500	0.000760	mg/L			01/23/14 20:02	1
cis-1,2-Dichloroethene	0.000560	U	0.00500	0.000560	mg/L			01/23/14 20:02	1
trans-1,2-Dichloroethene	0.000880	U	0.00500	0.000880	mg/L			01/23/14 20:02	1
1,2-Dichloropropane	0.00141	U	0.00500	0.00141	mg/L			01/23/14 20:02	1
cis-1,3-Dichloropropene	0.000970	U	0.00500	0.000970	mg/L			01/23/14 20:02	1
trans-1,3-Dichloropropene	0.000590	U	0.00500	0.000590	mg/L			01/23/14 20:02	1
Ethylbenzene	0.00129	U	0.00500	0.00129	mg/L			01/23/14 20:02	1
2-Hexanone	0.00142	U	0.0100	0.00142	ma/L			01/23/14 20:02	1

TestAmerica Houston

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Client: Golder Associates Inc.

Project/Site: Exide Recycling Center

TestAmerica Job ID: 600-85797-1

Client Sample ID: Field Blank Lab Sample ID: 600-85797-5

Date Collected: 01/17/14 09:50 Matrix: Water

Date Received: 01/18/14 11:09

Analyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	0.00143	U	0.0100	0.00143	mg/L			01/23/14 20:02	1
4-Methyl-2-pentanone (MIBK)	0.00111	U	0.0100	0.00111	mg/L			01/23/14 20:02	1
Styrene	0.000560	U	0.00500	0.000560	mg/L			01/23/14 20:02	1
1,1,2,2-Tetrachloroethane	0.000800	U	0.00500	0.000800	mg/L			01/23/14 20:02	1
Tetrachloroethene	0.00124	U	0.00500	0.00124	mg/L			01/23/14 20:02	1
Toluene	0.000550	U	0.00500	0.000550	mg/L			01/23/14 20:02	1
1,1,1-Trichloroethane	0.000980	U	0.00500	0.000980	mg/L			01/23/14 20:02	1
1,1,2-Trichloroethane	0.000530	U	0.00500	0.000530	mg/L			01/23/14 20:02	1
Trichloroethene	0.00158	U	0.00500	0.00158	mg/L			01/23/14 20:02	1
Vinyl acetate	0.000600	U	0.0100	0.000600	mg/L			01/23/14 20:02	1
Vinyl chloride	0.000850	U	0.00500	0.000850	mg/L			01/23/14 20:02	1
o-Xylene	0.000930	U	0.00500	0.000930	mg/L			01/23/14 20:02	1
m-Xylene & p-Xylene	0.00126	U	0.0100	0.00126	mg/L			01/23/14 20:02	1
Xylenes, Total	0.00198	U	0.00500	0.00198	mg/L			01/23/14 20:02	1
Bromodichloromethane	0.000760	U	0.00500	0.000760	mg/L			01/23/14 20:02	1
1,2-Dichloroethene, Total	0.000840	U	0.0100	0.000840	mg/L			01/23/14 20:02	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	79		70 - 130					01/23/14 20:02	1
Dibromofluoromethane	68		62 - 130					01/23/14 20:02	1
4-Bromofluorobenzene	106		67 - 139					01/23/14 20:02	1
1,2-Dichloroethane-d4 (Surr)	80		50 ₋ 134					01/23/14 20:02	1

Client Sample ID: MW-45 Lab Sample ID: 600-85797-6

Date Collected: 01/17/14 13:20 Matrix: Water Date Received: 01/18/14 11:09

N	lethod: 6010B - Metals (ICP)									
Α	nalyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ā	rsenic	0.00328	U	0.0100	0.00328	mg/L		01/21/14 13:26	01/22/14 15:28	1
С	admium	0.000350	U	0.00500	0.000350	mg/L		01/21/14 13:26	01/22/14 15:28	1
L	ead	0.00461	J	0.0100	0.00290	mg/L		01/21/14 13:26	01/22/14 15:28	1
s	elenium	0.00417	U	0.0400	0.00417	mg/L		01/21/14 13:26	01/22/14 15:28	1

Client Sample ID: B4R Lab Sample ID: 600-85797-7

Date Collected: 01/17/14 08:35 Matrix: Water Date Received: 01/18/14 11:09

Method: 6010B - Metals (ICP) Analyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.000500	J	0.00500	0.000350	mg/L		01/22/14 08:29	01/22/14 18:19	1
Lead	0.00290	U	0.0100	0.00290	mg/L		01/22/14 08:29	01/22/14 18:19	1
Method: 6010B - Metals (ICP) - Disso		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac

Michica: 00 10B - Miciais (101) - Biss	oivea								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic, Dissolved	0.00328	U	0.0100	0.00328	mg/L		01/21/14 13:26	01/22/14 15:30	1
Cadmium, Dissolved	0.000350	U	0.00500	0.000350	mg/L		01/21/14 13:26	01/22/14 15:30	1
Lead, Dissolved	0.00569	J	0.0100	0.00290	mg/L		01/21/14 13:26	01/22/14 15:30	1
Selenium, Dissolved	0.00417	U	0.0400	0.00417	mg/L		01/21/14 13:26	01/22/14 15:30	1

TestAmerica Houston

Client: Golder Associates Inc. Project/Site: Exide Recycling Center

Client Sample ID: DUP-1

Analyte

C6-C12

>C12-C28

Date Collected: 01/17/14 00:00 Date Received: 01/18/14 11:09 Lab Sample ID: 600-85797-8

Matrix: Water

Analyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Acetone	0.00227	U	0.0100	0.00227	mg/L			01/23/14 20:26	
Benzene	0.000560	U	0.00500	0.000560	mg/L			01/23/14 20:26	
Chlorobromomethane	0.000810	U	0.00500	0.000810	mg/L			01/23/14 20:26	
Bromoform	0.000770	U	0.00500	0.000770	mg/L			01/23/14 20:26	
Bromomethane	0.00215	U	0.0100	0.00215	mg/L			01/23/14 20:26	
2-Butanone (MEK)	0.00157	U	0.0100	0.00157	mg/L			01/23/14 20:26	
Carbon disulfide	0.00170	U	0.00500	0.00170	mg/L			01/23/14 20:26	
Carbon tetrachloride	0.000920	U	0.00500	0.000920	mg/L			01/23/14 20:26	
Dibromochloromethane	0.000920	U	0.00500	0.000920	mg/L			01/23/14 20:26	
Chlorobenzene	0.000820	U	0.00500	0.000820	mg/L			01/23/14 20:26	
Chloroethane	0.00173	U	0.0100	0.00173	mg/L			01/23/14 20:26	
Chloroform	0.000820	U	0.00500	0.000820	mg/L			01/23/14 20:26	
Chloromethane	0.000850	U	0.0100	0.000850	mg/L			01/23/14 20:26	
1,1-Dichloroethane	0.000500	U	0.00500	0.000500	mg/L			01/23/14 20:26	
1,2-Dichloroethane	0.00101	U	0.00500	0.00101	mg/L			01/23/14 20:26	
1,1-Dichloroethene	0.000760	U	0.00500	0.000760	mg/L			01/23/14 20:26	
cis-1,2-Dichloroethene	0.000560	U	0.00500	0.000560	mg/L			01/23/14 20:26	
trans-1,2-Dichloroethene	0.000880	U	0.00500	0.000880	mg/L			01/23/14 20:26	
1,2-Dichloropropane	0.00141	U	0.00500	0.00141	mg/L			01/23/14 20:26	
cis-1,3-Dichloropropene	0.000970	U	0.00500	0.000970	mg/L			01/23/14 20:26	
trans-1,3-Dichloropropene	0.000590	U	0.00500	0.000590	mg/L			01/23/14 20:26	
Ethylbenzene	0.00129	U	0.00500	0.00129	mg/L			01/23/14 20:26	
2-Hexanone	0.00142	U	0.0100	0.00142	mg/L			01/23/14 20:26	
Methylene Chloride	0.00143	U	0.0100	0.00143				01/23/14 20:26	
4-Methyl-2-pentanone (MIBK)	0.00111	U	0.0100	0.00111	mg/L			01/23/14 20:26	
Styrene	0.000560	U	0.00500	0.000560				01/23/14 20:26	
1,1,2,2-Tetrachloroethane	0.000800	U	0.00500	0.000800	mg/L			01/23/14 20:26	
Tetrachloroethene	0.00124	U	0.00500	0.00124	mg/L			01/23/14 20:26	
Toluene	0.000550	U	0.00500	0.000550	mg/L			01/23/14 20:26	
1,1,1-Trichloroethane	0.000980	U	0.00500	0.000980	mg/L			01/23/14 20:26	
1,1,2-Trichloroethane	0.000530	U	0.00500	0.000530	mg/L			01/23/14 20:26	
Trichloroethene	0.00158	U	0.00500	0.00158	mg/L			01/23/14 20:26	
Vinyl acetate	0.000600	U	0.0100	0.000600	mg/L			01/23/14 20:26	
Vinyl chloride	0.000850	U	0.00500	0.000850	mg/L			01/23/14 20:26	
o-Xylene	0.000930	U	0.00500	0.000930				01/23/14 20:26	
m-Xylene & p-Xylene	0.00126	U	0.0100	0.00126	•			01/23/14 20:26	
Xylenes, Total	0.00198	U	0.00500	0.00198				01/23/14 20:26	
Bromodichloromethane	0.000760		0.00500	0.000760	-			01/23/14 20:26	
1,2-Dichloroethene, Total	0.000840		0.0100	0.000840	•			01/23/14 20:26	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fa
Toluene-d8 (Surr)	75		70 - 130			=		01/23/14 20:26	
Dibromofluoromethane	66		62 - 130					01/23/14 20:26	
4-Bromofluorobenzene	98		67 - 139					01/23/14 20:26	
1,2-Dichloroethane-d4 (Surr)	75		50 ₋ 134					01/23/14 20:26	

TestAmerica Houston

Analyzed

01/21/14 21:44

01/21/14 21:44

Prepared

01/21/14 13:18

01/21/14 13:18

MQL

4.87

4.87

Result Qualifier

0.809 U

0.936 U

MDL Unit

0.809 mg/L

0.936 mg/L

Dil Fac

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Client: Golder Associates Inc. Project/Site: Exide Recycling Center TestAmerica Job ID: 600-85797-1

Client Sample ID: DUP-1

Lab Sample ID: 600-85797-8 Date Collected: 01/17/14 00:00

Matrix: Water

Date Received: 01/18/14 11:09

Analyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
>C28-C35	0.936	U	4.87	0.936	mg/L		01/21/14 13:18	01/21/14 21:44	1
C6-C35	1.52	U	4.87	1.52	mg/L		01/21/14 13:18	01/21/14 21:44	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	105		70 - 130				01/21/14 13:18	01/21/14 21:44	1

Client Sample ID: DUP-2

Lab Sample ID: 600-85797-9

Matrix: Water

Date Collected: 01/16/14 00:00 Date Received: 01/18/14 11:09

Method: 6010B - Metals (ICF	P)								
Analyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00328	U	0.0100	0.00328	mg/L		01/21/14 13:26	01/22/14 15:32	1
Cadmium	0.000350	U	0.00500	0.000350	mg/L		01/21/14 13:26	01/22/14 15:32	1
Lead	0.00290	U	0.0100	0.00290	mg/L		01/21/14 13:26	01/22/14 15:32	1
Selenium	0.00630	J	0.0400	0.00417	mg/L		01/21/14 13:26	01/22/14 15:32	1

Method: 6010B - Metals (IC	P) - Dissolved								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic, Dissolved	0.00328	U	0.0100	0.00328	mg/L		01/22/14 08:29	01/22/14 18:29	1
Cadmium, Dissolved	0.000350	U	0.00500	0.000350	mg/L		01/22/14 08:29	01/22/14 18:29	1
Lead, Dissolved	0.00290	U	0.0100	0.00290	mg/L		01/22/14 08:29	01/22/14 18:29	1
Selenium, Dissolved	0.00417	U	0.0400	0.00417	mg/L		01/22/14 08:29	01/22/14 18:29	1

Definitions/Glossary

Client: Golder Associates Inc. Project/Site: Exide Recycling Center

Qualifier Description

TestAmerica Job ID: 600-85797-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Analyte was not detected at or above the SDL.
N	MS, MSD: Spike recovery exceeds upper or lower control limits.
N	RPD of the MS and MSD exceeds the control limits

GC/MS Semi VOA

Qualifier	Qualifier Description
U	Analyte was not detected at or above the SDL.
*	LCS or LCSD exceeds the control limits
N	MS, MSD: Spike recovery exceeds upper or lower control limits.
N	RPD of the MS and MSD exceeds the control limits
J	Result is less than the MQL but greater than or equal to the SDL and the concentration is an estimated value.
CC Comi V	04

GC Semi VOA

Qualifier

U	Analyte was not detected at or above the SDL.
Metals	
Qualifier	Qualifier Description
11	A 11
U	Analyte was not detected at or above the SDL.

Glossary

TEF

TEQ

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
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

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

Toxicity Equivalent Factor (Dioxin)

Toxicity Equivalent Quotient (Dioxin)

TestAmerica Houston

Client: Golder Associates Inc. Project/Site: Exide Recycling Center

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water Prep Type: Total/NA

_				Percent Sui	rrogate Reco
		TOL	DBFM	BFB	12DCE
Lab Sample ID	Client Sample ID	(70-130)	(62-130)	(67-139)	(50-134)
600-85797-4	MW-43	75	70	101	77
600-85797-4 MS	MW-43	78	74	109	85
600-85797-4 MSD	MW-43	74	71	97	83
600-85797-5	Field Blank	79	68	106	80
600-85797-8	DUP-1	75	66	98	75
LCS 600-125734/3	Lab Control Sample	84	76	106	79
MB 600-125734/4	Method Blank	81	70	103	78
Surrogate Legend					

Surrogate Legend

TOL = Toluene-d8 (Surr)

DBFM = Dibromofluoromethane

BFB = 4-Bromofluorobenzene

12DCE = 1,2-Dichloroethane-d4 (Surr)

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels

Matrix: Water Prep Type: Total/NA

				Percent Su	rrogate Reco	very (Accept	ance Limits)
		TPH	NBZ	2FP	FBP	TBP	PHL
Lab Sample ID	Client Sample ID	(33-141)	(47-120)	(18-120)	(43-120)	(44-123)	(12-128)
600-85797-4	MW-43	83	65	59	61	60	54
600-85797-4 MS	MW-43	96	76	72	75	88	68
600-85797-4 MSD	MW-43	96	68	69	65	82	65
LCS 600-125621/17-A	Lab Control Sample	95	89	82	81	99	73
LCS 600-125621/2-A	Lab Control Sample	101	94	92	91	97	82
LCSD 600-125621/18-A	Lab Control Sample Dup	95	94	89	80	102	80
MB 600-125621/1-A	Method Blank	91	95	80	91	76	66

Surrogate Legend

TPH = Terphenyl-d14

NBZ = Nitrobenzene-d5

2FP = 2-Fluorophenol

FBP = 2-Fluorobiphenyl

TBP = 2,4,6-Tribromophenol

PHL = Phenol-d5 (Surr)

Method: TX 1005 - Texas - Total Petroleum Hydrocarbon (GC)

Matrix: Water Prep Type: Total/NA

			Percent Surrogate Recovery (Acceptance Limits)
		ОТРН	
Lab Sample ID	Client Sample ID	(70-130)	
600-85797-4	MW-43	101	
600-85797-4 MS	MW-43	105	
600-85797-4 MSD	MW-43	105	
600-85797-8	DUP-1	105	
LCS 600-125473/2-A	Lab Control Sample	105	
MB 600-125473/1-A	Method Blank	99	
Surrogate Legend			

TestAmerica Houston

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Surrogate Summary

Client: Golder Associates Inc. Project/Site: Exide Recycling Center TestAmerica Job ID: 600-85797-1

OTPH = o-Terphenyl

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Client: Golder Associates Inc. Project/Site: Exide Recycling Center

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 600-125734/4

Matrix: Water

Analysis Batch: 125734

Client Sample ID: Method Blank

Prep Type: Total/NA

		MB							
Analyte		Qualifier	MQL		Unit	D	Prepared	Analyzed	Dil Fac
Acetone	0.00227	U	0.0100	0.00227	mg/L			01/23/14 13:51	1
Benzene	0.000560	U	0.00500	0.000560	mg/L			01/23/14 13:51	1
Chlorobromomethane	0.000810	U	0.00500	0.000810	mg/L			01/23/14 13:51	1
Bromoform	0.000770	U	0.00500	0.000770	mg/L			01/23/14 13:51	1
Bromomethane	0.00215	U	0.0100	0.00215	mg/L			01/23/14 13:51	1
2-Butanone (MEK)	0.00157	U	0.0100	0.00157	mg/L			01/23/14 13:51	1
Carbon disulfide	0.00170	U	0.00500	0.00170	mg/L			01/23/14 13:51	1
Carbon tetrachloride	0.000920	U	0.00500	0.000920	mg/L			01/23/14 13:51	1
Dibromochloromethane	0.000920	U	0.00500	0.000920	mg/L			01/23/14 13:51	1
Chlorobenzene	0.000820	U	0.00500	0.000820	mg/L			01/23/14 13:51	1
Chloroethane	0.00173	U	0.0100	0.00173	mg/L			01/23/14 13:51	1
Chloroform	0.000820	U	0.00500	0.000820	mg/L			01/23/14 13:51	1
Chloromethane	0.000850	U	0.0100	0.000850	mg/L			01/23/14 13:51	1
1,1-Dichloroethane	0.000500	U	0.00500	0.000500	mg/L			01/23/14 13:51	1
1,2-Dichloroethane	0.00101	U	0.00500	0.00101	mg/L			01/23/14 13:51	1
1,1-Dichloroethene	0.000760	U	0.00500	0.000760	mg/L			01/23/14 13:51	1
cis-1,2-Dichloroethene	0.000560	U	0.00500	0.000560	mg/L			01/23/14 13:51	1
trans-1,2-Dichloroethene	0.000880	U	0.00500	0.000880	mg/L			01/23/14 13:51	1
1,2-Dichloropropane	0.00141	U	0.00500	0.00141	mg/L			01/23/14 13:51	1
cis-1,3-Dichloropropene	0.000970	U	0.00500	0.000970	mg/L			01/23/14 13:51	1
trans-1,3-Dichloropropene	0.000590	U	0.00500	0.000590	mg/L			01/23/14 13:51	1
Ethylbenzene	0.00129	U	0.00500	0.00129	mg/L			01/23/14 13:51	1
2-Hexanone	0.00142	U	0.0100	0.00142	mg/L			01/23/14 13:51	1
Methylene Chloride	0.00143	U	0.0100	0.00143	mg/L			01/23/14 13:51	1
4-Methyl-2-pentanone (MIBK)	0.00111	U	0.0100	0.00111	mg/L			01/23/14 13:51	1
Styrene	0.000560	U	0.00500	0.000560	mg/L			01/23/14 13:51	1
1,1,2,2-Tetrachloroethane	0.000800	U	0.00500	0.000800	mg/L			01/23/14 13:51	1
Tetrachloroethene	0.00124	U	0.00500	0.00124	mg/L			01/23/14 13:51	1
Toluene	0.000550	U	0.00500	0.000550	mg/L			01/23/14 13:51	1
1,1,1-Trichloroethane	0.000980	U	0.00500	0.000980	mg/L			01/23/14 13:51	1
1,1,2-Trichloroethane	0.000530	U	0.00500	0.000530	mg/L			01/23/14 13:51	1
Trichloroethene	0.00158	U	0.00500	0.00158	mg/L			01/23/14 13:51	1
Vinyl acetate	0.000600	U	0.0100	0.000600	mg/L			01/23/14 13:51	1
Vinyl chloride	0.000850	U	0.00500	0.000850	mg/L			01/23/14 13:51	1
o-Xylene	0.000930	U	0.00500	0.000930	mg/L			01/23/14 13:51	1
m-Xylene & p-Xylene	0.00126	U	0.0100	0.00126	-			01/23/14 13:51	1
Xylenes, Total	0.00198	U	0.00500	0.00198				01/23/14 13:51	1
Bromodichloromethane	0.000760	U	0.00500	0.000760	-			01/23/14 13:51	1
1,2-Dichloroethene, Total	0.000840	U	0.0100	0.000840	mg/L			01/23/14 13:51	1
	445	МВ							
	IVIB	IVID							

ΜВ	MB

Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	81		70 - 130	_		01/23/14 13:51	1
Dibromofluoromethane	70		62 - 130			01/23/14 13:51	1
4-Bromofluorobenzene	103		67 - 139			01/23/14 13:51	1
1,2-Dichloroethane-d4 (Surr)	78		50 ₋ 134			01/23/14 13:51	1

TestAmerica Houston

Client: Golder Associates Inc. Project/Site: Exide Recycling Center

-5

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

LCS LCS

Spike

-Lab Sample ID: LCS 600-125734/3

Matrix: Water

Analysis Batch: 125734

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

%Rec.

Analyte	Added	Result Qualifier	Unit	D %	Rec L	_imits
Acetone	0.100	0.1043	mg/L		104 2	1 - 148
Benzene	0.0500	0.05335	mg/L		107 7	'0 ₋ 131
Chlorobromomethane	0.0500	0.04343	mg/L		87 7	′0 ₋ 130
Bromoform	0.0500	0.05539	mg/L		111 6	7 - 134
Bromomethane	0.0500	0.04740	mg/L		95 4	5 - 150
2-Butanone (MEK)	0.100	0.1252	mg/L		125 3	34 ₋ 140
Carbon disulfide	0.0500	0.04635	mg/L		93 6	60 - 146
Carbon tetrachloride	0.0500	0.04489	mg/L		90 6	8 - 140
Dibromochloromethane	0.0500	0.04535	mg/L		91 7	'0 ₋ 130
Chlorobenzene	0.0500	0.04745	mg/L		95 7	'0 ₋ 130
Chloroethane	0.0500	0.04998	mg/L		100 6	55 ₋ 138
Chloroform	0.0500	0.05051	mg/L		101 7	′0 ₋ 131
Chloromethane	0.0500	0.03586	mg/L		72 1	5 ₋ 150
1,1-Dichloroethane	0.0500	0.05268	mg/L		105 7	′0 ₋ 137
1,2-Dichloroethane	0.0500	0.04979	mg/L		100 6	2 - 144
1,1-Dichloroethene	0.0500	0.04299	mg/L		86 6	i7 ₋ 134
cis-1,2-Dichloroethene	0.0500	0.04925	mg/L		98 7	'0 ₋ 130
trans-1,2-Dichloroethene	0.0500	0.05011	mg/L		100 7	'0 ₋ 130
1,2-Dichloropropane	0.0500	0.05265	mg/L		105 7	'0 ₋ 133
cis-1,3-Dichloropropene	0.0500	0.05712	mg/L		114 6	66 - 130
trans-1,3-Dichloropropene	0.0500	0.06106	mg/L		122 7	'0 ₋ 138
Ethylbenzene	0.0500	0.04810	mg/L		96 7	'0 - 130
2-Hexanone	0.100	0.07266	mg/L		73 4	6 - 139
Methylene Chloride	0.0500	0.05007	mg/L		100 6	67 ₋ 130
4-Methyl-2-pentanone (MIBK)	0.100	0.07311	mg/L		73 3	9 - 150
Styrene	0.0500	0.04880	mg/L		98 7	'0 ₋ 130
1,1,2,2-Tetrachloroethane	0.0500	0.04857	mg/L		97 6	i2 ₋ 130
Tetrachloroethene	0.0500	0.04191	mg/L		84 5	57 ₋ 130
Toluene	0.0500	0.05231	mg/L		105 7	'0 ₋ 130
1,1,1-Trichloroethane	0.0500	0.04685	mg/L		94 6	7 - 139
1,1,2-Trichloroethane	0.0500	0.05057	mg/L		101 7	'0 ₋ 130
Trichloroethene	0.0500	0.04151	mg/L		83 7	'0 ₋ 130
Vinyl acetate	0.100	0.09280	mg/L		93 2	2 - 150
Vinyl chloride	0.0500	0.04042	mg/L		81 5	55 _ 150
o-Xylene	0.0500	0.04563	mg/L		91 6	9 - 130
m-Xylene & p-Xylene	0.0500	0.04559	mg/L		91 7	'0 ₋ 130
Xylenes, Total	0.100	0.09122	mg/L		91 7	'0 - 130
Bromodichloromethane	0.0500	0.04998	mg/L		100 7	'0 ₋ 130
1,2-Dichloroethene, Total	0.100	0.09936	mg/L		99 7	′0 ₋ 130

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Surrogate	%Recovery	Qualifier	Limits
Toluene-d8 (Surr)	84		70 - 130
Dibromofluoromethane	76		62 - 130
4-Bromofluorobenzene	106		67 - 139
1 2-Dichloroethane-d4 (Surr)	79		50 - 134

TestAmerica Houston

Client: Golder Associates Inc. Project/Site: Exide Recycling Center

5

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

74

109

85

Lab Sample ID: 600-85797-4 MS

Matrix: Water

Analysis Batch: 125734

Dibromofluoromethane

4-Bromofluorobenzene

1,2-Dichloroethane-d4 (Surr)

Client Sample ID: MW-43 Prep Type: Total/NA

	Sample	Sample	Spike	MS	MS			%Rec.
Analyte		Qualifier	Added		Qualifier Ur	nit D	%Rec	Limits
Acetone	0.00227	U	0.100	0.1146	m _Q	g/L	115	21 - 148
Benzene	0.000560	U	0.0500	0.05043	mg	g/L	101	70 - 131
Chlorobromomethane	0.000810	U	0.0500	0.03720	mę	g/L	74	70 - 130
Bromoform	0.000770	U	0.0500	0.04642	m	g/L	93	67 - 134
Bromomethane	0.00215	U	0.0500	0.04982	mę	g/L	100	45 - 150
2-Butanone (MEK)	0.00157	U	0.100	0.1389	mę	g/L	139	34 - 140
Carbon disulfide	0.00170	U	0.0500	0.04239	mę	g/L	85	60 - 146
Carbon tetrachloride	0.000920	U	0.0500	0.03766	mę	g/L	75	68 - 140
Dibromochloromethane	0.000920	U	0.0500	0.03499	mę	g/L	70	70 - 130
Chlorobenzene	0.000820	U	0.0500	0.03925	mç	g/L	78	70 - 130
Chloroethane	0.00173	U	0.0500	0.05472	mę	g/L	109	65 - 138
Chloroform	0.000820	U	0.0500	0.04695	mç	g/L	94	70 - 131
Chloromethane	0.000850	U	0.0500	0.04617	mg	g/L	92	15 - 150
1,1-Dichloroethane	0.000500	U	0.0500	0.04951	mç	g/L	99	70 - 137
1,2-Dichloroethane	0.00101	U	0.0500	0.04882	mg	g/L	98	62 - 144
1,1-Dichloroethene	0.000760	U	0.0500	0.03979	mg	g/L	80	67 - 134
cis-1,2-Dichloroethene	0.000560	U	0.0500	0.04499	mg	g/L	90	70 - 130
trans-1,2-Dichloroethene	0.000880	U	0.0500	0.04396	mg	g/L	88	70 - 130
1,2-Dichloropropane	0.00141	U	0.0500	0.05152	mg	g/L	103	70 - 133
cis-1,3-Dichloropropene	0.000970	U	0.0500	0.04772	mg	g/L	95	66 - 130
trans-1,3-Dichloropropene	0.000590	U	0.0500	0.05235	mg	g/L	105	70 - 138
Ethylbenzene	0.00129	U	0.0500	0.03982	mg	g/L	80	70 - 130
2-Hexanone	0.00142	U	0.100	0.07595	mg	g/L	76	46 - 139
Methylene Chloride	0.00143	U	0.0500	0.04494	mg	g/L	90	67 - 130
4-Methyl-2-pentanone (MIBK)	0.00111	U	0.100	0.07947	mg	g/L	79	39 - 150
Styrene	0.000560	U	0.0500	0.04117	mg	g/L	82	70 - 130
1,1,2,2-Tetrachloroethane	0.000800	U	0.0500	0.04786	mç	g/L	96	62 - 130
Tetrachloroethene	0.00124	U	0.0500	0.03170	mg	g/L	63	57 - 130
Toluene	0.000550	U	0.0500	0.04410	mg	g/L	88	70 - 130
1,1,1-Trichloroethane	0.000980	U	0.0500	0.04024	mg	g/L	80	67 - 139
1,1,2-Trichloroethane	0.000530	U	0.0500	0.04322	mg	g/L	86	70 - 130
Trichloroethene	0.00158	U	0.0500	0.03551	mg	g/L	71	70 - 130
Vinyl acetate	0.000600	U	0.100	0.08838	mg	g/L	88	22 - 150
Vinyl chloride	0.000850	U	0.0500	0.04726	mg	g/L	95	55 - 150
o-Xylene	0.000930	U	0.0500	0.03809	mg	g/L	76	69 - 130
m-Xylene & p-Xylene	0.00126	U	0.0500	0.03740	mg	g/L	75	70 - 130
Xylenes, Total	0.00198	U	0.100	0.07549	mg	g/L	75	70 - 130
Bromodichloromethane	0.000760	U	0.0500	0.04765	mg	g/L	95	70 - 130
1,2-Dichloroethene, Total	0.000840	U	0.100	0.08895	mę	g/L	89	70 - 130
	MS	MS						
Surrogate	%Recovery	Qualifier	Limits					
Toluene-d8 (Surr)	78		70 - 130					

TestAmerica Houston

62 - 130

67 - 139

50 - 134

Client: Golder Associates Inc. Project/Site: Exide Recycling Center

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 600-85797-4 MSD

Matrix: Water

Analysis Batch: 125734

Client Sample ID: MW-43 Prep Type: Total/NA

	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Acetone	0.00227	U	0.100	0.1503	N	mg/L		150	21 - 148	27	25
Benzene	0.000560	U	0.0500	0.05270		mg/L		105	70 - 131	4	21
Chlorobromomethane	0.000810	U	0.0500	0.03958		mg/L		79	70 - 130	6	25
Bromoform	0.000770	U	0.0500	0.04604		mg/L		92	67 - 134	1	25
Bromomethane	0.00215	U	0.0500	0.05481		mg/L		110	45 - 150	10	25
2-Butanone (MEK)	0.00157	U	0.100	0.1485	N	mg/L		149	34 - 140	7	25
Carbon disulfide	0.00170	U	0.0500	0.04583		mg/L		92	60 - 146	8	25
Carbon tetrachloride	0.000920	U	0.0500	0.04097		mg/L		82	68 - 140	8	25
Dibromochloromethane	0.000920	U	0.0500	0.03689		mg/L		74	70 - 130	5	25
Chlorobenzene	0.000820	U	0.0500	0.04184		mg/L		84	70 - 130	6	21
Chloroethane	0.00173	U	0.0500	0.06274		mg/L		125	65 - 138	14	25
Chloroform	0.000820	U	0.0500	0.04950		mg/L		99	70 - 131	5	25
Chloromethane	0.000850	U	0.0500	0.05399		mg/L		108	15 - 150	16	25
1,1-Dichloroethane	0.000500	U	0.0500	0.05401		mg/L		108	70 - 137	9	25
1,2-Dichloroethane	0.00101	U	0.0500	0.05267		mg/L		105	62 - 144	8	25
1,1-Dichloroethene	0.000760	Ü	0.0500	0.04241		mg/L		85	67 _ 134	6	22
cis-1,2-Dichloroethene	0.000560	U	0.0500	0.04743		mg/L		95	70 - 130	5	25
trans-1,2-Dichloroethene	0.000880	U	0.0500	0.04742		mg/L		95	70 - 130	8	25
1,2-Dichloropropane	0.00141	U	0.0500	0.05452		mg/L		109	70 - 133	6	25
cis-1,3-Dichloropropene	0.000970	U	0.0500	0.05130		mg/L		103	66 - 130	7	25
trans-1,3-Dichloropropene	0.000590	U	0.0500	0.05542		mg/L		111	70 - 138	6	25
Ethylbenzene	0.00129	U	0.0500	0.04338		mg/L		87	70 - 130	9	25
2-Hexanone	0.00142	U	0.100	0.07804		mg/L		78	46 - 139	3	25
Methylene Chloride	0.00143	U	0.0500	0.04824		mg/L		96	67 - 130	7	25
4-Methyl-2-pentanone (MIBK)	0.00111	U	0.100	0.08372		mg/L		84	39 _ 150	5	25
Styrene	0.000560	U	0.0500	0.04514		mg/L		90	70 - 130	9	25
1,1,2,2-Tetrachloroethane	0.000800	U	0.0500	0.05090		mg/L		102	62 - 130	6	25
Tetrachloroethene	0.00124	U	0.0500	0.03563		mg/L		71	57 - 130	12	25
Toluene	0.000550	U	0.0500	0.04678		mg/L		94	70 - 130	6	21
1,1,1-Trichloroethane	0.000980	U	0.0500	0.04488		mg/L		90	67 - 139	11	25
1,1,2-Trichloroethane	0.000530	Ü	0.0500	0.04686		mg/L		94	70 - 130	8	25
Trichloroethene	0.00158	U	0.0500	0.03848		mg/L		77	70 - 130	8	24
Vinyl acetate	0.000600	U	0.100	0.09643		mg/L		96	22 - 150	9	25
Vinyl chloride	0.000850	U	0.0500	0.05679		mg/L		114	55 - 150	18	25
o-Xylene	0.000930	U	0.0500	0.04145		mg/L		83	69 - 130	8	25
m-Xylene & p-Xylene	0.00126	U	0.0500	0.04148		mg/L		83	70 - 130	10	25
Xylenes, Total	0.00198	U	0.100	0.08293		mg/L		83	70 - 130	9	25
Bromodichloromethane	0.000760	U	0.0500	0.04823		mg/L		96	70 - 130	1	25
1,2-Dichloroethene, Total	0.000840	U	0.100	0.09485		mg/L		95	70 ₋ 130	6	25

/ISD	MSD

Surrogate	%Recovery	Qualifier	Limits
Toluene-d8 (Surr)	74		70 - 130
Dibromofluoromethane	71		62 _ 130
4-Bromofluorobenzene	97		67 - 139
1,2-Dichloroethane-d4 (Surr)	83		50 ₋ 134

TestAmerica Houston

Client: Golder Associates Inc. Project/Site: Exide Recycling Center

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels

Lab Sample ID: MB 600-125621/1-A

Matrix: Water

Analysis Batch: 126089

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

Prep Batch: 125621

Analyto		MB	MOI	MIDI	Unit	D	Dronored	Analyzad	Dii E-
Analyte Acenaphthene	0.000160	Qualifier	MQL 0.000500	0.000160	mg/L	— –	Prepared 01/22/14 16:16	Analyzed 01/24/14 19:00	Dil Fa
Acenaphthylene	0.000160		0.000500	0.000160	mg/L		01/22/14 16:16	01/24/14 19:00	
Anthracene	0.000100		0.000500	0.000100	mg/L		01/22/14 16:16	01/24/14 19:00	
Benzidine	0.00440		0.0500	0.000440			01/22/14 16:16	01/24/14 19:00	
	0.000250		0.000500		mg/L		01/22/14 16:16	01/24/14 19:00	
Benzo[a]anthracene	0.000230		0.000500	0.000250 0.000180	mg/L		01/22/14 16:16	01/24/14 19:00	
Benzo[b]fluoranthene					mg/L				
Benzo[k]fluoranthene	0.000160 0.000350		0.000500	0.000160	mg/L		01/22/14 16:16	01/24/14 19:00	
Benzo[g,h,i]perylene			0.000500	0.000350	mg/L		01/22/14 16:16	01/24/14 19:00	
Benzo[a]pyrene	0.000130		0.000500	0.000130			01/22/14 16:16	01/24/14 19:00	
Bis(2-chloroethoxy)methane	0.000190		0.000500	0.000190	•		01/22/14 16:16	01/24/14 19:00	
Bis(2-chloroethyl)ether	0.000180		0.000500	0.000180	•		01/22/14 16:16	01/24/14 19:00	
Bis(2-ethylhexyl) phthalate	0.000590		0.00150	0.000590			01/22/14 16:16	01/24/14 19:00	
4-Bromophenyl phenyl ether	0.000250		0.000500	0.000250	•		01/22/14 16:16	01/24/14 19:00	
Butyl benzyl phthalate	0.001383		0.00250	0.000850			01/22/14 16:16	01/24/14 19:00	
4-Chloroaniline	0.000110		0.000500	0.000110			01/22/14 16:16	01/24/14 19:00	
2-Chloronaphthalene	0.000190		0.000500	0.000190			01/22/14 16:16	01/24/14 19:00	
4-Chlorophenyl phenyl ether	0.000230		0.000500	0.000230	mg/L		01/22/14 16:16	01/24/14 19:00	
Carbazole	0.000350		0.000500	0.000350	mg/L		01/22/14 16:16	01/24/14 19:00	
Chrysene	0.000240		0.000500	0.000240	mg/L		01/22/14 16:16	01/24/14 19:00	
Di-n-butyl phthalate	0.00187		0.00500	0.00187	_		01/22/14 16:16	01/24/14 19:00	
Dibenz(a,h)anthracene	0.000290		0.000500	0.000290	mg/L		01/22/14 16:16	01/24/14 19:00	
Dibenzofuran	0.000160		0.000500	0.000160	mg/L		01/22/14 16:16	01/24/14 19:00	
1,2-Dichlorobenzene	0.000210		0.000500	0.000210	mg/L		01/22/14 16:16	01/24/14 19:00	
1,3-Dichlorobenzene	0.000100		0.000500	0.000100	mg/L		01/22/14 16:16	01/24/14 19:00	
1,4-Dichlorobenzene	0.000160		0.000500		mg/L		01/22/14 16:16	01/24/14 19:00	
3,3'-Dichlorobenzidine	0.000320		0.000500	0.000320	mg/L		01/22/14 16:16	01/24/14 19:00	
Diethyl phthalate	0.00419		0.00500	0.00419	mg/L		01/22/14 16:16	01/24/14 19:00	
Dimethyl phthalate	0.000180		0.00500	0.000180	mg/L		01/22/14 16:16	01/24/14 19:00	
2,4-Dinitrotoluene	0.000320		0.000500	0.000320	mg/L		01/22/14 16:16	01/24/14 19:00	
Di-n-octyl phthalate	0.0001817		0.00500	0.000160	mg/L		01/22/14 16:16	01/24/14 19:00	
Fluoranthene	0.000310		0.000500	0.000310	mg/L		01/22/14 16:16	01/24/14 19:00	
Fluorene	0.000120		0.000500	0.000120	mg/L		01/22/14 16:16	01/24/14 19:00	
Hexachlorobenzene	0.000250		0.000500	0.000250	mg/L		01/22/14 16:16	01/24/14 19:00	
Hexachlorocyclopentadiene	0.000150		0.000500	0.000150	mg/L		01/22/14 16:16	01/24/14 19:00	
Hexachloroethane	0.000170		0.000500	0.000170	•		01/22/14 16:16	01/24/14 19:00	
Hexachlorobutadiene	0.000190		0.000500	0.000190	mg/L		01/22/14 16:16	01/24/14 19:00	
Indeno[1,2,3-cd]pyrene	0.000290		0.000500	0.000290	-		01/22/14 16:16	01/24/14 19:00	
Isophorone	0.000150		0.000500	0.000150	-		01/22/14 16:16	01/24/14 19:00	
2-Methylnaphthalene	0.000140		0.000500	0.000140			01/22/14 16:16	01/24/14 19:00	
Naphthalene	0.000160		0.000500	0.000160	mg/L		01/22/14 16:16	01/24/14 19:00	
2-Nitroaniline	0.000350		0.000500	0.000350	mg/L		01/22/14 16:16	01/24/14 19:00	
3-Nitroaniline	0.000130		0.000500	0.000130			01/22/14 16:16	01/24/14 19:00	
4-Nitroaniline	0.000230		0.000500	0.000230	•		01/22/14 16:16	01/24/14 19:00	
Nitrobenzene	0.000200	U	0.000500	0.000200	mg/L		01/22/14 16:16	01/24/14 19:00	
N-Nitrosodimethylamine	0.000160		0.000500	0.000160			01/22/14 16:16	01/24/14 19:00	
N-Nitrosodiphenylamine	0.000330	U	0.000500	0.000330	mg/L		01/22/14 16:16	01/24/14 19:00	
N-Nitrosodi-n-propylamine	0.000240	U	0.000500	0.000240	mg/L		01/22/14 16:16	01/24/14 19:00	
Phenanthrene	0.000290	U	0.000500	0.000290	ma/l		01/22/14 16:16	01/24/14 19:00	

TestAmerica Houston

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1/30/2014

Client: Golder Associates Inc. Project/Site: Exide Recycling Center

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels (Continued)

MB MB

Lab Sample ID: MB 600-125621/1-A

Matrix: Water

Analysis Batch: 126089

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

Prep Batch: 125621

	IVID	IVID							
Analyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	0.000330	U	0.000500	0.000330	mg/L		01/22/14 16:16	01/24/14 19:00	1
1,2,4-Trichlorobenzene	0.000160	U	0.000500	0.000160	mg/L		01/22/14 16:16	01/24/14 19:00	1
Benzyl alcohol	0.000510	U	0.000500	0.000510	mg/L		01/22/14 16:16	01/24/14 19:00	1
4-Chloro-3-methylphenol	0.000250	U	0.000500	0.000250	mg/L		01/22/14 16:16	01/24/14 19:00	1
2-Chlorophenol	0.000220	U	0.000500	0.000220	mg/L		01/22/14 16:16	01/24/14 19:00	1
2-Methylphenol	0.000190	U	0.000500	0.000190	mg/L		01/22/14 16:16	01/24/14 19:00	1
3 & 4 Methylphenol	0.000160	U	0.00100	0.000160	mg/L		01/22/14 16:16	01/24/14 19:00	1
2,4-Dichlorophenol	0.000260	U	0.000500	0.000260	mg/L		01/22/14 16:16	01/24/14 19:00	1
2,4-Dimethylphenol	0.000180	U	0.000500	0.000180	mg/L		01/22/14 16:16	01/24/14 19:00	1
4,6-Dinitro-2-methylphenol	0.000160	U	0.00100	0.000160	mg/L		01/22/14 16:16	01/24/14 19:00	1
2,4-Dinitrophenol	0.000400	U	0.00100	0.000400	mg/L		01/22/14 16:16	01/24/14 19:00	1
2-Nitrophenol	0.000220	U	0.000500	0.000220	mg/L		01/22/14 16:16	01/24/14 19:00	1
4-Nitrophenol	0.000330	U	0.00100	0.000330	mg/L		01/22/14 16:16	01/24/14 19:00	1
Pentachlorophenol	0.000960	U	0.00100	0.000960	mg/L		01/22/14 16:16	01/24/14 19:00	1
Phenol	0.000140	U	0.000500	0.000140	mg/L		01/22/14 16:16	01/24/14 19:00	1
2,4,5-Trichlorophenol	0.000290	U	0.000500	0.000290	mg/L		01/22/14 16:16	01/24/14 19:00	1
2,4,6-Trichlorophenol	0.000330	U	0.000500	0.000330	mg/L		01/22/14 16:16	01/24/14 19:00	1
2,6-Dinitrotoluene	0.000290	U	0.000500	0.000290	mg/L		01/22/14 16:16	01/24/14 19:00	1
bis (2-Chloroisopropyl) ether	0.000180	U	0.000500	0.000180	mg/L		01/22/14 16:16	01/24/14 19:00	1

MR MR

	1112					
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	91		33 - 141	01/22/14 16:16	01/24/14 19:00	1
Nitrobenzene-d5	95		47 - 120	01/22/14 16:16	01/24/14 19:00	1
2-Fluorophenol	80		18 - 120	01/22/14 16:16	01/24/14 19:00	1
2-Fluorobiphenyl	91		43 - 120	01/22/14 16:16	01/24/14 19:00	1
2,4,6-Tribromophenol	76		44 - 123	01/22/14 16:16	01/24/14 19:00	1
Phenol-d5 (Surr)	66		12 - 128	01/22/14 16:16	01/24/14 19:00	1

Lab Sample ID: LCS 600-125621/17-A

Matrix: Water

Analysis Batch: 126089

Client Sample ID: Lab Control Sample

Prep Type: Total/NA **Prep Batch: 125621**

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
Terphenyl-d14	95		33 - 141
Nitrobenzene-d5	89		47 - 120
2-Fluorophenol	82		18 - 120
2-Fluorobiphenyl	81		43 - 120
2,4,6-Tribromophenol	99		44 - 123
Phenol-d5 (Surr)	73		12 - 128

Lab Sample ID: LCS 600-125621/2-A

Matrix: Water

Analysis Batch: 126089

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 125621

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Acenaphthene	0.00800	0.005987		mg/L		75	47 - 145	
Acenaphthylene	0.00800	0.005903		mg/L		74	35 - 135	
Anthracene	0.00800	0.006557		mg/L		82	53 - 124	

TestAmerica Houston

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Client: Golder Associates Inc.
Project/Site: Exide Recycling Center

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels (Continued)

Lab Sample ID: LCS 600-125621/2-A

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 126089

Prep Batch: 125621

Analysis Batch: 126089 Prep Batch: 125621 LCS LCS Spike Result Qualifier Analyte Added Unit D %Rec Limits Ū, 0.0400 0.0179 0 10 - 120 Benzidine ma/L Benzo[a]anthracene 0.00800 0.006958 mg/L 87 53 - 122 Benzo[b]fluoranthene 0.00800 0.006493 mg/L 81 53 _ 131 Benzo[k]fluoranthene 0.00800 0.006904 mg/L 86 46 - 130 0.00800 0.007260 91 46 - 133 Benzo[g,h,i]perylene mg/L 0.00800 0.006496 81 50 - 124 Benzo[a]pyrene mg/L Bis(2-chloroethoxy)methane 0.00800 0.006317 mg/L 79 42 _ 119 Bis(2-chloroethyl)ether 0.00800 0.006095 mg/L 76 40 - 112 Bis(2-ethylhexyl) phthalate 0.00800 0.007689 mg/L 96 47 - 132 76 46 - 129 4-Bromophenyl phenyl ether 0.00800 0.006111 mg/L Butyl benzyl phthalate 0.00800 0.007785 mg/L 97 50 - 12657 4-Chloroaniline 0.00800 0.004592 mg/L 19 - 129 2-Chloronaphthalene 0.00800 0.005779 mg/L 72 43 - 120 4-Chlorophenyl phenyl ether 0.00800 0.005877 mg/L 73 48 - 125 92 Carbazole 0.00800 0.007344 mg/L 42 - 169 Chrysene 0.00800 0.006308 mg/L 79 49 - 124 84 Di-n-butyl phthalate 0.00800 0.006707 mg/L 54 - 138 91 Dibenz(a,h)anthracene 0.00800 0.007257 mg/L 42 _ 134 0.00800 0.005993 75 46 - 123 mg/L 0.00800 72 40 - 121 1,2-Dichlorobenzene 0.005775 mg/L 1,3-Dichlorobenzene 0.00800 0.005855 73 39 - 122 mg/L 0.00800 0.005653 71 45 - 124 1 4-Dichlorobenzene mg/L 3,3'-Dichlorobenzidine 0.00800 0.005494 mg/L 69 38 - 168 Diethyl phthalate 0.00800 0.006790 mg/L 85 51 - 123 Dimethyl phthalate 0.00800 0.006531 mg/L 82 49 - 121 2,4-Dinitrotoluene 0.00800 0.006360 mg/L 80 43 - 128 Di-n-octyl phthalate 0.00800 88 27 - 157 0.007007 mg/L 0.00800 0.006630 83 53 - 127 Fluoranthene mg/L 76 Fluorene 0.00800 0.006058 mg/L 48 - 127 Hexachlorobenzene 0.00800 0.005921 mg/L 74 46 - 129 36 21 - 126 Hexachlorocyclopentadiene 0.00800 0.002857 mg/L Hexachloroethane 0.00800 0.005504 mg/L 69 43 - 118 Hexachlorobutadiene 0.00800 0.005262 mg/L 66 32 - 143Indeno[1,2,3-cd]pyrene 0.00800 0.007174 mg/L 90 45 - 124 0.00800 0.006128 77 42 - 116 Isophorone mg/L 2-Methylnaphthalene 0.00800 0.006035 mg/L 75 40 - 121 Naphthalene 0.00800 0.006075 mg/L 76 39 - 120 2-Nitroaniline 85 0.00800 0.006807 mg/L 42 - 1303-Nitroaniline 0.00800 0.008774 mg/L 110 47 - 138 4-Nitroaniline 0.00800 101 32 - 139 0.008107 mg/L Nitrobenzene 0.00800 0.006139 mg/L 77 42 - 119 72 N-Nitrosodimethylamine 0.00800 0.005729 mg/L 26 - 10486 N-Nitrosodiphenylamine 0.00800 0.006899 mg/L 43 - 107 39 - 124 N-Nitrosodi-n-propylamine 0.00800 0.006602 mg/L 83 Phenanthrene 0.00800 0.006034 mg/L 75 52 - 121 84 Pyrene 0.00800 0.006734 mg/L 49 - 121 1,2,4-Trichlorobenzene 0.00800 0.005551 mg/L 69 38 - 118 Benzyl alcohol 0.00800 0.005596 mg/L 70 39 - 115

TestAmerica Houston

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TestAmerica Job ID: 600-85797-1

Client: Golder Associates Inc. Project/Site: Exide Recycling Center

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels (Continued)

Lab Sample ID: LCS 600-125621/2-A

Matrix: Water

Analysis Batch: 126089

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

Prep Batch: 125621

Analysis Baton: 120000						i iop Batoi		
	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
4-Chloro-3-methylphenol	0.00800	0.006153		mg/L		77	44 - 131	
2-Chlorophenol	0.00800	0.006704		mg/L		84	23 - 134	
2-Methylphenol	0.00800	0.007075		mg/L		88	34 - 109	
3 & 4 Methylphenol	0.00800	0.007242		mg/L		91	27 _ 113	
2,4-Dichlorophenol	0.00800	0.006603		mg/L		83	39 - 118	
2,4-Dimethylphenol	0.00800	0.006888		mg/L		86	36 - 109	
4,6-Dinitro-2-methylphenol	0.0160	0.01099		mg/L		69	24 - 122	
2,4-Dinitrophenol	0.0160	0.01016		mg/L		63	23 - 130	
2-Nitrophenol	0.00800	0.006045		mg/L		76	40 - 121	
4-Nitrophenol	0.0160	0.01327		mg/L		83	14 - 132	
Pentachlorophenol	0.0160	0.008932		mg/L		56	9 - 147	
Phenol	0.00800	0.005397		mg/L		67	11 - 112	
2,4,5-Trichlorophenol	0.00800	0.006426		mg/L		80	38 - 145	
2,4,6-Trichlorophenol	0.00800	0.006735		mg/L		84	39 - 123	
2,6-Dinitrotoluene	0.00800	0.006365		mg/L		80	45 - 122	
bis (2-Chloroisopropyl) ether	0.00800	0.006647		mg/L		83	41 - 111	

LCS LCS

Surrogate	%Recovery	Qualifier	Limits
Terphenyl-d14	101		33 - 141
Nitrobenzene-d5	94		47 - 120
2-Fluorophenol	92		18 - 120
2-Fluorobiphenyl	91		43 - 120
2,4,6-Tribromophenol	97		44 - 123
Phenol-d5 (Surr)	82		12 - 128

Lab Sample ID: LCSD 600-125621/18-A

Matrix: Water

Analysis Batch: 126089

Client Sample ID: Lab Control Sample Dup Prep Type: Total/NA

Prep Batch: 125621

LCSD LCSD

I	Surrogate	%Recovery	Qualifier	Limits
	Terphenyl-d14	95		33 - 141
	Nitrobenzene-d5	94		47 - 120
١	2-Fluorophenol	89		18 - 120
١	2-Fluorobiphenyl	80		43 - 120
١	2,4,6-Tribromophenol	102		44 - 123
١	Phenol-d5 (Surr)	80		12 - 128

Lab Sample ID: 600-85797-4 MS

Matrix: Water

Analysis Batch: 126089

Client Sample ID: MW-43 Prep Type: Total/NA **Prep Batch: 125621**

	Sample	Sample	Spike	MS	MS				%Rec.
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits
Acenaphthene	0.000160	U	0.00800	0.004841		mg/L		61	46 - 118
Acenaphthylene	0.000160	U	0.00800	0.004996		mg/L		62	38 - 115
Anthracene	0.000440	U	0.00800	0.005329		mg/L		67	35 - 116
Benzidine	0.0179	U *	0.0400	0.0179	U	mg/L		0	0 - 150
Benzo[a]anthracene	0.000250	U	0.00800	0.006761		mg/L		85	24 - 126
Benzo[b]fluoranthene	0.000180	U	0.00800	0.006775		mg/L		85	31 _ 119

TestAmerica Houston

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QC Sample Results

Client: Golder Associates Inc. Project/Site: Exide Recycling Center TestAmerica Job ID: 600-85797-1

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels (Continued)

Lab Sample ID: 600-85797-4 MS

Matrix: Water

Client Sample ID: MW-43								
Prep Type: Total/NA								
Prep Batch: 125621								

Analysis Batch: 126089									Prep Batch: 12562
		Sample	Spike	MS	MS				%Rec.
Analyte		Qualifier	Added		Qualifier	Unit	D	%Rec	Limits
Benzo[k]fluoranthene	0.000160		0.00800	0.006676		mg/L		83	29 - 117
Benzo[g,h,i]perylene	0.000350		0.00800	0.006643		mg/L		83	10 - 123
Benzo[a]pyrene	0.000130	U	0.00800	0.006662		mg/L		83	60 - 140
Bis(2-chloroethoxy)methane	0.000190	U	0.00800	0.005349		mg/L		67	42 - 101
Bis(2-chloroethyl)ether	0.000180	U	0.00800	0.005090		mg/L		64	20 - 107
Bis(2-ethylhexyl) phthalate	0.000590	U	0.00800	0.007216		mg/L		90	14 - 123
4-Bromophenyl phenyl ether	0.000250	U	0.00800	0.005527		mg/L		69	50 - 113
Butyl benzyl phthalate	0.000850	U	0.00800	0.006971		mg/L		87	36 - 144
4-Chloroaniline	0.000110	U	0.00800	0.004228		mg/L		53	49 - 151
2-Chloronaphthalene	0.000190	U	0.00800	0.004713		mg/L		59	42 - 100
4-Chlorophenyl phenyl ether	0.000230	U	0.00800	0.005229		mg/L		65	41 - 116
Carbazole	0.000350	U	0.00800	0.007235		mg/L		90	30 - 130
Chrysene	0.000240	U	0.00800	0.006636		mg/L		83	23 - 128
Di-n-butyl phthalate	0.00187	U	0.00800	0.006937		mg/L		87	31 - 137
Dibenz(a,h)anthracene	0.000290	U	0.00800	0.006888		mg/L		86	62 - 138
Dibenzofuran	0.000160	U	0.00800	0.005120		mg/L		64	46 - 110
1,2-Dichlorobenzene	0.000210		0.00800	0.004461		mg/L		56	42 - 96
1,3-Dichlorobenzene	0.000100		0.00800	0.004752		mg/L		59	40 - 95
1,4-Dichlorobenzene	0.000160		0.00800	0.004318		mg/L		54	36 - 99
3,3'-Dichlorobenzidine	0.000320		0.00800	0.003967		mg/L		50	33 - 167
Diethyl phthalate	0.00419		0.00800	0.006062		mg/L		76	60 - 140
Dimethyl phthalate	0.000180		0.00800	0.005780		mg/L		72	51 - 120
2,4-Dinitrotoluene	0.000320		0.00800	0.005846		mg/L		73	41 - 125
Di-n-octyl phthalate	0.000160		0.00800	0.006955		mg/L		87	30 - 170
Fluoranthene	0.000310		0.00800	0.006489		mg/L		81	14 - 145
Fluorene	0.000310		0.00800	0.005414		mg/L		68	44 - 112
Hexachlorobenzene	0.000120		0.00800	0.005361		-		67	29 - 126
	0.000250		0.00800	0.003301		mg/L		25	10 - 109
Hexachlorocyclopentadiene Hexachloroethane						mg/L			
Hexachlorobutadiene	0.000170		0.00800 0.00800	0.004079		mg/L		51 49	35 ₋ 101 36 ₋ 101
	0.000190			0.003896		mg/L			
Indeno[1,2,3-cd]pyrene	0.000290		0.00800	0.006566		mg/L		82	60 - 140
Isophorone	0.000150		0.00800	0.005019		mg/L		63	45 - 109
2-Methylnaphthalene	0.000140		0.00800	0.004855		mg/L		61	36 - 111
Naphthalene	0.000160		0.00800	0.004972		mg/L		62	34 - 99
2-Nitroaniline	0.000350		0.00800	0.005525		mg/L		69	30 - 130
3-Nitroaniline	0.000130		0.00800	0.005156		mg/L		64	30 - 130
4-Nitroaniline	0.000230		0.00800	0.006744		mg/L		84	46 - 154
Nitrobenzene	0.000200		0.00800	0.005258		mg/L		66	37 ₋ 104
N-Nitrosodimethylamine	0.000160		0.00800	0.004371		mg/L		55	30 - 130
N-Nitrosodiphenylamine	0.000330	U	0.00800	0.006341		mg/L		79	58 - 142
N-Nitrosodi-n-propylamine	0.000240	U	0.00800	0.005355		mg/L		67	44 - 110
Phenanthrene	0.000290	U	0.00800	0.006154		mg/L		77	41 - 117
Pyrene	0.000330	U	0.00800	0.006721		mg/L		84	28 - 133
1,2,4-Trichlorobenzene	0.000160	U	0.00800	0.004264		mg/L		53	39 - 98
Benzyl alcohol	0.000510	U	0.00800	0.005484		mg/L		69	17 - 111
4-Chloro-3-methylphenol	0.000250	U	0.00800	0.005342		mg/L		67	67 - 133
2-Chlorophenol	0.000220	U	0.00800	0.005636		mg/L		70	36 - 96
2-Methylphenol	0.000190	U	0.00800	0.005406		mg/L		68	22 - 94

TestAmerica Houston

Client: Golder Associates Inc. Project/Site: Exide Recycling Center

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Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels (Continued)

Lab Sample ID: 600-85797-4 MS

Matrix: Water

Analysis Batch: 126089

Client Sample ID: MW-43 Prep Type: Total/NA Prep Batch: 125621

	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
3 & 4 Methylphenol	0.000160	U	0.00800	0.005176		mg/L		65	12 - 111	
2,4-Dichlorophenol	0.000260	U	0.00800	0.005449		mg/L		68	40 - 106	
2,4-Dimethylphenol	0.000180	U	0.00800	0.005906		mg/L		74	25 _ 85	
4,6-Dinitro-2-methylphenol	0.000160	U	0.0160	0.007514		mg/L		47	28 - 128	
2,4-Dinitrophenol	0.000400	U	0.0160	0.006622		mg/L		41	40 - 140	
2-Nitrophenol	0.000220	U	0.00800	0.004958		mg/L		62	48 - 100	
4-Nitrophenol	0.000330	U	0.0160	0.01104		mg/L		69	10 - 100	
Pentachlorophenol	0.000960	U	0.0160	0.01115		mg/L		70	45 - 155	
Phenol	0.000140	U	0.00800	0.004469		mg/L		56	10 - 62	
2,4,5-Trichlorophenol	0.000290	U	0.00800	0.005642		mg/L		71	45 _ 116	
2,4,6-Trichlorophenol	0.000330	U	0.00800	0.005712		mg/L		71	62 - 107	
2,6-Dinitrotoluene	0.000290	U	0.00800	0.005624		mg/L		70	47 _ 118	
bis (2-Chloroisopropyl) ether	0.000180	U	0.00800	0.005775		mg/L		72	41 - 111	

MS MS Surrogate %Recovery Qualifier Limits Terphenyl-d14 33 - 141 96 47 - 120 Nitrobenzene-d5 76 2-Fluorophenol 72 18 - 120 2-Fluorobiphenyl 75 43 - 120 2,4,6-Tribromophenol 88 44 - 123 Phenol-d5 (Surr) 68 12 - 128

Lab Sample ID: 600-85797-4 MSD

Matrix: Water

Analysis Batch: 126089

Client Sample ID: MW-43 Prep Type: Total/NA Prep Batch: 125621

maryoto Batom 120000										- u t o · · · ·	
	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Acenaphthene	0.000160	U	0.00800	0.004355		mg/L		54	46 - 118	11	20
Acenaphthylene	0.000160	U	0.00800	0.004474		mg/L		56	38 - 115	11	20
Anthracene	0.000440	U	0.00800	0.005172		mg/L		65	35 - 116	3	20
Benzidine	0.0179	U *	0.0400	0.0179	U	mg/L		0	0 - 150	NC	40
Benzo[a]anthracene	0.000250	U	0.00800	0.006364		mg/L		80	24 - 126	6	20
Benzo[b]fluoranthene	0.000180	U	0.00800	0.006415		mg/L		80	31 - 119	5	20
Benzo[k]fluoranthene	0.000160	U	0.00800	0.007474		mg/L		93	29 - 117	11	20
Benzo[g,h,i]perylene	0.000350	U	0.00800	0.006391		mg/L		80	10 - 123	4	20
Benzo[a]pyrene	0.000130	U	0.00800	0.006174		mg/L		77	60 - 140	8	20
Bis(2-chloroethoxy)methane	0.000190	U	0.00800	0.004893		mg/L		61	42 - 101	9	20
Bis(2-chloroethyl)ether	0.000180	U	0.00800	0.004524		mg/L		57	20 - 107	12	20
Bis(2-ethylhexyl) phthalate	0.000590	U	0.00800	0.006905		mg/L		86	14 - 123	4	20
4-Bromophenyl phenyl ether	0.000250	U	0.00800	0.004947		mg/L		62	50 - 113	11	20
Butyl benzyl phthalate	0.000850	U	0.00800	0.006729		mg/L		84	36 - 144	4	20
4-Chloroaniline	0.000110	U	0.00800	0.003257	N	mg/L		41	49 - 151	26	20
2-Chloronaphthalene	0.000190	U	0.00800	0.004215		mg/L		53	42 - 100	11	20
4-Chlorophenyl phenyl ether	0.000230	U	0.00800	0.004468		mg/L		56	41 - 116	16	20
Carbazole	0.000350	U	0.00800	0.006927		mg/L		87	30 - 130	4	20
Chrysene	0.000240	U	0.00800	0.006360		mg/L		79	23 - 128	4	20
Di-n-butyl phthalate	0.00187	U	0.00800	0.006637		mg/L		83	31 - 137	4	20
Dibenz(a,h)anthracene	0.000290	U	0.00800	0.006386		mg/L		80	62 - 138	8	20

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QC Sample Results

Client: Golder Associates Inc. Project/Site: Exide Recycling Center TestAmerica Job ID: 600-85797-1

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels (Continued)

Lab Sample ID: 600-85797-4 MSD

Matrix: Water

Client Sample ID: MW-43
Prep Type: Total/NA
D D. (- L. 405004

Analysis Batch: 126089	•		Cmiles	Men	Men					Batch: 1	
	-	Sample	Spike	MSD			_	~-	%Rec.		RPD
Analyte		Qualifier	Added		Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Dibenzofuran	0.000160		0.00800	0.004518		mg/L		56	46 - 110	13	20
1,2-Dichlorobenzene	0.000210		0.00800	0.004198		mg/L		52	42 - 96	6	20
1,3-Dichlorobenzene	0.000100		0.00800	0.004420		mg/L		55	40 - 95	7	20
1,4-Dichlorobenzene	0.000160		0.00800	0.004067		mg/L		51	36 ₋ 99	6	20
3,3'-Dichlorobenzidine	0.000320		0.00800	0.003387		mg/L		42	33 - 167	16	20
Diethyl phthalate	0.00419		0.00800	0.005625		mg/L		70	60 - 140	7	20
Dimethyl phthalate	0.000180		0.00800	0.005158		mg/L		64	51 - 120	11	20
2,4-Dinitrotoluene	0.000320		0.00800	0.005251		mg/L		66	41 - 125	11	20
Di-n-octyl phthalate	0.000160		0.00800	0.006672		mg/L		83	30 - 170	4	20
Fluoranthene	0.000310		0.00800	0.006214		mg/L		78	14 - 145	4	20
Fluorene	0.000120		0.00800	0.004713		mg/L		59	44 - 112	14	20
Hexachlorobenzene	0.000250		0.00800	0.004874		mg/L		61	29 - 126	10	20
Hexachlorocyclopentadiene	0.000150	U	0.00800	0.001534	N	mg/L		19	10 - 109	26	20
Hexachloroethane	0.000170	U	0.00800	0.003862		mg/L		48	35 _ 101	5	20
Hexachlorobutadiene	0.000190	U	0.00800	0.003543		mg/L		44	36 - 101	9	20
Indeno[1,2,3-cd]pyrene	0.000290	U	0.00800	0.006318		mg/L		79	60 - 140	4	20
Isophorone	0.000150	U	0.00800	0.004563		mg/L		57	45 - 109	10	20
2-Methylnaphthalene	0.000140	U	0.00800	0.004464		mg/L		56	36 - 111	8	20
Naphthalene	0.000160	U	0.00800	0.004524		mg/L		57	34 - 99	9	20
2-Nitroaniline	0.000350	U	0.00800	0.004197	N	mg/L		52	30 - 130	27	20
3-Nitroaniline	0.000130	U	0.00800	0.004675		mg/L		58	30 - 130	10	20
4-Nitroaniline	0.000230	U	0.00800	0.006113		mg/L		76	46 - 154	10	20
Nitrobenzene	0.000200	U	0.00800	0.004906		mg/L		61	37 - 104	7	20
N-Nitrosodimethylamine	0.000160	U	0.00800	0.004053		mg/L		51	30 - 130	8	20
N-Nitrosodiphenylamine	0.000330	U	0.00800	0.005962		mg/L		75	58 - 142	6	20
N-Nitrosodi-n-propylamine	0.000240	U	0.00800	0.004900		mg/L		61	44 - 110	9	20
Phenanthrene	0.000290	U	0.00800	0.005755		mg/L		72	41 - 117	7	20
Pyrene	0.000330	U	0.00800	0.006268		mg/L		78	28 - 133	7	20
1,2,4-Trichlorobenzene	0.000160	U	0.00800	0.003904		mg/L		49	39 - 98	9	20
Benzyl alcohol	0.000510	U	0.00800	0.005250		mg/L		66	17 - 111	4	20
4-Chloro-3-methylphenol	0.000250	U	0.00800	0.004852	N	mg/L		61	67 - 133	10	20
2-Chlorophenol	0.000220	U	0.00800	0.005160		mg/L		65	36 - 96	9	20
2-Methylphenol	0.000190	U	0.00800	0.005135		mg/L		64	22 - 94	5	20
3 & 4 Methylphenol	0.000160	U	0.00800	0.005359		mg/L		67	12 _ 111	3	20
2,4-Dichlorophenol	0.000260		0.00800	0.005038		mg/L		63	40 - 106	8	20
2,4-Dimethylphenol	0.000180	U	0.00800	0.005337		mg/L		67	25 - 85	10	20
4,6-Dinitro-2-methylphenol	0.000160		0.0160	0.006713		mg/L		42	28 - 128	11	20
2,4-Dinitrophenol	0.000400		0.0160	0.005986	N	mg/L		37	40 - 140	10	20
2-Nitrophenol	0.000220		0.00800	0.004664		mg/L		58	48 - 100	6	20
4-Nitrophenol	0.000330		0.0160	0.01174		mg/L		73	10 - 100	6	20
Pentachlorophenol	0.000960		0.0160	0.01174		mg/L		73 74	45 - 155	5	20
Phenol	0.000900		0.00800	0.004321		mg/L		54	40 - 100 10 - 62	3	20
	0.000140		0.00800	0.004321						10	
2,4,5-Trichlorophenol					N	mg/L		64 57	45 - 116 62 - 107		20
2,4,6-Trichlorophenol	0.000330		0.00800	0.004589	ıN	mg/L		57 62	62 ₋ 107	22	20
2,6-Dinitrotoluene bis (2-Chloroisopropyl) ether	0.000290 0.000180	U	0.00800	0.004961		mg/L		62	47 - 118	13	20

TestAmerica Houston

Client: Golder Associates Inc. Project/Site: Exide Recycling Center

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels (Continued)

Lab Sample ID: 600-85797-4 MSD

Matrix: Water

Analysis Batch: 126089

Client Sample ID: MW-43 Prep Type: Total/NA

Prep Batch: 125621

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
Terphenyl-d14	96		33 - 141
Nitrobenzene-d5	68		47 - 120
2-Fluorophenol	69		18 - 120
2-Fluorobiphenyl	65		43 - 120
2,4,6-Tribromophenol	82		44 - 123
Phenol-d5 (Surr)	65		12 - 128

Method: TX 1005 - Texas - Total Petroleum Hydrocarbon (GC)

Lab Sample ID: MB 600-125473/1-A

Matrix: Water

Analysis Batch: 125559

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

Prep Batch: 125473

мв мв Analyte Result Qualifier MQL MDL Unit Prepared Analyzed Dil Fac C6-C12 5.00 01/21/14 17:59 0.830 U 0.830 mg/L 01/21/14 13:18 >C12-C28 0.960 U 5.00 0.960 mg/L 01/21/14 13:18 01/21/14 17:59 >C28-C35 0.960 U 5.00 0.960 mg/L 01/21/14 13:18 01/21/14 17:59 C6-C35 1.56 U 5.00 1.56 mg/L 01/21/14 13:18 01/21/14 17:59

MB MB

Limits Dil Fac Surrogate %Recovery Qualifier Prepared Analyzed 99 70 - 130 01/21/14 13:18 o-Terphenyl 01/21/14 17:59

Lab Sample ID: LCS 600-125473/2-A

Analysis Batch: 125559

Client Sample ID: Lab Control Sample **Matrix: Water** Prep Type: Total/NA

LCS LCS

Prep Batch: 125473 %Rec.

Added Analyte Result Qualifier Unit %Rec Limits C6-C12 33.3 33.12 mg/L 99 75 - 125 >C12-C28 33.3 30.46 mg/L 91 75 - 125 C6-C35 66.7 63.58 95 75 - 125 mg/L

Spike

LCS LCS

Surrogate %Recovery Qualifier Limits o-Terphenyl 105 70 - 130

Lab Sample ID: 600-85797-4 MS

Matrix: Water

Analysis Batch: 125559

Client Sample ID: MW-43 Prep Type: Total/NA

Prep Batch: 125473

	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
C6-C12	0.797	U	32.0	32.35		mg/L		101	75 - 125	-
>C12-C28	0.922	U	32.0	29.78		mg/L		93	75 - 125	
C6-C35	1 50	U	64 1	62 13		ma/l		97	75 - 125	

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
o-Ternhenyl	105		70 130

TestAmerica Houston

Client: Golder Associates Inc. Project/Site: Exide Recycling Center

Method: TX 1005 - Texas - Total Petroleum Hydrocarbon (GC) (Continued)

Lab Sample ID: 600-85797-4 MSD

Matrix: Water

Analysis Batch: 125559

Client Sample ID: MW-43 Prep Type: Total/NA

Prep Batch: 125473

	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
C6-C12	0.797	U	32.6	33.19		mg/L		102	75 - 125	3	20
>C12-C28	0.922	U	32.6	30.47		mg/L		94	75 - 125	2	20
C6-C35	1.50	U	65.1	63.66		mg/L		98	75 ₋ 125	2	20

MSD MSD

Limits Surrogate %Recovery Qualifier o-Terphenyl 105 70 - 130

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 600-125474/1-A

Matrix: Water

Arsenic, Dissolved

Cadmium, Dissolved

Selenium, Dissolved

Lead, Dissolved

Analyte

Arsenic

Cadmium

Selenium

Lead

Analysis Batch: 125593

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

Prep Batch: 125474

0.00290 U

0.00417 U

0.00417 U

мв мв Dil Fac Result Qualifier RL MDL Unit Prepared Analyzed 0.0100 01/21/14 13:26 0.00328 U 0.00328 mg/L 01/22/14 14:44 0.00328 U 0.0100 0.00328 mg/L 01/21/14 13:26 01/22/14 14:44 0.000350 U 0.00500 0.000350 mg/L 01/21/14 13:26 01/22/14 14:44 0.000350 U 0.00500 0.000350 mg/L 01/21/14 13:26 01/22/14 14:44 01/22/14 14:44 0.00290 U 0.0100 0.00290 mg/L 01/21/14 13:26

0.00290 mg/L

0.00417 mg/L

0.00417 mg/L

Lab Sample ID: LCS 600-125474/2-A

Matrix: Water

Analysis Batch: 125593

Client Sample ID: Lab Control Sample

01/22/14 14:44

01/22/14 14:44

01/22/14 14:44

01/21/14 13:26

01/21/14 13:26

01/21/14 13:26

Prep Type: Total/NA Prep Batch: 125474

LCS LCS Spike %Rec. Analyte Added Result Qualifier Unit %Rec Limits Antimony 1.00 1.083 mg/L 108 80 - 120 1.083 Antimony, Dissolved 1.00 108 80 _ 120 mg/L 1.00 1.017 102 80 - 120 mg/L 1.00 1.017 102 80 - 120 Arsenic, Dissolved mg/L Cadmium 0.500 0.5041 mg/L 101 80 - 120

0.0100

0.0400

0.0400

Cadmium, Dissolved 0.500 0.5041 101 80 - 120mg/L Lead 1.00 1.022 mg/L 102 80 - 120 Lead Dissolved 1.00 1.022 mg/L 102 80 - 120 Selenium 1.00 1.017 mg/L 102 80 - 120 Selenium, Dissolved 1.00 1.017 mg/L 102 80 - 120

Lab Sample ID: 600-85797-1 MS

Matrix: Water

Analysis Batch: 125593

Client Sample ID: MW-38 Prep Type: Total/NA Prep Batch: 125474

	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Antimony	0.00630		1.00	1.029		mg/L		103	75 _ 125	
Arsenic	0.00328	U	1.00	1.064		mg/L		106	75 _ 125	
Cadmium	0.000350	U	0.500	0.4780		mg/L		96	75 - 125	
Lead	0.00290	U	1.00	0.9621		mg/L		96	75 ₋ 125	

TestAmerica Houston

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Client: Golder Associates Inc. Project/Site: Exide Recycling Center

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 600-85797-1 MS Client Sample ID: MW-38 **Matrix: Water** Prep Type: Total/NA **Analysis Batch: 125593** Prep Batch: 125474

Sample Sample Spike MS MS Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits 0.00603 J 1.00 106 Selenium 1.066 75 - 125 mg/L

Lab Sample ID: 600-85797-1 MSD Client Sample ID: MW-38

Matrix: Water

Prep Type: Total/NA Analysis Batch: 125593 Prep Batch: 125474

	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Antimony	0.00630		1.00	1.039		mg/L		104	75 - 125	1	20
Arsenic	0.00328	U	1.00	1.011		mg/L		101	75 - 125	5	20
Cadmium	0.000350	U	0.500	0.4537		mg/L		91	75 - 125	5	20
Lead	0.00290	U	1.00	0.9103		mg/L		91	75 - 125	6	20
Selenium	0.00603	J	1.00	1.017		mg/L		101	75 - 125	5	20

Lab Sample ID: 600-85797-1 DU Client Sample ID: MW-38 **Matrix: Water** Prep Type: Total/NA

l	Analysis Batch: 125593							Prep Batch: 1	25474
		Sample	Sample	DU	DU				RPD
	Analyte	Result	Qualifier	Result	Qualifier	Unit	D	RPD	Limit
	Arsenic	0.00328	U	0.00328	U	mg/L		NC	20
	Arsenic, Dissolved	0.00328		0.00328	U	mg/L		NC	20
	Cadmium	0.000350	U	0.000350	U	mg/L		NC	20
İ	Cadmium, Dissolved	0.000350		0.000350	U	mg/L		NC	20
	Lead	0.00290	U	0.00290	U	mg/L		NC	20
	Lead, Dissolved	0.00290		0.00290	U	mg/L		NC	20
	Selenium	0.00603	J	0.004727	J	mg/L		24	20
	Selenium, Dissolved	0.00603		0.004727	J	mg/L		24	20

Lab Sample ID: 600-85797-1 MS Client Sample ID: MW-38 **Matrix: Water Prep Type: Dissolved** Prep Batch: 125529

Analysis Batch: 125606

Sample Sample Spike MS MS %Rec. Result Qualifier Added Result Qualifier Unit %Rec Limits Antimony, Dissolved 0.00630 1.00 1.056 mg/L 106 75 - 125 Arsenic, Dissolved 0.00328 U 1.00 0.9991 mg/L 100 75 - 125 Cadmium, Dissolved 0.000350 U 0.500 0.5229 mg/L 105 75 - 125 Lead, Dissolved 0.00290 U 1.00 0.9746 97 75 - 125 mg/L Selenium, Dissolved 0.00470 J 1.00 75 - 125 1.074 mg/L 107

Lab Sample ID: 600-85797-1 MSD Client Sample ID: MW-38 **Prep Type: Dissolved Matrix: Water**

Analysis Batch: 125606

Selenium, Dissolved

Prep Batch: 125529 RPD Sample Sample Spike MSD MSD %Rec. Result Qualifier Added Result Qualifier Unit %Rec Limits Limit Antimony, Dissolved 0.00630 1.00 1.065 107 75 - 125 20 mg/L 0.9927 Arsenic, Dissolved 0.00328 U 1.00 mg/L 99 75 - 125 20 0.000350 U 0.500 0.5230 105 75 - 125 20 Cadmium, Dissolved mg/L 0 0.00290 U 1.00 0.9749 97 75 - 125 20 Lead. Dissolved mg/L 0

1.073

mg/L

107

75 - 125

1.00

0.00470 J

TestAmerica Houston

QC Sample Results

Client: Golder Associates Inc. Project/Site: Exide Recycling Center TestAmerica Job ID: 600-85797-1

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 600-85797-1 DU Client Sample ID: MW-38 **Matrix: Water Prep Type: Dissolved** Pren Batch: 125529 Analysis Batch: 125606

Analysis Batch: 125606	Datcii. 120000						Prep Batch: 1	20029
	Sample	Sample	DU	DU				RPD
Analyte	Result	Qualifier	Result	Qualifier	Unit	D	RPD	Limit
Arsenic	0.00328		0.00328	U	mg/L		NC	20
Arsenic, Dissolved	0.00328	U	0.00328	U	mg/L		NC	20
Cadmium	0.000350		0.000350	U	mg/L		NC	20
Cadmium, Dissolved	0.000350	U	0.000350	U	mg/L		NC	20
Lead	0.00290		0.00290	U	mg/L		NC	20
Lead, Dissolved	0.00290	U	0.00290	U	mg/L		NC	20
Selenium	0.00470		0.004300	J	mg/L		9	20
Selenium, Dissolved	0.00470	J	0.004300	J	ma/L		9	20

Client: Golder Associates Inc. Project/Site: Exide Recycling Center

GC/MS VOA

Analysis Batch: 125734

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-85797-4	MW-43	Total/NA	Water	8260B	
600-85797-4 MS	MW-43	Total/NA	Water	8260B	
600-85797-4 MSD	MW-43	Total/NA	Water	8260B	
600-85797-5	Field Blank	Total/NA	Water	8260B	
600-85797-8	DUP-1	Total/NA	Water	8260B	
LCS 600-125734/3	Lab Control Sample	Total/NA	Water	8260B	
MB 600-125734/4	Method Blank	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 125621

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batcl
600-85797-4	MW-43	Total/NA	Water	3510C	
600-85797-4 MS	MW-43	Total/NA	Water	3510C	
600-85797-4 MSD	MW-43	Total/NA	Water	3510C	
LCS 600-125621/17-A	Lab Control Sample	Total/NA	Water	3510C	
LCS 600-125621/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 600-125621/18-A	Lab Control Sample Dup	Total/NA	Water	3510C	
MB 600-125621/1-A	Method Blank	Total/NA	Water	3510C	

Analysis Batch: 126089

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-85797-4	MW-43	Total/NA	Water	8270C LL	125621
600-85797-4 MS	MW-43	Total/NA	Water	8270C LL	125621
600-85797-4 MSD	MW-43	Total/NA	Water	8270C LL	125621
LCS 600-125621/17-A	Lab Control Sample	Total/NA	Water	8270C LL	125621
LCS 600-125621/2-A	Lab Control Sample	Total/NA	Water	8270C LL	125621
LCSD 600-125621/18-A	Lab Control Sample Dup	Total/NA	Water	8270C LL	125621
MB 600-125621/1-A	Method Blank	Total/NA	Water	8270C LL	125621

GC Semi VOA

Prep Batch: 125473

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-85797-4	MW-43	Total/NA	Water	TX_1005_W_Pr	
				ер	
600-85797-4 MS	MW-43	Total/NA	Water	TX_1005_W_Pr	
				ер	
600-85797-4 MSD	MW-43	Total/NA	Water	TX_1005_W_Pr	
				ер	
600-85797-8	DUP-1	Total/NA	Water	TX_1005_W_Pr	
				ер	
LCS 600-125473/2-A	Lab Control Sample	Total/NA	Water	TX_1005_W_Pr	
				ер	
MB 600-125473/1-A	Method Blank	Total/NA	Water	TX_1005_W_Pr	
				ep	

Analysis Batch: 125559

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-85797-4	MW-43	Total/NA	Water	TX 1005	125473
600-85797-4 MS	MW-43	Total/NA	Water	TX 1005	125473
600-85797-4 MSD	MW-43	Total/NA	Water	TX 1005	125473

TestAmerica Houston

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QC Association Summary

Client: Golder Associates Inc. Project/Site: Exide Recycling Center TestAmerica Job ID: 600-85797-1

GC Semi VOA (Continued)

Analysis Batch: 125559 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-85797-8	DUP-1	Total/NA	Water	TX 1005	125473
LCS 600-125473/2-A	Lab Control Sample	Total/NA	Water	TX 1005	125473
MB 600-125473/1-A	Method Blank	Total/NA	Water	TX 1005	125473

Metals

Prep Batch: 125474

Prep Batc	Method	Matrix	Prep Type	Client Sample ID	Lab Sample ID
	3010A	Water	Total/NA	MW-38	600-85797-1
	3010A	Water	Total/NA	MW-38	600-85797-1 DU
	3010A	Water	Total/NA	MW-38	600-85797-1 MS
	3010A	Water	Total/NA	MW-38	600-85797-1 MSD
	3010A	Water	Total/NA	MW-41	600-85797-2
	3010A	Water	Total/NA	MW-42	600-85797-3
	3010A	Water	Total/NA	MW-45	600-85797-6
	3010A	Water	Dissolved	B4R	600-85797-7
	3010A	Water	Total/NA	DUP-2	600-85797-9
	3010A	Water	Total/NA	Lab Control Sample	LCS 600-125474/2-A
	3010A	Water	Total/NA	Method Blank	MB 600-125474/1-A

Prep Batch: 125529

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Bato
600-85797-1	MW-38	Dissolved	Water	3010A	
600-85797-1 DU	MW-38	Dissolved	Water	3010A	
600-85797-1 MS	MW-38	Dissolved	Water	3010A	
600-85797-1 MSD	MW-38	Dissolved	Water	3010A	
600-85797-7	B4R	Total/NA	Water	3010A	
600-85797-9	DUP-2	Dissolved	Water	3010A	

Analysis Batch: 125593

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-85797-1	MW-38	Total/NA	Water	6010B	125474
600-85797-1 DU	MW-38	Total/NA	Water	6010B	125474
600-85797-1 MS	MW-38	Total/NA	Water	6010B	125474
600-85797-1 MSD	MW-38	Total/NA	Water	6010B	125474
600-85797-2	MW-41	Total/NA	Water	6010B	125474
600-85797-3	MW-42	Total/NA	Water	6010B	125474
600-85797-6	MW-45	Total/NA	Water	6010B	125474
600-85797-7	B4R	Dissolved	Water	6010B	125474
600-85797-9	DUP-2	Total/NA	Water	6010B	125474
LCS 600-125474/2-A	Lab Control Sample	Total/NA	Water	6010B	125474
MB 600-125474/1-A	Method Blank	Total/NA	Water	6010B	125474

Analysis Batch: 125606

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-85797-1	MW-38	Dissolved	Water	6010B	125529
600-85797-1 DU	MW-38	Dissolved	Water	6010B	125529
600-85797-1 MS	MW-38	Dissolved	Water	6010B	125529
600-85797-1 MSD	MW-38	Dissolved	Water	6010B	125529
600-85797-7	B4R	Total/NA	Water	6010B	125529

TestAmerica Houston

Page 43 of 50

QC Association Summary

Client: Golder Associates Inc. Project/Site: Exide Recycling Center TestAmerica Job ID: 600-85797-1

Metals (Continued)

Analysis Batch: 125606 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-85797-9	DUP-2	Dissolved	Water	6010B	125529

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Client: Golder Associates Inc. Project/Site: Exide Recycling Center

Lab Sample ID: 600-85797-1

Matrix: Water

Client Sample ID: MW-38 Date Collected: 01/16/14 15:25 Date Received: 01/18/14 11:09

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	125474	01/21/14 13:26	NER	TAL HOU
Total/NA	Analysis	6010B		1	50 mL	50 mL	125593	01/22/14 15:10	DCL	TAL HOU
Dissolved	Prep	3010A			50 mL	50 mL	125529	01/22/14 08:29	NER	TAL HOU
Dissolved	Analysis	6010B		1	50 mL	50 mL	125606	01/22/14 18:09	DCL	TAL HOU

Client Sample ID: MW-41 Lab Sample ID: 600-85797-2

Date Collected: 01/17/14 12:30 Matrix: Water Date Received: 01/18/14 11:09

Batch Batch Dil Initial Final Batch Prepared Prep Type Туре Method Run Factor Amount Amount Number or Analyzed Analyst Lab Total/NA 3010A 125474 TAL HOU Prep 50 mL 50 mL 01/21/14 13:26 NER Total/NA 6010B 125593 Analysis 1 50 mL 50 mL 01/22/14 15:19 DCL TAL HOU

Client Sample ID: MW-42 Lab Sample ID: 600-85797-3

Date Collected: 01/17/14 11:35 **Matrix: Water** Date Received: 01/18/14 11:09

Dil Batch Initial Final Batch Prepared Batch Prep Type Туре Method Run Factor Amount Amount Number or Analyzed Analyst Lab Total/NA Prep 3010A 50 mL 50 mL 125474 01/21/14 13:26 NER TAL HOU Total/NA 6010B 01/22/14 15:26 DCL TAL HOU

Client Sample ID: MW-43 Lab Sample ID: 600-85797-4 Date Collected: 01/17/14 09:45 **Matrix: Water**

50 mL

50 mL

125593

Date Received: 01/18/14 11:09

Analysis

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	125734	01/23/14 19:38	KLV	TAL HOU
Total/NA	Prep	3510C			250 mL	1.0 mL	125621	01/22/14 16:35	MRA	TAL HOU
Total/NA	Analysis	8270C LL		1	250 mL	1.0 mL	126089	01/25/14 01:38	MBB	TAL HOU
Total/NA	Prep	TX_1005_W_Prep			31.25 mL	3.00 mL	125473	01/21/14 13:18	NVP	TAL HOU
Total/NA	Analysis	TX 1005		1	31.25 mL	3.00 mL	125559	01/21/14 20:07	RJV	TAL HOU

Client Sample ID: Field Blank Lab Sample ID: 600-85797-5

Date Collected: 01/17/14 09:50 Date Received: 01/18/14 11:09

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	125734	01/23/14 20:02	KLV	TAL HOU

TestAmerica Houston

Matrix: Water

DCL

01/22/14 15:28

Client: Golder Associates Inc. Project/Site: Exide Recycling Center

6010B

Analysis

Total/NA

Client Sample ID: MW-45

Lab Sample ID: 600-85797-6

Date Collected: 01/17/14 13:20
Date Received: 01/18/14 11:09
Matrix: Water

Batch Batch Dil Initial Final Batch Prepared Prep Type Туре Method Run Factor Amount Amount Number or Analyzed Analyst Lab Total/NA Prep 3010A 50 mL 50 mL 125474 01/21/14 13:26 NER TAL HOU

1

Client Sample ID: B4R Lab Sample ID: 600-85797-7

50 mL

Date Collected: 01/17/14 08:35
Date Received: 01/18/14 11:09
Matrix: Water

125593

50 mL

Dil Batch Batch Initial Final Batch Prepared Prep Type Туре Method Factor Amount Amount Number or Analyzed Lab Run Analyst Dissolved Prep 3010A 50 mL 50 mL 125474 01/21/14 13:26 NER TAL HOU Dissolved Analysis 6010B 50 mL 50 mL 125593 01/22/14 15:30 DCL TAL HOU Total/NA Prep 3010A 50 mL 50 mL 125529 01/22/14 08:29 NER TAL HOU Total/NA 01/22/14 18:19 DCL TAL HOU Analysis 6010B 50 mL 50 mL 125606

Client Sample ID: DUP-1 Lab Sample ID: 600-85797-8

Date Collected: 01/17/14 00:00 Matrix: Water

Date Received: 01/18/14 11:09

Dil Batch Batch Initial Final Batch Prepared Prep Type Туре Method Run Factor Amount Amount Number or Analyzed Analyst Lab Total/NA Analysis 8260B 5 mL 5 mL 125734 01/23/14 20:26 KLV TAL HOU Total/NA Prep TX_1005_W_Prep 30.77 mL 3.00 mL 125473 01/21/14 13:18 NVP TAL HOU Total/NA Analysis TX 1005 30.77 mL 3.00 mL 125559 01/21/14 21:44 RJV TAL HOU 1

Client Sample ID: DUP-2 Lab Sample ID: 600-85797-9

Date Collected: 01/16/14 00:00 Date Received: 01/18/14 11:09

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	125474	01/21/14 13:26	NER	TAL HOU
Total/NA	Analysis	6010B		1	50 mL	50 mL	125593	01/22/14 15:32	DCL	TAL HOU
Dissolved	Prep	3010A			50 mL	50 mL	125529	01/22/14 08:29	NER	TAL HOU
Dissolved	Analysis	6010B		1	50 mL	50 mL	125606	01/22/14 18:29	DCL	TAL HOU

Laboratory References:

TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

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TAL HOU

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Matrix: Water

Certification Summary

Client: Golder Associates Inc.

Project/Site: Exide Recycling Cent

TestAmerica Job ID: 600-85797-1

Project/Site: Exide Recycling Center

Laboratory: TestAmerica Houston

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

Authority	Program EPA Region			Expiration Date
Arkansas DEQ	State Program	6	88-0759	08-04-14
Louisiana	NELAP	6	30643	06-30-14
Oklahoma	State Program	6	1309	08-31-14
Texas	NELAP	6	T104704223	10-31-14
USDA	Federal		P330-08-00217	04-01-14
Utah	NELAP	8	TX00083	10-31-14

TestAmerica Houston
6310 Rothway Street
Houston, TX 77040
Phone (713) 690-4444 Fax (713) 690-5646

Chain of Custody Record

Colorate Hagement Colo	** * *	1		Lab PM: Carrier Tracking No(s):
Combination	Client Information	Joseph		Siller, Dear A
Analysis Requested Part	Christina Higginbotham	416-		oiner@testamericainc.com 600-85/97
Chart Dring Sales (s) Chart Dring Sales (s)	Golder Associates Inc.			130 -
Control Cont		Due Date Requested:		Preservation Cod
Second Colored Color	City: Houston	TAT Requested (days): 5 WD T	RRP	& Se B-NaOH C-Zn Acetate
Sumple Control Water Con	State, Zip: TX, 77073			Pb, S D-Nitric Acid
Control Season Control Contr		PO#: Purchase Order Requested		05 res
Coultob) Scali No. Contemps	Email:	WO#.		H 10
Cossoly Sell No.: Coss	Christina_Higginbotham@golder.com			MC K-EDTA
Sample Date Time Garple Sample Comment Comme	Exide Recycling Center - Water	Project #: 60004831		es ound I
Sample Company Sample	Site:	SSOW#		SD (Y) D) Tar H (Ho cate etals etals Tota
Sample Cate Company				Itered: IMS/M IMS/M IL-(MO IL-PAI ITarget C I-TPH IMMORPH IMMO
S Olife H 1525 G Water Y N X X X X X X X X	Sample Identification			## TX_ 1000 B 10
State Stat		(*)	Preservation Code	XXVIII A A A A A A A A A A A A A A A A A A
18 M N	mw-38			2
13 MS MS	ĺ			×
4]				×
1	MW-41.			×
3 MS	Mw -42.			×
3 MS Di 171/14 O945 G Water N Y X X X X X X X X X	MW - 43			X
S S NS NS NS NS NS NS	MW -43 MS			NY X X
S OI 17 14 0950 G Water VI N N X N N N N N N N				X
S OI/17/I4 1320 G Water W W X X X X X X X X	20			2
Custody Seal No.:				2
ard legeriffication and □ Flammable Skin Irritant Poison B Sunknown Radiological Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) and □ Flammable Skin Irritant Poison B Sunknown Radiological □ Flammable Skin Irritant Disposar PLab Archive For Months acquested: I. II, III, IV, Other (specify) □ Date: □ Date: □ Time: □ Method of Shipment: □ Method of Shipment	BYR			X
equested: I, II, III, IV, Other (specify) Inquished by: Date: ITIME: IT	əle Skin Irritant	Unknown	adiological	(A fee may be assessed if samples are retained longer than 1 mo
Inquished by: Date/Time: D				Special Instructions/QC Requirements:
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Cusindy Scaling.	olo Introt			ວິ ໂ
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TestAmerica Houston 6310 Rothway Street Houston, TX 77040

Chain of Custody Record

THE CONTRACTOR STATE OF THE CONTRACTOR OF THE CO	

Login Sample Receipt Checklist

Client: Golder Associates Inc. Job Number: 600-85797-1

Login Number: 85797 List Source: TestAmerica Houston

List Number: 1

Creator: Capps, Dana R

oreator. Capps, Dana IX		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td>Lab does not accept radioactive samples.</td>	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.5
COC is present.	True	
COC is filled out in ink and legible.	False	Refer to Job Narrative for details.
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level as required.

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THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Houston 6310 Rothway Street Houston, TX 77040 Tel: (713)690-4444

TestAmerica Job ID: 600-85830-1

Client Project/Site: Exide Recycling Center

For:

Golder Associates Inc. 500 Century Plaza Drive Suite 190 Houston, Texas 77073

Attn: Christina Higginbotham

SML

Authorized for release by: 1/30/2014 11:30:04 AM Sophia Shah, Project Management Assistant I sophia.shah@testamericainc.com

Designee for

Dean Joiner, Project Manager II (713)690-4444 dean.joiner@testamericainc.com

·····LINKS ·······

Review your project results through

Total Access

Have a Question?



Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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.

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Appendix A

Laboratory Data Package Cover Page - Page 1 of 4

This data package is for TestAmerica Houston job number 600-85830-1 and consists of:

- ☑ R1 Field chain-of-custody documentation;
- ☑ R2 Sample identification cross-reference;
- ☑ R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - a. Items consistent with NELAC Chapter 5,
 - b. dilution factors,
 - c. preparation methods,
 - d. cleanup methods, and
 - e. if required for the project, tentatively identified compounds (TICs).
- ☑ R4 Surrogate recovery data including:
 - a. Calculated recovery (%R), and
 - b. The laboratory's surrogate QC limits.
- ☑ R5 Test reports/summary forms for blank samples;
- ☑ R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - a. LCS spiking amounts,
 - b. Calculated %R for each analyte, and
 - c. The laboratory's LCS QC limits.
- ☐ R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a. Samples associated with the MS/MSD clearly identified,
 - b. MS/MSD spiking amounts,
 - c. Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d. Calculated %Rs and relative percent differences (RPDs), and
 - e. The laboratory's MS/MSD QC limits
- ☐ R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - a. The amount of analyte measured in the duplicate,
 - b. The calculated RPD, and
 - c. The laboratory's QC limits for analytical duplicates.
- R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
- ☑ R10 Other problems or anomalies.

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

SIN

Sophia Shah1/30/2014Name (printed)SignatureDate

Project Management Assistant

Official Title (printed)

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Laboratory Review Checklist: Reportable Data - Page 2 of 4

Laboratory Name:	TestAmerica Houston	LRC Date:	1/30/2014
Project Name:	Exide Recycling Center	Laboratory Job Number:	600-85830-1
Paviower Name:	Dean A Joiner		

A ²	Description	Yes	No	NA		- P W 77"
) •	Chain-of-custody (C-O-C)				NR⁴	ER#
		Y				
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	· · · · · · · · · · · · · · · · · · ·	Χ				
	Were appropriate type(s) of blanks analyzed?	Χ				
	Were blanks analyzed at the appropriate frequency?	Х				
	Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup					
	procedures?	Х				
ſ	Were blank concentrations < MQL?	Х				
ΟI	Laboratory control samples (LCS):					
	Were all COCs included in the LCS?	Χ				
ľ	Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	Х				
ı	Were LCSs analyzed at the required frequency?	Χ				
ı	Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?		Χ			R06D
		Х				
ı			Х			R06F
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	sample results?	Х				
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Ì	Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and	l				
		Were all samples prepared and analyzed within holding times? Other than those results < MQL, were all other raw values bracketed by calibration standards? Were calculations checked by a peer or supervisor? Were all analyte identifications checked by a peer or supervisor? Were all malyte identifications checked by a peer or supervisor? Were sample detection limits reported for all analytes not detected? Were all results for soil and sediment samples reported on a dry weight basis? Were % moisture (or soilds) reported for all soil and sediment samples? Were bulk soils/soilds samples for volatile analysis extracted with methanol per SW846 Method 5035? If required for the project, are TICs reported? Surrogate recovery data Were surrogates added prior to extraction? Were surrogates percent recoveries in all samples within the laboratory QC limits? Test reports/summary forms for blank samples Were appropriate type(s) of blanks analyzed? Were blanks analyzed at the appropriate frequency? Were blanks analyzed at the appropriate frequency? Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures? Were blank concentrations < MQL? Laboratory control samples (LCS): Were all COCs included in the LCS? Was eall COCs included in the LCS? Was eall COCs included in the LCS? Was eall COCs included in the Unit of the entire analytical procedure, including prep and cleanup steps? Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits? Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs? Was the LCSD RPD within QC limits? Mere MS/MSD analyzed at the appropriate frequency? Were MS/MSD analyzed at the appropriate frequency? Were MS/MSD analyzed at the appropriate frequency? Were MS/MSD RPDs within Laboratory QC limits? Mere analytical duplicate data Were appropriate analytical duplicates analyzed for each matrix? Were analytical duplicate data Were appropriate ana	Were all departures from standard conditions described in an exception report? Sample and quality control (QC) identification Are all field sample ID numbers cross-referenced to the laboratory ID numbers? X Are all liaboratory ID numbers cross-referenced to the corresponding QC data? X Test reports Were all samples prepared and analyzed within holding times? Were all samples prepared and analyzed within holding times? Were all samples prepared and analyzed within holding times? Were all samples prepared and analyzed within holding times? X Were calculations checked by a peer or supervisor? X Were calculations checked by a peer or supervisor? Were all analyte identifications checked by a peer or supervisor? Were all analyte identifications checked by a peer or supervisor? Were all analyte identifications checked by a peer or supervisor? Were all analyte identifications checked by a peer or supervisor? Were all analyte identifications checked by a peer or supervisor? Were all analyte identifications checked by a peer or supervisor? Were all analyte identifications checked by a peer or supervisor? Were all analyte identifications checked by a peer or supervisor? Were surbustics of solids) reported for all analytes not detected? Were surbustics of solids) reported for all analytes not detected? Were surbustics of solids) reported for all analytes not detected? Were surbustics of solids) reported for all analytes and the surbustics of solids analytes of the project, are TiCs reported? Surrogate recovery data Were surrogate percent recoveries in all samples within the laboratory QC limits? Were appropriate type(s) of blanks analyzed? Were blank analyzed at the appropriate frequency? Were blank concentrations < MOL? X X X X X X X X X	Were all departures from standard conditions described in an exception report?	Were all departures from standard conditions described in an exception report?	Were all fleet sample in Drumbers cross-referenced to the laboratory ID numbers? X X Are all fleet sample in Drumbers cross-referenced to the laboratory ID numbers? X X Are all fleet sample in Drumbers cross-referenced to the corresponding QC data? X X Are all fleet sample in Drumbers cross-referenced to the corresponding QC data? X X X X X X X X X

- Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items
 identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
- 2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
- 3. NA = Not applicable;
- 4. NR = Not reviewed;
- 5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

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Laboratory Review checklist: Supporting Data - Page 3 of 4

Laboratory Name:	TestAmerica Houston	LRC Date:	1/30/2014
Project Name:	Exide Recycling Center	Laboratory Job Number:	600-85830-1
Reviewer Name:	Dean A Joiner		

# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
<u>"</u> S1		Initial calibration (ICAL)	162	NO	IVA	INIX	LN#
31	Oi	Were response factors and/or relative response factors for each analyte within QC limits?	X	1			
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X	1			
		· · · · · · · · · · · · · · · · · · ·	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?					
		Are ICAL data available for all instruments used?	X	-			
	_	Has the initial calibration curve been verified using an appropriate second source standard?	Х	-			
C 0		trible and application collination varification (IOV and COV) and application reality at the March (COR).					
S2	OI	Initial and continuing calibration verification (ICV and CCV) and continuing calibration blank (CCB):					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	Х	V			0000
	1.	Was the absolute value of the analyte concentration in the inorganic CCB < MDL?		Х			S02D
S3	0	Mass spectral tuning					
		Was the appropriate compound for the method used for tuning?	X				
		Were ion abundance data within the method-required QC limits?	Х				
S4	0	Internal standards (IS)					
		Were IS area counts and retention times within the method-required QC limits?	Х				
S5	OI	Raw data (NELAC Section 5.5.10)					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	Х				
		Were data associated with manual integrations flagged on the raw data?	Х				
S6	0	Dual column confirmation					
		Did dual column confirmation results meet the method-required QC?			Χ		
S7	0	Tentatively identified compounds (TICs)					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			Χ		
S8	I	Interference Check Sample (ICS) results					
	-	Were percent recoveries within method QC limits?		Χ			S08A
S9	I	Serial dilutions, post digestion spikes, and method of standard additions					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			Χ		
S10	OI	Method detection limit (MDL) studies					
		Was a MDL study performed for each reported analyte?	Х				
		Is the MDL either adjusted or supported by the analysis of DCSs?	Х				
S11	OI	Proficiency test reports					
	1	Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	Х				
S12	OI	Standards documentation					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	Х				
S13	OI	Compound/analyte identification procedures					
	٠.	Are the procedures for compound/analyte identification documented?	Х				
S14	ΟI	Demonstration of analyst competency (DOC)					
•	Ů.	Was DOC conducted consistent with NELAC Chapter 5?	Х				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	ОІ	Verification/validation documentation for methods (NELAC Chapter 5)					
313	Oi	verification/validation documentation for methods (NEEAC Grapter 3)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	Х				
246			^				
סוכ	UI	Laboratory standard operating procedures (SOPs)	X	1			
	1	Are laboratory SOPs current and on file for each method performed?		tors			
	1.	Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required relative to the letter "R" must be included in the laboratory data package submitted in the TRRP-required relative to the letter "R" must be included in the laboratory data package submitted in the TRRP-required relative to the letter "R" must be included in the laboratory data package submitted in the TRRP-required relative to the laboratory data package submitted in the TRRP-required relative to the laboratory data package submitted in the TRRP-required relative to the laboratory data package submitted in the TRRP-required relative to the laboratory data package submitted in the TRRP-required relative to the laboratory data package submitted in the TRRP-required relative to the laboratory data package submitted in the TRRP-required relative to the laboratory data package submitted in the TRRP-required relative to the laboratory data package submitted in the TRRP-required relative to the laboratory data package submitted data and the laboratory data	epoπ(s).	iems			
	_	identified by the letter "S" should be retained and made available upon request for the appropriate retention period.					
		O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);					
	3.	NA = Not applicable;					
	4.	NR = Not reviewed;					
	5.	ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No	" is chec	ked).			

Page 5 of 28 1/30/2014

Laboratory Review Checklist: Exception Reports - Page 4 of 4

Laboratory Name:	TestAmerica Houston	LRC Date:	1/30/2014
Project Name:	Exide Recycling Center	Laboratory Job Number:	600-85830-1
Reviewer Name:	Dean A Joiner		

ER # ¹	Description	Ī
R06D	Method 8270C LL: The laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) associated with batch 125713 were biased low for Benzidine. Benzidine has been identified as poor performing analyte when analyzed using this method; therefore, re-extraction/re-analyses were not performed. These results have been reported and qualified	
R06F	Method 8270C LL: The %RPD of the laboratory control sample (LCS) and laboratory control standard duplicate (LCSD) for preparation batch 125713 recovered outside control limits for all analytes. The LCSD was double spiked during preparation. The RPD is calculated based on raw results instead of recoveries; as the raw results of the LCS and LCSD were very different, the RPDs were above the acceptance limits.	
S02D	Method 8270C LL: The continuing calibration verification (CCV) for analytical batch 126158 recovered outside control limits for Benzidine (-91.9%), 4,6-Dinitro-2-methylphenol (55.8%) and 2,2'-oxybis[1-Chloropropane] (50.7%). The SOP makes allowance for up to four non-CCC analytes to have a %drift greater than the acceptable limit. The data have been qualified and reported.	
S08A	Method 6010B: The interference check standard solution (ICSA) associated with batch 125757 had results for one or more elements at a level greater than 2 times the limit of detection (LOD). Since this analyte was not detected in the client sample, no corrective action was required. Any samples which did show detects of this analyte were reanalyzed in another batch.	
1.	Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items	
2.	identified by the letter "S" should be retained and made available upon request for the appropriate retention period. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);	
3.	NA = Not applicable;	
4.	NR = Not reviewed;	
5.	ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).	

Detection	Check	Standard

Matrix: Water 200.7/6010 Method: Preparation: 200.7P/3010 Date Analyzed: 12/31/2013 Date Prepared: 12/27/2013 Instrument: Spectro01 . 124030, 123788p TALs Batches: Units: mg/L

Analyte	MDL	DCS Spike	Measured Result	MQL
Aluminum	0.006	0.02	0.028176	0.5
Antimony	0.0063	0.01	0.010016	0.05
Arsenic	0.0033	0.01	0.008253	0.01
Barium	0.0022	0.005	0.004098	0.02
Beryllium	0.00134	0.002	0.004019	0.005
Boron	0.0077	0.02	0.019829	0.2
Cadmium	0.00073	0.001	0.001	0.005
Calcium	0.022	0.05	0.060829	1
Chromium	0.0016	0.002	0.003835	0.01
Cobalt	0.00063	0.001	0.000965	0.01
Copper	0.0014	0.002	0.002451	0.01
Iron	0.087	0.1	0.002258	0.4
Lithium	0.0024	0.005	0.006107	0.2
Lead	0.0029	0.005	0.005478	0.01
Selenium	0.0042	0.01	0.009953	0.04
Manganese	0.00084	0.002	0.001988	0.01
Molybdenum	0.0027	0.005	0.005867	0.01
Nickel	0.00179	0.005	0.005669	0.01
Silver	0.0012	0.0025	0.001901	0.01
Sodium	0.02	0.05	0.088115	1
Strontium	0.0005	0.001	0.000897	0.005
Thallium	0.0078	0.02	0.021503	0.03
Tin	0.0028	0.005	0.005708	0.01
Titanium	0.0011	0.002	0.001905	0.01
Vanadium	0.0017	0.002	0.003578	0.01
Zinc	0.0022	0.005	0.004189	0.01

Matrix: Water Method: 8270C **Prep Method:** 3510C 1/10/2014 Date Analyzed: Job #: 600-85250 TALS Batch: 124708 Units: ug/L

Analyte	MDL	DCS Spike	Measured Result	MQL
1,1'-Biphenyl	1.120	2.500	2.599	10
1,2,4,5-Tetrachlorobenzene	1.680	2.500	2.619	10
1,2,4-Trichlorobenzene	1.140	2.500	2.512	10
1,2-Dichlorobenzene	1.090	2.500	2.475	10
1,2-Dinitrobenzene	1.020	2.500	2.003	10
1,2-Diphenylhydrazine	0.900	2.500	2.890	10
1,3-Dichlorobenzene	1.150	2.500	2.580	10
1,3-Dinitrobenzene	3.470	5.000	4.860	10
1,4-Dichlorobenzene	1.260	2.500	2.580	10
1-Methylnaphthalene	0.530	2.500	2.645	10
2,2'-oxybis[1-chloropropane]	1.700	2.500	2.849	10
2,3,4,6-Tetrachlorophenol	0.830	2.500	1.973	10
2,4,5-Trichlorophenol	1.260	2.500	2.284	10
2,4,6-Trichlorophenol	0.920	2.500	2.319	10
2,4-Dichlorophenol	1.540	2.500	2.415	10
2,4-Dimethylphenol	1.340	2.500	2.781	10
2,4-Dinitrophenol	0.890	5.000	8.242	50
2,4-Dinitrotoluene	0.950	2.500	2.491	10
2,6-Dimethylphenol	1.030	2.500	2.249	10
2,6-Dinitrotoluene	0.640	2.500	2.481	10
2-Chloronaphthalene	1.000	2.500	2.695	10
2-Chlorophenol	0.670	2.500	2.420	10
2-Methylnaphthalene	1.100	2.500	2.692	10
2-Methylphenol	1.010	2.500	2.530	10
2-Nitroaniline	1.130	2.500	2.804	50
2-Nitrophenol	0.630	2.500	2.493	10
3 & 4 Methylphenol	1.880	2.500	2.655	20
3,3'-Dichlorobenzidine	0.580	2.500	4.823	20
3-Nitroaniline	0.510	2.500	2.477	50
4,6-Dinitro-2-methylphenol	1.880	5.000	3.164	50
4-Bromophenyl phenyl ether	0.680	2.500	2.519	10
4-Chloro-3-methylphenol	0.820	2.500	2.796	10
4-Chloroaniline	0.980	2.500	2.228	10
4-Chlorophenyl phenyl ether	0.790	2.500	2.875	10
4-Nitroaniline	1.010	2.500	2.276	50
4-Nitrophenol	0.990	5.000	3.057	50
Acenaphthene	0.530	2.500	2.607	10
Acenaphthylene	0.900	2.500	2.580	10
Acetophenone	1.020	2.500	2.738	10
Aniline	1.620	2.500	1.999	10
Anthracene	0.670	2.500	2.528	10
Azobenzene	10	2.500	2.890	10
Benzidine	0.610	25.000	2.670	50
Benzo[a]anthracene	0.580	2.500	2.537	10
Benzo[a]pyrene	0.570	2.500	2.311	10
Benzo[b]fluoranthene	1.050	2.500	2.564	10

DCS = Detection Check Standard MQL = Method Quantitation Limit

Page 1 of 2

Matrix: Water Method: 8270C Prep Method: 3510C 1/10/2014 Date Analyzed: Job #: 600-85250 TALS Batch: 124708 Units: ug/L

Analyte	MDL	DCS Spike	Measured Result	MQL
Benzo[g,h,i]perylene	0.830	2.500	2.142	10
Benzo[k]fluoranthene	0.930	2.500	2.470	10
Benzoic acid	2.510	5.000	2.420	50
Benzyl alcohol	1.180	2.500	2.395	10
Bis(2-chloroethoxy)methane	1.240	2.500	2.776	10
Bis(2-chloroethyl)ether	1.190	2.500	2.577	10
Bis(2-ethylhexyl) phthalate	0.520	2.500	2.735	10
Butyl benzyl phthalate	0.610	2.500	2.781	10
Caprolactam	2.320	5.000	4.190	10
Carbazole	1.140	2.500	2.630	10
Chrysene	0.600	2.500	2.639	10
Dibenz(a,h)anthracene	0.720	2.500	2.244	10
Dibenzofuran	0.990	2.500	2.671	10
Diethyl phthalate	1.140	2.500	2.795	10
Dimethyl phthalate	0.520	2.500	2.597	10
Di-n-butyl phthalate	1.040	2.500	2.836	10
Di-n-octyl phthalate	0.690	2.500	2.335	10
Fluoranthene	0.520	2.500	2.616	10
Fluorene	1.420	2.500	2.748	10
Hexachlorobenzene	0.900	2.500	2.763	10
Hexachlorobutadiene	1.110	2.500	2.591	10
Hexachlorocyclopentadiene	0.580	2.500	1.623	10
Hexachloroethane	1.160	2.500	2.427	10
Indeno[1,2,3-cd]pyrene	0.670	2.500	1.627	10
Isophorone	0.730	2.500	2.806	10
Naphthalene	0.510	2.500	2.664	10
Nitrobenzene	1.180	2.500	3.061	10
N-Nitrosodimethylamine	1.930	2.500	1.988	10
N-Nitrosodi-n-propylamine	0.660	2.500	2.808	10
N-Nitrosodiphenylamine	1.030	2.500	2.590	10
Pentachlorophenol	0.890	5.000	2.274	50
Phenanthrene	0.790	2.500	2.579	10
Phenol	0.950	2.500	2.010	10
Pyrene	1.120	2.500	2.619	10
Pyridine	1.040	2.500	0.536	10
Total Cresols	1.880	5.000	5.200	50

DCS = Detection Check Standard MQL = Method Quantitation Limit

Case Narrative

Client: Golder Associates Inc. Project/Site: Exide Recycling Center TestAmerica Job ID: 600-85830-1

Job ID: 600-85830-1

Laboratory: TestAmerica Houston

Narrative

Job Narrative 600-85830-1

Comments

No additional comments.

Receipt

The samples were received on 1/20/2014 3:00 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.1° C.

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Method Summary

Client: Golder Associates Inc. Project/Site: Exide Recycling Center TestAmerica Job ID: 600-85830-1

Method	Method Description	Protocol	Laboratory
8270C LL	Semivolatile Organic Compounds by GCMS - Low Levels	SW846	TAL HOU
6010B	Metals (ICP)	SW846	TAL HOU

Protocol References:

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

Laboratory References:

TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

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Sample Summary

Client: Golder Associates Inc. Project/Site: Exide Recycling Center TestAmerica Job ID: 600-85830-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
600-85830-1	Dup-1	Water	01/17/14 00:00	01/20/14 15:00
600-85830-2	MW-40	Water	01/17/14 15:25	01/20/14 15:00
600-85830-3	MW-39	Water	01/17/14 16:15	01/20/14 15:00

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Client Sample Results

Client: Golder Associates Inc. Project/Site: Exide Recycling Center TestAmerica Job ID: 600-85830-1

Lab Sample ID: 600-85830-1

Matrix: Water

Client Sample ID: Dup-1
Date Collected: 01/17/14 00:00

Date Received: 01/20/14 15:00

Analyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Acenaphthene	0.000160	U *	0.000500	0.000160	mg/L		01/23/14 14:29	01/29/14 10:36	
Acenaphthylene	0.000160	U *	0.000500	0.000160	mg/L		01/23/14 14:29	01/29/14 10:36	
Anthracene	0.000440	U *	0.000500	0.000440	mg/L		01/23/14 14:29	01/29/14 10:36	
Benzidine	0.0179	U *	0.0500	0.0179	mg/L		01/23/14 14:29	01/29/14 10:36	
Benzo[a]anthracene	0.000250	U *	0.000500	0.000250	mg/L		01/23/14 14:29	01/29/14 10:36	
Benzo[b]fluoranthene	0.000180	U *	0.000500	0.000180	mg/L		01/23/14 14:29	01/29/14 10:36	
Benzo[k]fluoranthene	0.000160	U *	0.000500	0.000160	mg/L		01/23/14 14:29	01/29/14 10:36	
Benzo[g,h,i]perylene	0.000350	U *	0.000500	0.000350	mg/L		01/23/14 14:29	01/29/14 10:36	
Benzo[a]pyrene	0.000130	U *	0.000500	0.000130	mg/L		01/23/14 14:29	01/29/14 10:36	
Bis(2-chloroethoxy)methane	0.000190	U *	0.000500	0.000190	mg/L		01/23/14 14:29	01/29/14 10:36	
Bis(2-chloroethyl)ether	0.000180		0.000500	0.000180	mg/L		01/23/14 14:29	01/29/14 10:36	
Bis(2-ethylhexyl) phthalate	0.000590		0.00150	0.000590	_		01/23/14 14:29	01/29/14 10:36	
4-Bromophenyl phenyl ether	0.000250		0.000500	0.000250			01/23/14 14:29	01/29/14 10:36	
Butyl benzyl phthalate	0.000850		0.00250	0.000850			01/23/14 14:29	01/29/14 10:36	
1-Chloroaniline	0.000110		0.00230	0.000110	-		01/23/14 14:29	01/29/14 10:36	
2-Chloronaphthalene	0.000110		0.000500	0.000110			01/23/14 14:29	01/29/14 10:36	
I-Chlorophenyl phenyl ether	0.000130		0.000500	0.000130	-		01/23/14 14:29	01/29/14 10:36	
Carbazole	0.000250		0.000500		-		01/23/14 14:29	01/29/14 10:36	
	0.000330				mg/L			01/29/14 10:36	
Chrysene			0.000500		mg/L		01/23/14 14:29		
Di-n-butyl phthalate	0.00187		0.00500	0.00187	-		01/23/14 14:29	01/29/14 10:36	
Dibenz(a,h)anthracene		U *	0.000500	0.000290	mg/L		01/23/14 14:29	01/29/14 10:36	
Dibenzofuran		U *	0.000500	0.000160	mg/L		01/23/14 14:29	01/29/14 10:36	
,2-Dichlorobenzene	0.000210		0.000500	0.000210	mg/L		01/23/14 14:29	01/29/14 10:36	
I,3-Dichlorobenzene	0.000100		0.000500	0.000100	mg/L		01/23/14 14:29	01/29/14 10:36	
,4-Dichlorobenzene	0.000160		0.000500	0.000160	mg/L		01/23/14 14:29	01/29/14 10:36	
3,3'-Dichlorobenzidine	0.000320		0.000500	0.000320	mg/L		01/23/14 14:29	01/29/14 10:36	
Diethyl phthalate	0.00419		0.00500	0.00419	mg/L		01/23/14 14:29	01/29/14 10:36	
Dimethyl phthalate	0.000180	U *	0.00500	0.000180	mg/L		01/23/14 14:29	01/29/14 10:36	
2,4-Dinitrotoluene	0.000320	U *	0.000500	0.000320	mg/L		01/23/14 14:29	01/29/14 10:36	
Di-n-octyl phthalate	0.000160	U *	0.00500	0.000160	mg/L		01/23/14 14:29	01/29/14 10:36	
Fluoranthene	0.000310	U *	0.000500	0.000310	mg/L		01/23/14 14:29	01/29/14 10:36	
Fluorene	0.000120	U *	0.000500	0.000120	mg/L		01/23/14 14:29	01/29/14 10:36	
Hexachlorobenzene	0.000250	U *	0.000500	0.000250	mg/L		01/23/14 14:29	01/29/14 10:36	
Hexachlorocyclopentadiene	0.000150	U *	0.000500	0.000150	mg/L		01/23/14 14:29	01/29/14 10:36	
Hexachloroethane	0.000170	U *	0.000500	0.000170	mg/L		01/23/14 14:29	01/29/14 10:36	
Hexachlorobutadiene	0.000190	U *	0.000500	0.000190	mg/L		01/23/14 14:29	01/29/14 10:36	
ndeno[1,2,3-cd]pyrene	0.000290	U *	0.000500	0.000290	mg/L		01/23/14 14:29	01/29/14 10:36	
sophorone	0.000150	U *	0.000500	0.000150	mg/L		01/23/14 14:29	01/29/14 10:36	
2-Methylnaphthalene	0.000140	U *	0.000500	0.000140	mg/L		01/23/14 14:29	01/29/14 10:36	
laphthalene	0.000160	U *	0.000500	0.000160	mg/L		01/23/14 14:29	01/29/14 10:36	
2-Nitroaniline	0.000350	U *	0.000500	0.000350	mg/L		01/23/14 14:29	01/29/14 10:36	
3-Nitroaniline	0.000130	U	0.000500	0.000130	mg/L		01/23/14 14:29	01/29/14 10:36	
1-Nitroaniline	0.000230	U *	0.000500	0.000230			01/23/14 14:29	01/29/14 10:36	
Nitrobenzene	0.000200	U *	0.000500	0.000200			01/23/14 14:29	01/29/14 10:36	
N-Nitrosodimethylamine	0.000160		0.000500	0.000160			01/23/14 14:29	01/29/14 10:36	
N-Nitrosodiphenylamine	0.000330		0.000500	0.000330			01/23/14 14:29	01/29/14 10:36	
N-Nitrosodi-n-propylamine	0.000240		0.000500	0.000240	_		01/23/14 14:29	01/29/14 10:36	
Phenanthrene	0.000290		0.000500	0.000240	-		01/23/14 14:29	01/29/14 10:36	
Pyrene	0.000290		0.000500	0.000290			01/23/14 14:29	01/29/14 10:36	

TestAmerica Houston

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TestAmerica Job ID: 600-85830-1

Client: Golder Associates Inc. Project/Site: Exide Recycling Center

Client Sample ID: Dup-1

Date Collected: 01/17/14 00:00 Date Received: 01/20/14 15:00 Lab Sample ID: 600-85830-1

Matrix: Water

Analyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	0.000160	U *	0.000500	0.000160	mg/L		01/23/14 14:29	01/29/14 10:36	1
Benzyl alcohol	0.000510	U *	0.000500	0.000510	mg/L		01/23/14 14:29	01/29/14 10:36	1
4-Chloro-3-methylphenol	0.000250	U*	0.000500	0.000250	mg/L		01/23/14 14:29	01/29/14 10:36	1
2-Chlorophenol	0.000220	U *	0.000500	0.000220	mg/L		01/23/14 14:29	01/29/14 10:36	1
2-Methylphenol	0.000190	U *	0.000500	0.000190	mg/L		01/23/14 14:29	01/29/14 10:36	1
3 & 4 Methylphenol	0.000160	U *	0.00100	0.000160	mg/L		01/23/14 14:29	01/29/14 10:36	1
2,4-Dichlorophenol	0.000260	U *	0.000500	0.000260	mg/L		01/23/14 14:29	01/29/14 10:36	1
2,4-Dimethylphenol	0.000180	U *	0.000500	0.000180	mg/L		01/23/14 14:29	01/29/14 10:36	1
4,6-Dinitro-2-methylphenol	0.000160	U *	0.00100	0.000160	mg/L		01/23/14 14:29	01/29/14 10:36	1
2,4-Dinitrophenol	0.000400	U *	0.00100	0.000400	mg/L		01/23/14 14:29	01/29/14 10:36	1
2-Nitrophenol	0.000220	U *	0.000500	0.000220	mg/L		01/23/14 14:29	01/29/14 10:36	1
4-Nitrophenol	0.000330	U *	0.00100	0.000330	mg/L		01/23/14 14:29	01/29/14 10:36	1
Pentachlorophenol	0.000960	U *	0.00100	0.000960	mg/L		01/23/14 14:29	01/29/14 10:36	1
Phenol	0.000140	U *	0.000500	0.000140	mg/L		01/23/14 14:29	01/29/14 10:36	1
2,4,5-Trichlorophenol	0.000290	U *	0.000500	0.000290	mg/L		01/23/14 14:29	01/29/14 10:36	1
2,4,6-Trichlorophenol	0.000330	U *	0.000500	0.000330	mg/L		01/23/14 14:29	01/29/14 10:36	1
2,6-Dinitrotoluene	0.000290	U *	0.000500	0.000290	mg/L		01/23/14 14:29	01/29/14 10:36	1
bis (2-Chloroisopropyl) ether	0.000180	U *	0.000500	0.000180	mg/L		01/23/14 14:29	01/29/14 10:36	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	68		33 - 141				01/23/14 14:29	01/29/14 10:36	1
Nitrobenzene-d5	75		47 - 120				01/23/14 14:29	01/29/14 10:36	1
2-Fluorophenol	66		18 - 120				01/23/14 14:29	01/29/14 10:36	1
2-Fluorobiphenyl	65		43 - 120				01/23/14 14:29	01/29/14 10:36	1
2,4,6-Tribromophenol	60		44 - 123				01/23/14 14:29	01/29/14 10:36	1
Phenol-d5 (Surr)	57		12 - 128				01/23/14 14:29	01/29/14 10:36	1

Client Sample ID: MW-40

Date Collected: 01/17/14 15:25

Lab Sample ID: 600-85830-2

Matrix: Water

Date Received: 01/20/14 15:00

Method: 6010B - Metals (ICP)									
Analyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.000350	U	0.00500	0.000350	mg/L		01/21/14 13:26	01/23/14 13:50	1
Lead	0.00290	U	0.0100	0.00290	mg/L		01/21/14 13:26	01/24/14 12:01	1
=									
Mothod: 6010B Motale (ICB) Die	colvod								

Method: 6010B - Metals (ICP) - Dis	solved								
Analyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium, Dissolved	0.000350	U	0.00500	0.000350	mg/L		01/22/14 08:29	01/22/14 18:31	1
Lead, Dissolved	0.00290	U	0.0100	0.00290	mg/L		01/22/14 08:29	01/22/14 18:31	1

Client Sample ID: MW-39 Lab Sample ID: 600-85830-3

Date Collected: 01/17/14 16:15

Date Received: 01/20/14 15:00

Matrix: Water

Method: 6010B - Metals (ICP)									
Analyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.000350	U	0.00500	0.000350	mg/L		01/21/14 13:26	01/23/14 13:57	1
Cadmium	0.000350	U	0.00500	0.000350	mg/L		01/21/14 13:26	01/24/14 12:03	1
Lead	0.00290	U	0.0100	0.00290	mg/L		01/21/14 13:26	01/23/14 13:57	1

TestAmerica Houston

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Client Sample Results

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center

TestAmerica Job ID: 600-85830-1

Client Sample ID: MW-39 Date Collected: 01/17/14 16:15 Date Received: 01/20/14 15:00

Lab Sample ID: 600-85830-3

Matrix: Water

Method: 6010B - Metals (ICP) (Con	inued)								
Analyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.00290	U	0.0100	0.00290	mg/L		01/21/14 13:26	01/24/14 12:03	1
Method: 6010B - Metals (ICP) - Diss	solved								
Analyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Analyte Cadmium, Dissolved	0.000350		MQL 0.00500	MDL 0.000350		D	Prepared 01/22/14 08:29	Analyzed 01/22/14 18:34	Dil Fac
		U			mg/L	<u>D</u>			Dil Fac

Definitions/Glossary

Client: Golder Associates Inc. Project/Site: Exide Recycling Center TestAmerica Job ID: 600-85830-1

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
*	RPD of the LCS and LCSD exceeds the control limits
U	Analyte was not detected at or above the SDL.
*	LCS or LCSD exceeds the control limits

Metals

Qualifier	Qualifier Description
U	Analyte was not detected at or above the SDL.
J	Result is less than the MQL but greater than or equal to the SDL and the concentration is an estimated value.

Glossary

RER

RPD

TEF

TEQ

RL

Relative error ratio

Toxicity Equivalent Factor (Dioxin)

Toxicity Equivalent Quotient (Dioxin)

Reporting Limit or Requested Limit (Radiochemistry)

Relative Percent Difference, a measure of the relative difference between two points

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							
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							

TestAmerica Houston

Surrogate Summary

Client: Golder Associates Inc. Project/Site: Exide Recycling Center TestAmerica Job ID: 600-85830-1

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels

Matrix: Water Prep Type: Total/NA

_				Percent Sui	rrogate Reco	e Recovery (Acceptance Limits)		
		TPH	NBZ	2FP	FBP	TBP	PHL	
Lab Sample ID	Client Sample ID	(33-141)	(47-120)	(18-120)	(43-120)	(44-123)	(12-128)	
600-85830-1	Dup-1	68	75	66	65	60	57	
S 600-125713/2-A	Lab Control Sample	82	94	88	82	79	79	
SD 600-125713/13-A	Lab Control Sample Dup	76	80	77	79	64	58	
CSD 600-125713/3-A	Lab Control Sample Dup	87	117	88	75	76	79	
MB 600-125713/1-A	Method Blank	70	88	64	67	57	41	

Surrogate Legend

TPH = Terphenyl-d14

NBZ = Nitrobenzene-d5

2FP = 2-Fluorophenol

FBP = 2-Fluorobiphenyl

TBP = 2,4,6-Tribromophenol

PHL = Phenol-d5 (Surr)

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TestAmerica Job ID: 600-85830-1

Client: Golder Associates Inc. Project/Site: Exide Recycling Center

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels

Lab Sample ID: MB 600-125713/1-A

Matrix: Water

Analysis Batch: 126158

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

Prep Batch: 125713

	МВ	MB							
Analyte		Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.000160	U	0.000500	0.000160	mg/L		01/23/14 14:29	01/29/14 08:23	1
Acenaphthylene	0.000160	U	0.000500	0.000160	mg/L		01/23/14 14:29	01/29/14 08:23	1
Anthracene	0.000440	U	0.000500	0.000440	mg/L		01/23/14 14:29	01/29/14 08:23	1
Benzidine	0.0179	U	0.0500	0.0179	mg/L		01/23/14 14:29	01/29/14 08:23	1
Benzo[a]anthracene	0.000250	U	0.000500	0.000250	mg/L		01/23/14 14:29	01/29/14 08:23	1
Benzo[b]fluoranthene	0.000180	U	0.000500	0.000180	mg/L		01/23/14 14:29	01/29/14 08:23	1
Benzo[k]fluoranthene	0.000160	U	0.000500	0.000160	mg/L		01/23/14 14:29	01/29/14 08:23	1
Benzo[g,h,i]perylene	0.000350	U	0.000500	0.000350	mg/L		01/23/14 14:29	01/29/14 08:23	1
Benzo[a]pyrene	0.000130	U	0.000500	0.000130	mg/L		01/23/14 14:29	01/29/14 08:23	1
Bis(2-chloroethoxy)methane	0.000190	U	0.000500	0.000190	mg/L		01/23/14 14:29	01/29/14 08:23	1
Bis(2-chloroethyl)ether	0.000180	U	0.000500	0.000180	mg/L		01/23/14 14:29	01/29/14 08:23	1
Bis(2-ethylhexyl) phthalate	0.000590	U	0.00150	0.000590	mg/L		01/23/14 14:29	01/29/14 08:23	1
4-Bromophenyl phenyl ether	0.000250	U	0.000500	0.000250	mg/L		01/23/14 14:29	01/29/14 08:23	1
Butyl benzyl phthalate	0.000850	U	0.00250	0.000850	mg/L		01/23/14 14:29	01/29/14 08:23	1
4-Chloroaniline	0.000110	U	0.000500	0.000110	mg/L		01/23/14 14:29	01/29/14 08:23	1
2-Chloronaphthalene	0.000190	U	0.000500	0.000190	mg/L		01/23/14 14:29	01/29/14 08:23	1
4-Chlorophenyl phenyl ether	0.000230	U	0.000500	0.000230	mg/L		01/23/14 14:29	01/29/14 08:23	1
Carbazole	0.000350	U	0.000500	0.000350	mg/L		01/23/14 14:29	01/29/14 08:23	1
Chrysene	0.000240	U	0.000500	0.000240	mg/L		01/23/14 14:29	01/29/14 08:23	1
Di-n-butyl phthalate	0.008833		0.00500	0.00187	mg/L		01/23/14 14:29	01/29/14 08:23	1
Dibenz(a,h)anthracene	0.000290	U	0.000500	0.000290	mg/L		01/23/14 14:29	01/29/14 08:23	1
Dibenzofuran	0.000160	U	0.000500	0.000160	mg/L		01/23/14 14:29	01/29/14 08:23	1
1,2-Dichlorobenzene	0.000210	U	0.000500	0.000210	mg/L		01/23/14 14:29	01/29/14 08:23	1
1,3-Dichlorobenzene	0.000100	U	0.000500	0.000100	mg/L		01/23/14 14:29	01/29/14 08:23	1
1,4-Dichlorobenzene	0.000160	U	0.000500	0.000160	mg/L		01/23/14 14:29	01/29/14 08:23	1
3,3'-Dichlorobenzidine	0.000320	U	0.000500	0.000320	mg/L		01/23/14 14:29	01/29/14 08:23	1
Diethyl phthalate	0.00419	U	0.00500	0.00419	mg/L		01/23/14 14:29	01/29/14 08:23	1
Dimethyl phthalate	0.000180	U	0.00500	0.000180	mg/L		01/23/14 14:29	01/29/14 08:23	1
2,4-Dinitrotoluene	0.000320	U	0.000500	0.000320	mg/L		01/23/14 14:29	01/29/14 08:23	1
Di-n-octyl phthalate	0.000160	U	0.00500	0.000160	mg/L		01/23/14 14:29	01/29/14 08:23	1
Fluoranthene	0.000310	U	0.000500	0.000310	mg/L		01/23/14 14:29	01/29/14 08:23	1
Fluorene	0.000120	U	0.000500	0.000120	mg/L		01/23/14 14:29	01/29/14 08:23	1
Hexachlorobenzene	0.000250	U	0.000500	0.000250	mg/L		01/23/14 14:29	01/29/14 08:23	1
Hexachlorocyclopentadiene	0.000150	U	0.000500	0.000150	mg/L		01/23/14 14:29	01/29/14 08:23	1
Hexachloroethane	0.000170	U	0.000500	0.000170	mg/L		01/23/14 14:29	01/29/14 08:23	1
Hexachlorobutadiene	0.000190	U	0.000500	0.000190	mg/L		01/23/14 14:29	01/29/14 08:23	1
Indeno[1,2,3-cd]pyrene	0.000290	U	0.000500	0.000290	mg/L		01/23/14 14:29	01/29/14 08:23	1
Isophorone	0.000150	U	0.000500	0.000150	mg/L		01/23/14 14:29	01/29/14 08:23	1
2-Methylnaphthalene	0.000140	U	0.000500	0.000140	mg/L		01/23/14 14:29	01/29/14 08:23	1
Naphthalene	0.000160	U	0.000500	0.000160	mg/L		01/23/14 14:29	01/29/14 08:23	1
2-Nitroaniline	0.000350	U	0.000500	0.000350	mg/L		01/23/14 14:29	01/29/14 08:23	1
3-Nitroaniline	0.000130	U	0.000500	0.000130	mg/L		01/23/14 14:29	01/29/14 08:23	1
4-Nitroaniline	0.000230	U	0.000500	0.000230	mg/L		01/23/14 14:29	01/29/14 08:23	1
Nitrobenzene	0.000200	U	0.000500	0.000200	mg/L		01/23/14 14:29	01/29/14 08:23	1
N-Nitrosodimethylamine	0.000160	U	0.000500	0.000160	mg/L		01/23/14 14:29	01/29/14 08:23	1
N-Nitrosodiphenylamine	0.000330	U	0.000500	0.000330	mg/L		01/23/14 14:29	01/29/14 08:23	1
N-Nitrosodi-n-propylamine	0.000240	U	0.000500	0.000240	mg/L		01/23/14 14:29	01/29/14 08:23	1
Phenanthrene	0.000290	U	0.000500	0.000290	-		01/23/14 14:29	01/29/14 08:23	1

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Client: Golder Associates Inc. Project/Site: Exide Recycling Center

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Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels (Continued)

Lab Sample ID: MB 600-125713/1-A

Matrix: Water

Analysis Batch: 126158

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

Prep Batch: 125713

	МВ	MB							
Analyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Pyrene	0.000330	U	0.000500	0.000330	mg/L		01/23/14 14:29	01/29/14 08:23	•
1,2,4-Trichlorobenzene	0.000160	U	0.000500	0.000160	mg/L		01/23/14 14:29	01/29/14 08:23	
Benzyl alcohol	0.000510	U	0.000500	0.000510	mg/L		01/23/14 14:29	01/29/14 08:23	•
4-Chloro-3-methylphenol	0.000250	U	0.000500	0.000250	mg/L		01/23/14 14:29	01/29/14 08:23	
2-Chlorophenol	0.000220	U	0.000500	0.000220	mg/L		01/23/14 14:29	01/29/14 08:23	
2-Methylphenol	0.000190	U	0.000500	0.000190	mg/L		01/23/14 14:29	01/29/14 08:23	
3 & 4 Methylphenol	0.000160	U	0.00100	0.000160	mg/L		01/23/14 14:29	01/29/14 08:23	
2,4-Dichlorophenol	0.000260	U	0.000500	0.000260	mg/L		01/23/14 14:29	01/29/14 08:23	
2,4-Dimethylphenol	0.000180	U	0.000500	0.000180	mg/L		01/23/14 14:29	01/29/14 08:23	
4,6-Dinitro-2-methylphenol	0.000160	U	0.00100	0.000160	mg/L		01/23/14 14:29	01/29/14 08:23	
2,4-Dinitrophenol	0.000400	U	0.00100	0.000400	mg/L		01/23/14 14:29	01/29/14 08:23	
2-Nitrophenol	0.000220	U	0.000500	0.000220	mg/L		01/23/14 14:29	01/29/14 08:23	
4-Nitrophenol	0.000330	U	0.00100	0.000330	mg/L		01/23/14 14:29	01/29/14 08:23	
Pentachlorophenol	0.000960	U	0.00100	0.000960	mg/L		01/23/14 14:29	01/29/14 08:23	
Phenol	0.000140	U	0.000500	0.000140	mg/L		01/23/14 14:29	01/29/14 08:23	
2,4,5-Trichlorophenol	0.000290	U	0.000500	0.000290	mg/L		01/23/14 14:29	01/29/14 08:23	
2,4,6-Trichlorophenol	0.000330	U	0.000500	0.000330	mg/L		01/23/14 14:29	01/29/14 08:23	
2,6-Dinitrotoluene	0.000290	U	0.000500	0.000290	mg/L		01/23/14 14:29	01/29/14 08:23	
bis (2-Chloroisopropyl) ether	0.000180	U	0.000500	0.000180	mg/L		01/23/14 14:29	01/29/14 08:23	

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	70		33 - 141	01/23/14 14:29	01/29/14 08:23	1
Nitrobenzene-d5	88		47 - 120	01/23/14 14:29	01/29/14 08:23	1
2-Fluorophenol	64		18 - 120	01/23/14 14:29	01/29/14 08:23	1
2-Fluorobiphenyl	67		43 - 120	01/23/14 14:29	01/29/14 08:23	1
2,4,6-Tribromophenol	57		44 - 123	01/23/14 14:29	01/29/14 08:23	1
Phenol-d5 (Surr)	41		12 - 128	01/23/14 14:29	01/29/14 08:23	1

Lab Sample ID: LCS 600-125713/2-A

Matrix: Water

Analysis Batch: 126158

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

Prep Batch: 125713

-	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Acenaphthene	0.00800	0.005653		mg/L		71	47 - 145	
Acenaphthylene	0.00800	0.005385		mg/L		67	35 - 135	
Anthracene	0.00800	0.004988		mg/L		62	53 - 124	
Benzidine	0.0400	0.0179	U *	mg/L		0	10 - 120	
Benzo[a]anthracene	0.00800	0.005792		mg/L		72	53 - 122	
Benzo[b]fluoranthene	0.00800	0.005373		mg/L		67	53 - 131	
Benzo[k]fluoranthene	0.00800	0.005292		mg/L		66	46 - 130	
Benzo[g,h,i]perylene	0.00800	0.005672		mg/L		71	46 - 133	
Benzo[a]pyrene	0.00800	0.005065		mg/L		63	50 - 124	
Bis(2-chloroethoxy)methane	0.00800	0.005501		mg/L		69	42 - 119	
Bis(2-chloroethyl)ether	0.00800	0.005307		mg/L		66	40 - 112	
Bis(2-ethylhexyl) phthalate	0.00800	0.005812		mg/L		73	47 - 132	
4-Bromophenyl phenyl ether	0.00800	0.004865		mg/L		61	46 - 129	
Butyl benzyl phthalate	0.00800	0.005334		mg/L		67	50 - 126	
4-Chloroaniline	0.00800	0.004081		mg/L		51	19 - 129	

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Client: Golder Associates Inc. Project/Site: Exide Recycling Center

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels (Continued)

Lab Sample ID: LCS 600-125713/2-A

Matrix: Water

Analyte

2-Nitrophenol

4-Nitrophenol

Phenol

Pentachlorophenol

Analysis Batch: 126158

				Client	Sample	Prep Type: Total/NA	
Spike	LCS	LCS				Prep Batch: 125713 %Rec.	5
Added	Result	Qualifier	Unit	D	%Rec	Limits	
 0.00800	0.005610		ma/L		70	43 - 120	

Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
2-Chloronaphthalene	0.00800	0.005610		mg/L		70	43 - 120	
4-Chlorophenyl phenyl ether	0.00800	0.005335		mg/L		67	48 - 125	
Carbazole	0.00800	0.006393		mg/L		80	42 - 169	
Chrysene	0.00800	0.005184		mg/L		65	49 - 124	
Di-n-butyl phthalate	0.00800	0.005976		mg/L		75	54 - 138	
Dibenz(a,h)anthracene	0.00800	0.005666		mg/L		71	42 - 134	
Dibenzofuran	0.00800	0.005510		mg/L		69	46 - 123	
1,2-Dichlorobenzene	0.00800	0.005762		mg/L		72	40 - 121	
1,3-Dichlorobenzene	0.00800	0.006026		mg/L		75	39 - 122	
1,4-Dichlorobenzene	0.00800	0.004581		mg/L		57	45 - 124	
3,3'-Dichlorobenzidine	0.00800	0.005758		mg/L		72	38 - 168	
Diethyl phthalate	0.00800	0.005789		mg/L		72	51 - 123	
Dimethyl phthalate	0.00800	0.005576		mg/L		70	49 - 121	
2,4-Dinitrotoluene	0.00800	0.005580		mg/L		70	43 - 128	
Di-n-octyl phthalate	0.00800	0.005532		mg/L		69	27 _ 157	
Fluoranthene	0.00800	0.004834		mg/L		60	53 - 127	
Fluorene	0.00800	0.005525		mg/L		69	48 - 127	
Hexachlorobenzene	0.00800	0.004970		mg/L		62	46 - 129	
Hexachlorocyclopentadiene	0.00800	0.003973		mg/L		50	21 - 126	
Hexachloroethane	0.00800	0.005781		mg/L		72	43 - 118	
Hexachlorobutadiene	0.00800	0.005122		mg/L		64	32 - 143	
Indeno[1,2,3-cd]pyrene	0.00800	0.005610		mg/L		70	45 - 124	
Isophorone	0.00800	0.005505		mg/L		69	42 _ 116	
2-Methylnaphthalene	0.00800	0.005482		mg/L		69	40 - 121	
Naphthalene	0.00800	0.005475		mg/L		68	39 - 120	
2-Nitroaniline	0.00800	0.006080		mg/L		76	42 - 130	
3-Nitroaniline	0.00800	0.007833		mg/L		98	47 - 138	
4-Nitroaniline	0.00800	0.007502		mg/L		94	32 _ 139	
Nitrobenzene	0.00800	0.005752		mg/L		72	42 - 119	
N-Nitrosodimethylamine	0.00800	0.006104		mg/L		76	26 - 104	
N-Nitrosodiphenylamine	0.00800	0.005555		mg/L		69	43 - 107	
N-Nitrosodi-n-propylamine	0.00800	0.005582		mg/L		70	39 - 124	
Phenanthrene	0.00800	0.005410		mg/L		68	52 - 121	
Pyrene	0.00800	0.005265		mg/L		66	49 - 121	
1,2,4-Trichlorobenzene	0.00800	0.004888		mg/L		61	38 - 118	
Benzyl alcohol	0.00800	0.004922		mg/L		62	39 - 115	
4-Chloro-3-methylphenol	0.00800	0.005563		mg/L		70	44 - 131	
2-Chlorophenol	0.00800	0.005892		mg/L		74	23 - 134	
2-Methylphenol	0.00800	0.006174		mg/L		77	34 - 109	
3 & 4 Methylphenol	0.00800	0.006328		mg/L		79	27 - 113	
2,4-Dichlorophenol	0.00800	0.005500		mg/L		69	39 - 118	
2,4-Dimethylphenol	0.00800	0.006002		mg/L		75	36 - 109	
4,6-Dinitro-2-methylphenol	0.0160	0.01601		mg/L		100	24 - 122	
2,4-Dinitrophenol	0.0160	0.01271		mg/L		79	23 - 130	
O APP	0.00000	0.005050				74	10 101	

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0.005678

0.01314

0.01069

0.005345

mg/L

mg/L

mg/L

mg/L

71

82

67

40 - 121

14 - 132

9 - 147

11 - 112

0.00800

0.0160

0.0160

0.00800

Client: Golder Associates Inc. Project/Site: Exide Recycling Center

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels (Continued)

Lab Sample ID: LCS 600-125713/2-A **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA **Prep Batch: 125713**

Analysis Batch: 126158

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
2,4,5-Trichlorophenol	0.00800	0.004576		mg/L		57	38 - 145	
2,4,6-Trichlorophenol	0.00800	0.005831		mg/L		73	39 - 123	
2,6-Dinitrotoluene	0.00800	0.005272		mg/L		66	45 - 122	
bis (2-Chloroisopropyl) ether	0.00800	0.008690		mg/L		109	41 - 111	

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
Terphenyl-d14	82		33 - 141
Nitrobenzene-d5	94		47 - 120
2-Fluorophenol	88		18 - 120
2-Fluorobiphenyl	82		43 - 120
2,4,6-Tribromophenol	79		44 - 123
Phenol-d5 (Surr)	79		12 - 128

.

Lab Sample ID: LCSD 600-125713/13-A

Matrix: Water

Analysis Batch: 126158

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Pren Batch: 125713

Client Sample ID: Lab Control Sample Dup

LCSD LCSD Surrogate %Recovery Qualifier Limits Terphenyl-d14 76 33 - 141 47 - 120 Nitrobenzene-d5 80 77 18 - 120 2-Fluorophenol 2-Fluorobiphenyl 79 43 - 120 2,4,6-Tribromophenol 64 44 - 123 12 - 128 Phenol-d5 (Surr) 58

Lab Sample ID: LCSD 600-125713/3-A

Matrix: Water

Matrix: Water							Prep I	ype: Lot	al/NA
Analysis Batch: 126158							Prep Batch: 1257		
	Spike	LCSD	LCSD				%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Acenaphthene	0.0160	0.01040	*	mg/L		65	47 - 145	59	20
Acenaphthylene	0.0160	0.009815	*	mg/L		61	35 - 135	58	20
Anthracene	0.0160	0.01036	*	mg/L		65	53 - 124	70	20
Benzidine	0.0800	0.0179	U *	mg/L		0	10 - 120	NC	40
Benzo[a]anthracene	0.0160	0.01117	*	mg/L		70	53 - 122	63	20
Benzo[b]fluoranthene	0.0160	0.009450	*	mg/L		59	53 - 131	55	20
Benzo[k]fluoranthene	0.0160	0.01316	*	mg/L		82	46 - 130	85	20
Benzo[g,h,i]perylene	0.0160	0.01122	*	mg/L		70	46 - 133	66	20
Benzo[a]pyrene	0.0160	0.01043	*	mg/L		65	50 - 124	69	20
Bis(2-chloroethoxy)methane	0.0160	0.01124	*	mg/L		70	42 - 119	69	20
Bis(2-chloroethyl)ether	0.0160	0.009540	*	mg/L		60	40 - 112	57	20
Bis(2-ethylhexyl) phthalate	0.0160	0.01141	*	mg/L		71	47 - 132	65	20
4-Bromophenyl phenyl ether	0.0160	0.01109	*	mg/L		69	46 - 129	78	20
Butyl benzyl phthalate	0.0160	0.01064	*	mg/L		66	50 - 126	66	20
4-Chloroaniline	0.0160	0.008324	*	mg/L		52	19 - 129	68	20
2-Chloronaphthalene	0.0160	0.01018	*	mg/L		64	43 - 120	58	20
4-Chlorophenyl phenyl ether	0.0160	0.01009	*	mg/L		63	48 - 125	62	20
Carbazole	0.0160	0.01366	*	mg/L		85	42 - 169	73	20

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Prep Type: Total/NA

Client: Golder Associates Inc. Project/Site: Exide Recycling Center

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels (Continued)

Lab Sample ID: LCSD 600-125713/3-A

Matrix: Water

Client Sample ID: Lab Control Sample Dup	C
Prep Type: Total/NA	
Duan Databa 405740	

Analysis Batch: 126158							Prep Batch: 125713		
	Spike	LCSD	LCSD				%Rec.		RPD
Analyte	Added		Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chrysene	0.0160	0.01033		mg/L		65	49 - 124	66	20
Di-n-butyl phthalate	0.0160	0.009550		mg/L		60	54 - 138	46	20
Dibenz(a,h)anthracene	0.0160	0.01109		mg/L		69	42 - 134	65	20
Dibenzofuran	0.0160	0.01002		mg/L		63	46 - 123	58	20
1,2-Dichlorobenzene	0.0160	0.01050		mg/L		66	40 - 121	58	20
1,3-Dichlorobenzene	0.0160	0.01196		mg/L		75	39 - 122	66	20
1,4-Dichlorobenzene	0.0160	0.009307		mg/L		58	45 - 124	68	20
3,3'-Dichlorobenzidine	0.0160	0.01033	*	mg/L		65	38 - 168	57	20
Diethyl phthalate	0.0160	0.01032	*	mg/L		64	51 - 123	56	20
Dimethyl phthalate	0.0160	0.01033	*	mg/L		65	49 - 121	60	20
2,4-Dinitrotoluene	0.0160	0.009750	*	mg/L		61	43 - 128	54	20
Di-n-octyl phthalate	0.0160	0.01037	*	mg/L		65	27 _ 157	61	20
Fluoranthene	0.0160	0.009497	*	mg/L		59	53 - 127	65	20
Fluorene	0.0160	0.009822	*	mg/L		61	48 - 127	56	20
Hexachlorobenzene	0.0160	0.01107	*	mg/L		69	46 - 129	76	20
Hexachlorocyclopentadiene	0.0160	0.008813	*	mg/L		55	21 - 126	76	20
Hexachloroethane	0.0160	0.01203	*	mg/L		75	43 - 118	70	20
Hexachlorobutadiene	0.0160	0.01073	*	mg/L		67	32 - 143	71	20
Indeno[1,2,3-cd]pyrene	0.0160	0.01108	*	mg/L		69	45 - 124	66	20
Isophorone	0.0160	0.01115	*	mg/L		70	42 - 116	68	20
2-Methylnaphthalene	0.0160	0.01182	*	mg/L		74	40 - 121	73	20
Naphthalene	0.0160	0.01089	*	mg/L		68	39 _ 120	66	20
2-Nitroaniline	0.0160	0.01250	*	mg/L		78	42 - 130	69	20
3-Nitroaniline	0.0160	0.008057		mg/L		50	47 - 138	3	20
4-Nitroaniline	0.0160	0.01183	*	mg/L		74	32 - 139	45	20
Nitrobenzene	0.0160	0.01285	*	mg/L		80	42 - 119	76	20
N-Nitrosodimethylamine	0.0160	0.01219	*	mg/L		76	26 - 104	67	20
N-Nitrosodiphenylamine	0.0160	0.01128	*	mg/L		70	43 - 107	68	20
N-Nitrosodi-n-propylamine	0.0160	0.01193	*	mg/L		75	39 - 124	73	20
Phenanthrene	0.0160	0.01101	*	mg/L		69	52 ₋ 121	68	20
Pyrene	0.0160	0.01028		mg/L		64	49 - 121	65	20
1,2,4-Trichlorobenzene	0.0160	0.01019		mg/L		64	38 - 118	70	20
Benzyl alcohol	0.0160	0.01060		mg/L		66	39 - 115	73	20
4-Chloro-3-methylphenol	0.0160	0.01221		mg/L		76	44 - 131	75	20
2-Chlorophenol	0.0160	0.01199		mg/L		75	23 - 134	68	20
2-Methylphenol	0.0160	0.01235		mg/L		77	34 - 109	67	20
3 & 4 Methylphenol	0.0160	0.01331		mg/L		83	27 - 113	71	20
2,4-Dichlorophenol	0.0160	0.01245		mg/L		78	39 - 118	77	20
2,4-Dimethylphenol	0.0160	0.01434		mg/L		90	36 - 109	82	20
4,6-Dinitro-2-methylphenol	0.0320	0.02913		mg/L		91	24 - 122	58	20
• •	0.0320	0.02513		-		79		66	20
2,4-Dinitrophenol				mg/L			23 - 130		
2-Nitrophenol	0.0160	0.01166		mg/L		73	40 - 121	69	20
4-Nitrophenol	0.0320	0.02281		mg/L		71	14 - 132	54	20
Pentachlorophenol	0.0320	0.02196		mg/L		69	9 ₋ 147	69	20
Phenol	0.0160	0.01101		mg/L		69	11 - 112	69	20
2,4,5-Trichlorophenol	0.0160	0.01063		mg/L		66	38 - 145	80	20
2,4,6-Trichlorophenol	0.0160	0.01143		mg/L		71	39 - 123	65	20
2,6-Dinitrotoluene	0.0160	0.01045	*	mg/L		65	45 - 122	66	20

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Client: Golder Associates Inc. Project/Site: Exide Recycling Center

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels (Continued)

	Lab Sample ID: LCSD 600-125713/3-A		Client Sample ID: Lab Control Sample Dup							
	Matrix: Water						Prep T	ype: Tot	al/NA	
Analysis Batch: 126158							Prep	Batch: 1	25713	
		Spike	LCSD	LCSD				%Rec.		RPD
	Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
	bis (2-Chloroisopropyl) ether	0.0160	0.01751	*	mg/L		109	41 - 111	67	20

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
Terphenyl-d14	87		33 - 141
Nitrobenzene-d5	117		47 - 120
2-Fluorophenol	88		18 - 120
2-Fluorobiphenyl	75		43 - 120
2,4,6-Tribromophenol	76		44 - 123
Phenol-d5 (Surr)	79		12 - 128

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 600-125474/1-A Client Sample ID: Method Blank **Matrix: Water** Prep Type: Total/NA Analysis Batch: 125757 Prep Batch: 125474

мв мв MQL Prepared Analyte Result Qualifier MDL Unit Dil Fac

Analyzed 0.000350 U 0.00500 01/21/14 13:26 01/23/14 13:33 Cadmium 0.000350 mg/L

Lab Sample ID: MB 600-125474/1-A Client Sample ID: Method Blank **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 125773 MB MB

Analyte Result Qualifier MQL MDL Unit D Prepared Analyzed Dil Fac

Cadmium 0.000350 U 0.00500 0.000350 mg/L 01/21/14 13:26 01/24/14 11:47 Lead 0.00290 U 0.0100 0.00290 mg/L 01/21/14 13:26 01/24/14 11:47

Lab Sample ID: LCS 600-125474/2-A **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA **Analysis Batch: 125757** Prep Batch: 125474

Spike LCS LCS %Rec. Added Analyte Result Qualifier Limits Unit %Rec 0.500 Cadmium 0.4690 94 80 - 120 mg/L

Lab Sample ID: LCS 600-125474/2-A **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 125773 Prep Batch: 125474

	Spike	LCS	LCS				%Rec.
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits
Cadmium	 0.500	0.4903		mg/L		98	80 - 120
Lead	1.00	0.9483		mg/L		95	80 - 120

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Prep Batch: 125474

QC Association Summary

Client: Golder Associates Inc. Project/Site: Exide Recycling Center TestAmerica Job ID: 600-85830-1

GC/MS Semi VOA

Prep I	Batch: 1	2571	3
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Lab Sample ID	b Sample ID Client Sample ID		Matrix	Method	Prep Batch
600-85830-1	Dup-1	Total/NA	Water	3510C	
LCS 600-125713/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 600-125713/13-A	Lab Control Sample Dup	Total/NA	Water	3510C	
LCSD 600-125713/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
MB 600-125713/1-A	Method Blank	Total/NA	Water	3510C	

Analysis Batch: 126158

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-85830-1	Dup-1	Total/NA	Water	8270C LL	125713
LCS 600-125713/2-A	Lab Control Sample	Total/NA	Water	8270C LL	125713
LCSD 600-125713/13-A	Lab Control Sample Dup	Total/NA	Water	8270C LL	125713
LCSD 600-125713/3-A	Lab Control Sample Dup	Total/NA	Water	8270C LL	125713
MB 600-125713/1-A	Method Blank	Total/NA	Water	8270C LL	125713

Metals

Prep Batch: 125474

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-85830-2	MW-40	Total/NA	Water	3010A	
600-85830-3	MW-39	Total/NA	Water	3010A	
LCS 600-125474/2-A	Lab Control Sample	Total/NA	Water	3010A	
MB 600-125474/1-A	Method Blank	Total/NA	Water	3010A	

Prep Batch: 125529

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-85830-2	MW-40	Dissolved	Water	3010A	
600-85830-3	MW-39	Dissolved	Water	3010A	

Analysis Batch: 125606

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-85830-2	MW-40	Dissolved	Water	6010B	125529
600-85830-3	MW-39	Dissolved	Water	6010B	125529

Analysis Batch: 125757

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-85830-2	MW-40	Total/NA	Water	6010B	125474
600-85830-3	MW-39	Total/NA	Water	6010B	125474
LCS 600-125474/2-A	Lab Control Sample	Total/NA	Water	6010B	125474
MB 600-125474/1-A	Method Blank	Total/NA	Water	6010B	125474

Analysis Batch: 125773

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-85830-2	MW-40	Total/NA	Water	6010B	125474
600-85830-3	MW-39	Total/NA	Water	6010B	125474
LCS 600-125474/2-A	Lab Control Sample	Total/NA	Water	6010B	125474
MB 600-125474/1-A	Method Blank	Total/NA	Water	6010B	125474

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Lab Chronicle

Client: Golder Associates Inc. Project/Site: Exide Recycling Center TestAmerica Job ID: 600-85830-1

Lab Sample ID: 600-85830-1

Matrix: Water

Date Collected: 01/17/14 00:00 Date Received: 01/20/14 15:00

Client Sample ID: Dup-1

		Batch	Batch		Dil	Initial	Final	Batch	Prepared		
	Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
	Total/NA	Prep	3510C			250 mL	1.0 mL	125713	01/23/14 14:29	RLK	TAL HOU
Į	Total/NA	Analysis	8270C LL		1	250 mL	1.0 mL	126158	01/29/14 10:36	MBB	TAL HOU

Lab Sample ID: 600-85830-2 Client Sample ID: MW-40

Matrix: Water

Date Collected: 01/17/14 15:25 Date Received: 01/20/14 15:00

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			50 mL	50 mL	125529	01/22/14 08:29	NER	TAL HOU
Dissolved	Analysis	6010B		1	50 mL	50 mL	125606	01/22/14 18:31	DCL	TAL HOU
Total/NA	Prep	3010A			50 mL	50 mL	125474	01/21/14 13:26	NER	TAL HOU
Total/NA	Analysis	6010B		1	50 mL	50 mL	125757	01/23/14 13:50	DCL	TAL HOU
Total/NA	Prep	3010A			50 mL	50 mL	125474	01/21/14 13:26	NER	TAL HOU
Total/NA	Analysis	6010B		1	50 mL	50 mL	125773	01/24/14 12:01	DCL	TAL HOU

Lab Sample ID: 600-85830-3 Client Sample ID: MW-39

Matrix: Water

Date Received: 01/20/14 15:00

Date Collected: 01/17/14 16:15

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			50 mL	50 mL	125529	01/22/14 08:29	NER	TAL HOU
Dissolved	Analysis	6010B		1	50 mL	50 mL	125606	01/22/14 18:34	DCL	TAL HOU
Total/NA	Prep	3010A			50 mL	50 mL	125474	01/21/14 13:26	NER	TAL HOU
Total/NA	Analysis	6010B		1	50 mL	50 mL	125757	01/23/14 13:57	DCL	TAL HOU
Total/NA	Prep	3010A			50 mL	50 mL	125474	01/21/14 13:26	NER	TAL HOU
Total/NA	Analysis	6010B		1	50 mL	50 mL	125773	01/24/14 12:03	DCL	TAL HOU

Laboratory References:

TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

Certification Summary

Client: Golder Associates Inc. Project/Site: Exide Recycling Center TestAmerica Job ID: 600-85830-1

Laboratory: TestAmerica Houston

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

Authority	Program	EPA Region	Certification ID	Expiration Date		
Arkansas DEQ	State Program	6	88-0759	08-04-14		
Louisiana	NELAP	6	30643	06-30-14		
Oklahoma	State Program	6	1309	08-31-14		
Texas	NELAP	6	T104704223	10-31-14		
USDA	Federal		P330-08-00217	04-01-14		
Utah	NELAP	8	TX00083	10-31-14		

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Login Sample Receipt Checklist

Client: Golder Associates Inc. Job Number: 600-85830-1

Login Number: 85830 List Source: TestAmerica Houston

List Number: 1

Creator: Capps, Dana R

Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td>Lab does not accept radioactive samples.</td>	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.1
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
s the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level as required.

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Test America Work Orders: 600-86073-1, 600-86073-2, 600-87211-1, 600-87304-1, 600-87306-1, 600-87311-1, 600-87313-1, 600-87356-1, 600-89514-1, 600-89551-1 and 600-89523-1

Project No.:

Client:

1302086

Exide Technologies Inc.

Sample Dates: January 22, 2014; February 14 and

17, 2014; March 27-28, 2014

Laboratory: (Houston TLAP Certification

T104704223)

(Savannah TLAP Certification

T104704185-08-TX)

Work Orders: Work Orders: 600-86073-1, 600-86073-2, 600-87211-1, 600-87304-1, 600-87306-1,

600-87311-1, 600-87313-1, 600-87356-1, 600-89514-1, 600-89523-1, 600-89551-1

Intended Use Affected Property Assessment Report (APAR)

Site: Exide Former Operating Plant (FOP), 7471 5th Street, Frisco, TX

TESTS/ METHODS

Total and Dissolved Metals by SW-846 6010B - Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP) completed by Test America – Houston laboratory

Dissolved Metals by SW-846 6020A - Inductively Coupled Plasma-Mass Spectrometry (ICP-MS); completed by Test America- Savannah, GA laboratory

SAMPLES

24 groundwater samples, 2 field duplicates, and 3 MS/MSD pairs were collected. See Table 1 for a complete cross-referenced listing of samples.

Golder completed a review of the above chemical analysis data for conformance with the requirements of the Texas Risk Reduction Program (TRRP) guidance document, Review and Reporting of COC Concentration Data (RGG-366/TRRP-13 Revised May 2010) and for adherence to project objectives. The results of the review are discussed in this data usability summary (DUS).

Golder completed the review using the following laboratory and project submittals:

- Laboratory reportable data as defined in TRRP-13;
- Laboratory review checklists (LRC) with the associated exception reports;
- Laboratory Electronic Data Deliverable (EDD); and
- Project field notes from the sampling event.

The review of the reportable data included the quality control (QC) parameters listed below, as required per TRRP-13, using the applicable analytical method and project requirements:

- Data Completeness
- Chain-of-Custody Procedures



Test America Work Orders: 600-86073-1, 600-86073-2, 600-87211-1, 600-87304-1, 600-87306-1, 600-87311-1, 600-87313-1, 600-87356-1, 600-89514-1, 600-89551-1 and 600-89523-1

- Sample Condition Holding Time, Preservation, and Containers
- Field Procedures
- Results Reporting Procedures
- Laboratory and Field QC Blanks
- Laboratory Control Spike and Matrix Spike Recoveries
- Surrogate Recoveries
- Laboratory and Field Duplicate Precision

Additionally, Golder used the LRC to evaluate the following QC parameters:

- Method Quantitation Limits (MQLs)
- Method Detection Limits (MDLs)
- Instrument Tuning, Calibration, and Performance
- Internal Standards

Criteria used for this data usability review are as follows:

- Inorganics: 70-130% spike recovery (and not less than 10% or data is rejected) and ± MQL difference or 30% RPD (for laboratory duplicates) as recommended in TRRP-13
- Aqueous Samples: ± 2x MQL difference (if either result is less than 5x MQL) or 30% RPD (for field duplicates) as recommended in TRRP-13

If an item was found outside of the review criteria, the reviewer applied a data qualifier (DQ) and bias code to the results for the affected samples in accordance with TRRP-13. A list of all qualified results and definitions of the qualifier and bias codes are given in Table 2.

GLOSSARY OF TERMS

The following definitions apply for terms related to analyte reporting limits:

MDL (Method Detection Limit) – the minimum concentration of an analyte that the laboratory can measure and report with 99% confidence that the analyte concentration is greater than zero. The MDL is determined by the laboratory for each analyte in a given reagent matrix (water or soil) generally using the procedures specified in 40 CFR Part 136, Appendix B. It is a measure of the concentration an instrument can detect or 'see' in a given reagent matrix. TRRP-13 requires that the laboratory routinely check the MDL for reasonableness.

<u>SDL</u> (Sample Detection Limit) – the MDL adjusted to reflect sample-specific actions, such as dilution or use of smaller aliquot sizes than prescribed in the analytical method, and taking into account sample



Test America Work Orders: 600-86073-1, 600-86073-2, 600-87211-1, 600-87304-1, 600-87306-1, 600-87311-1, 600-87313-1, 600-87356-1, 600-89514-1, 600-89551-1 and 600-89523-1

characteristics, sample preparation, and analytical adjustments including dry-weight adjustments. It is a measure of the concentration an instrument can detect or 'see' in a given sample. For TRRP, non-detects are reported using the SDL. This term was originally called the SQL (Sample Quantitation Limit) before the TRRP rule revisions effective March 19, 2007.

<u>Unadjusted MQL (Method Quantitation Limit)</u> – the lowest non-zero concentration standard in the laboratory's initial calibration curve calculated using the normal aliquot sizes and final volumes prescribed in the analytical method. The unadjusted MQL is reported by the laboratory for each analyte in a given matrix (water or soil). It is a measure of the concentration an instrument can accurately measure in a typical sample. Per TRRP, the Unadjusted MQLs should be below the Levels of Required Performance (LORPs) for purposes of assessment as well as demonstration of conformance with critical Protective Concentration Levels (PCLs).

<u>MQL</u> – the unadjusted MQL adjusted to reflect sample-specific actions, such as dilution or use of smaller aliquot sizes than prescribed in the analytical method, and takes into account sample characteristics, sample preparation, and analytical adjustments including dry-weight adjustments. It is a measure of the concentration an instrument can accurately measure in a given sample. Analytes with concentrations above the SDL but below the MQL, though present in the sample, may not be accurately measured and are thus flagged as estimated (J).

LABORATORY CERTIFICATION

At the time the laboratory data were generated for this project, the laboratory was NELAC accredited under the Texas Laboratory Accreditation Program (TLAP) for the matrices, methods and parameters of analysis requested on the chain-of-custody forms. A copy of the applicable pages of the laboratory's National Environmental Laboratory Accreditation Program (NELAP) certificate valid during the period in which the laboratory generated the data in this report is included in Appendix 10.5.

1.0 USABILITY SUMMARY

1. Usability of Unqualified Non-Detects – Non-detects are reported at the sample detection limit (SDL) as required per TRRP. Additionally, according to the LRC, an MDL study was performed for each analyte and the MDLs were checked for reasonableness for each applicable analyte. The levels of required performance (LORPs) have been established by Golder/PBW as the Residential Assessment Levels (RALs) including TRRP residential Tier 1 GWGW_{Ing} PCLs and/or ecological criteria for monitoring wells located along Stewart Creek. As needed per TRRP, the unadjusted MQL stated by the laboratory is at or below the LORP for each applicable analyte, except for dissolved metals in groundwater run by Method 6010B where the groundwater to surface water pathway applies. Further analysis by Method 6020A was completed in an effort to meet applicable ecological



Test America Work Orders: 600-86073-1, 600-86073-2, 600-87211-1, 600-87304-1, 600-87306-1, 600-87311-1, 600-87313-1, 600-87356-1, 600-89514-1, 600-89551-1 and 600-89523-1

criteria for dissolved metals. Thus the analytical methods are appropriate and the results can be used to demonstrate conformance with the criteria.

2. Usability of Qualified Data – There are no major QC deficiencies, and thus all data is usable as qualified for the intended use, except for total metals analyses in the 4 groundwater samples collected as part of data package 600-86073-1. The 4 samples were not properly field filtered for total metals and therefore results were rejected. Samples were recollected and results are included as data packages 600-87306-1, 600-87311-1, and 600-87356-1. As shown in Table 2, the reviewer qualified some detects as estimated (J) due to minor QC deficiencies. Detects that are biased high can be used; however, the reported concentration may be high. Detects that are estimated may be either low or high. Results with a laboratory J-flag (i.e., at a concentration between the SDL and MQL) should be considered estimates. The actual value is not expected to exceed the sample MQL.

Reviewer: Jing Song Xi 4/23/14

QUALITY CONTROL PARAMETERS AND OUTCOMES

Data Completeness

The laboratory data packages contain all necessary data (i.e., the laboratory reportable data per TRRP-13) and the EDD contain all sample results in acceptable format.

Chain-of-Custody

Proper sample custody procedures were used, which confirms that the integrity of the samples was maintained. Additionally, the information on the custody records is complete and agrees with that in the field notes and laboratory reports, except:

- For sample 600-86073 (MW-32) was listed on the COC, but was not logged in for dissolved metals analysis since a filtered sample was not received.
- For sample 600-87211-1, the COC indicated dissolved metals analyses while the bottle indicated total metals. Per further correspondence with the laboratory, total metals were analyzed and reported.

Sample Condition

Samples were collected in appropriate containers, properly preserved in the field, and prepared and analyzed within the holding times as required in the analytical methods, which ensures that the samples were not affected by analyte degradation.

- For 600-86073, the temperature of the cooler at receipt was 1.5°C. This is marginally lower the recommended EPA temperature range of 4 +/- 2°C, but is not believed to affect data quality.
- For 600-87211, the temperature of the cooler at receipt was 3.2°C.



Test America Work Orders: 600-86073-1, 600-86073-2, 600-87211-1, 600-87304-1, 600-87306-1, 600-87311-1, 600-87313-1, 600-87356-1, 600-89514-1, 600-89551-1 and 600-89523-1

- For 600-87304, the temperature of the cooler at receipt was 0.6°C. This is lower the recommended EPA temperature range of 4 +/- 2°C, but is not believed to affect data quality.
- For 600-87306, the temperature of the cooler at receipt was 0.6°C. This is lower the recommended EPA temperature range of 4 +/- 2°C, but is not believed to affect data quality.
- For 600-87311, the temperature of the cooler at receipt was 3.1°C.
- For 600-87313, the temperature of the cooler at receipt was 3.1°C.
- For 600-87356, the temperature of the cooler at receipt was 1.4°C. This is marginally lower the recommended EPA temperature range of 4 +/- 2°C, but is not believed to affect data quality.
- For 600-89514-1, the temperature of the cooler at receipt was 3.5°C.
- For 600-89523-1, the temperature of the cooler at receipt was 1°C. This is marginally lower the recommended EPA temperature range of 4 +/- 2°C, but is not believed to affect data quality.
- For 600-89551-1, the temperature of the cooler at receipt was 2.2°C.

Field Procedures

The samples were collected and placed immediately into sterilized jars provided by the laboratory and then into a cooler with ice for overnight delivery to the laboratory.

According to the Work Plan, groundwater samples with turbidity greater than 10 NTU would be field filtered with a 10 micron filter for analyses of total metals. For dissolved metals, samples would be field filtered with a 0.45 micron filter. Total metals analyses for the 4 monitoring wells in data package 600-86073-1 were rejected as reflected in Table 2 because they were not properly field filtered.

600-86073-3 (MW-44) was properly field filtered with a 0.45 micron filter for dissolved metals analyses by 6010B. Remaining aliquot was submitted to the Savannah, GA lab for re-analysis by Method 6020A in an effort to meet lower detection limits applicable for ecological criteria.

The dissolved metal concentration is not always at or below the total metal concentration in the samples analyzed. However in these cases, the difference between dissolved and total does not exceed the inherent analytical method error (i.e., + 2x MQL difference (if either result is less than 5x MQL) or 30% RPD).

Results Reporting Procedures

The hardcopy analytical results include a Result, MQL (adjusted), and SDL. Equis format EDDs were provided, which includes the MDL, SDL (under the SQL column per previously used terminology) and the MQL, which is not adjusted for sample specific factors.



Test America Work Orders: 600-86073-1, 600-86073-2, 600-87211-1, 600-87304-1, 600-87306-1, 600-87311-1, 600-87313-1, 600-87356-1, 600-89514-1, 600-89551-1 and 600-89523-1

Results are reported in mg/L. Non-detects are reported using the SDL as specified per TRRP and detects between the SDL and MQL are reported with a laboratory J-flag. The concentration reported for detects between the SDL and MQL is below the calibration range and thus is considered estimated.

MQLs- The LORPs have been established by Golder/PBW as the Resident Assessment Levels (RALs), which are the minimum of the TRRP residential Tier 1 ^{GW}GW_{Ing} PCLs and/or ecological criteria for monitoring wells located along Stewart Creek. As needed per TRRP, the Unadjusted MQL stated by the laboratory is at or below the LORP for each applicable analyte, except for dissolved metals run by Method 6010B. Further analysis by Method 6020A was completed in an effort to meet applicable ecological criteria for dissolved metals. The Unadjusted MQLs for the laboratory are at or below the LORPs for each applicable analyte.

MDLs- According to the LRC, an MDL study was performed for each analyte, and the MDLs were checked for reasonableness and either adjusted or supported by the analysis of detectability check standards (DCS) for each applicable analyte as required per TRRP-13. Results for the DCS are included in the data packages.

Laboratory Blanks

Results for samples prepared in the same QC batch as a contaminated method blank may be affected by laboratory contamination. There were no detections in laboratory blanks for these work orders.

Field QC Blanks

No field QC blanks were collected as part of this work order.

Laboratory Control Sample

The laboratory prepared one laboratory control sample (LCS) for each analytical batch and reported recoveries for all of the analytes for each test. The LCS recoveries are within the TRRP recommended criteria, which indicates good accuracy for the preparation and analysis technique on a sample, free of matrix effects.

Matrix Spike Recovery

The laboratory prepared one or more matrix spike (MS) and matrix spike duplicate (MSD) with each analytical batch. MS/MSD recoveries are reported for the same analytes as the LCS for MS/MSD prepared using a sample from the site, which includes 3 MS/MSD for metals, as shown in Table 1.





Test America Work Orders: 600-86073-1, 600-86073-2, 600-87211-1, 600-87304-1, 600-87306-1, 600-87311-1, 600-87313-1, 600-87356-1, 600-89514-1, 600-89551-1 and 600-89523-1

The MS/MSD recoveries are within the TRRP recommended criteria, which indicates good accuracy for the preparation and analysis technique on a sample free of matrix effects. According to the LRC, MS/MSDs were run for each batch, but data packages that analyzed MS/MSD samples not derived directly from field samples did not include MS/MSD QA/QC information. Site-specific MS/MSD samples were collected approximately once per 10 field samples.

Surrogate Recovery

Since organic analyses were not requested for these data packages, surrogate recoveries were not evaluated.

Laboratory Duplicate Precision

The laboratory prepared one or more Matrix Spike Duplicate (MSD) with each analytical batch for each test. RPDs are reported for the same analytes as the LCS for MSD/MD prepared using a sample from the site, which includes 2 MSD for metals, as shown in Table 1.

The MSD RPDs are within the TRRP recommended criteria, which indicates good precision for the preparation and analysis technique for the given sample matrix.

Field Duplicate Precision

Two field duplicates were collected with the sample for these work orders. RPD for dissolved lead was outside TRRP recommended criteria; however, if aqueous results were less than 5 times the MQL but not greater than twice the MQL, no qualifications were made.

Instrument Tuning

According to the LRC, instrument tuning met method requirements for the samples, which indicates the GC/MS instrument was properly set up to identify analytes.

Instrument Calibration

According to the LRC, initial and continuing calibration data met method requirements for all reported results, which indicates the instruments were properly calibrated to measure analyte concentrations.

Instrument Performance

According to the LRC, the serial dilution and ICP interference check samples met method requirements, which indicates that no significant matrix interference exists.





Test America Work Orders: 600-86073-1, 600-86073-2, 600-87211-1, 600-87304-1, 600-87306-1, 600-87311-1, 600-87313-1, 600-87356-1, 600-89514-1, 600-89551-1 and 600-89523-1

Internal Standards

According to the LRC, area counts and retention times were within method requirements.



TABLE 1
CROSS REFERENCE OF FIELD SAMPLE IDENTIFICATIONS AND LABORATORY IDENTIFICATIONS

	0K033 K		MPLE IDENTIFICATION	IS AND LABORAT	OKT TELIVITI	OATTONS
Lab Sample ID	Field Sample ID	Prep Batch/ Analysis Batch (Houston)	Prep Batch/ Analysis Batch (Savannah)	Sample Date	Matrix	Comments
(00.0(070.1		105001/10/1/0				
600-86073-1	MW-33	125831/126162		1/22/2014	Water	site-specific MS/MSD
600-86073-2	MW-46	125831/126162		1/22/2014	Water	
600-86073-3	MW-44	125831/126162	316222/315533	1/22/2014	Water	
600-86073-4	MW-32	125831/126162		1/22/2014	Water	
600-87211-1	MW-34	127600/127679		2/15/2014	Water	
600-87211-2	MW-41	127600/127679		2/15/2014	Water	
600-87211-3	MW-42	127600/127679		2/15/2014	Water	
600-87304-1	MW-14		316319/317159	2/17/2014	Water	MS/MSD (lab selected)
600-87304-2	MW-27		316319/317159	2/17/2014	Water	Worwoo (lab selected)
600-87304-3	MW-26		316319/317159	2/17/2014	Water	
600-87304-4	MW-29		316319/317159	2/17/2014	Water	
600-87304-5	MW-17		316319/317159	2/17/2014	Water	
600-87306-1	MW-44		316408/316657	2/17/2014	Water	
600-87306-2	MW-46		316408/316657	2/17/2014	Water	
600-87311-1	MW-33	127792/127896		2/17/2014	Water	
600-87313-1	MW-34	127792/127896		2/17/2014	Water	
600-87356-1	MW-32		316930/317160	2/14/2014	Water	
600-87356-2	MW-37		316930/317160	2/13/2014	Water	
600-87356-3	MW-16		316930/317160	2/14/2014	Water	site-specific MS/MSD
600-87356-4	MW-16S		316930/317160	2/14/2014	Water	
600-87356-5	Dup-1		316930/317160	2/14/2014	Water	field duplicate of MW-16
600-89523-1	MW-46		321870/322175	3/27/2014	Water	site specific MS/MSD
600-89523-2	DUP-8		321870/322175	3/27/2014	Water	field duplicate of MW-46
600-89514-1	MW-45	130744/130786		3/27/2014	Water	
000 07017 1	IVIVV TO	1307 117 100700		3/2//2017	vvatoi	
600-89551-1	MW-37		322068/322507	3/28/2014	Water	
600-89551-2	MW-11		322068/322507	3/28/2014	Water	

TABLE 2 - QUALIFIED DATA

Lab Sample ID	Field Sample ID	Analyte	Result	Units	Qualifer	Explanation
600-86073-1	MW-33	Total cadmium	0.00370 J	mg/L	R	Total metals were not properly field filtered and results are rejected.
000-00073-1	000-00073-1		0.0645	mg/L	R	Total metals were not properly field filtered and results are rejected.
600-86073-2	MW-46	Total cadmium	0.00170 J	mg/L	R	Total metals were not properly field filtered and results are rejected.
000-00073-2	10100-40	Total lead	0.0304	mg/L	R	Total metals were not properly field filtered and results are rejected.
600-86073-3	MW-44	Total cadmium	0.00100 J	mg/L	R	Total metals were not properly field filtered and results are rejected.
000-00073-3	10100-44	Total lead	0.00290 U	mg/L	R	Total metals were not properly field filtered and results are rejected.
600-86073-4	MW-32	Total cadmium	0.00430 J	mg/L	R	Total metals were not properly field filtered and results are rejected.
000-00073-4	10100-32	Total lead	0.0285	mg/L	R	Total metals were not properly field filtered and results are rejected.
600-87306-1	MW-44	Total Cadmium	0.000109 J	mg/L	J	Estimated value between SDL and MQL.
000-87300-1	IVIVV-44	Dissolved Cadmium	0.000131 J	mg/L	J	Estimated value between SDL and MQL.
600-87304-1	MW-14	Total Lead	0.000302 J	mg/L	J	Estimated value between SDL and MQL.
000-67304-1	IVIVV - 1 4	Dissolved Cadmium	0.000120 J	mg/L	J	Estimated value between SDL and MQL.
		Total Lead	0.000718 J	mg/L	J	Estimated value between SDL and MQL.
600-87304-2	MW-27	Total Cadmium	0.000354 J	mg/L	J	Estimated value between SDL and MQL.
000-07304-2	IVIVV-27	Dissolved Lead	0.000743 J	mg/L	J	Estimated value between SDL and MQL.
		Dissolved Cadmium	0.000410 J	mg/L	J	Estimated value between SDL and MQL.
		Total Lead	0.000287 J	mg/L	J	Estimated value between SDL and MQL.
600-87304-3	MW-26	Total Cadmium	0.000311 J	mg/L	J	Estimated value between SDL and MQL.
000-07304-3	10100-20	Dissolved Lead	0.000327 J	mg/L	J	Estimated value between SDL and MQL.
		Dissolved Cadmium	0.000302 J	mg/L	J	Estimated value between SDL and MQL.
600-87304-4	MW-29	Total Lead	0.000433 J	mg/L	J	Estimated value between SDL and MQL.
000-07304-4	10100-29	Dissolved Lead	0.000937 J	mg/L	J	Estimated value between SDL and MQL.
600-87304-5	MW-17	Total Cadmium	0.000182 J	mg/L	J	Estimated value between SDL and MQL.
000-07304-3	IVIVV-I7	Dissolved Cadmium	0.000130 J	mg/L	J	Estimated value between SDL and MQL.
600-89523-1	MW-46	Dissolved Lead	0.00302	mg/L	J	Field Duplicate RPD outside specifications.

Note:

Detected results between the SDL and MQL (i.e., results with a laboratory J-flag) have been included in the above table since the reported concentration is below the calibration range.

NJ Tentatively identified, estimated data; The analysis indicates the presence of the analyte for which there is presumptive evidence to make a tentative identification and the associated numerical value represents its approximate concentration.

NS Not selected; Another result (from a secondary dilution, different analytical method, re-sampling, etc.) is selected for use based on QC outcomes and/or reported concentrations.

R Rejected data; The data is unusable. Serious QC deficiencies make it impossible to verify the absence or presence of this analyte.

U Not detected; The analyte was not detected >5x (10x for common contaminants) the level in an associated blank and thus should be considered not detected above the level of the associated numerical value (i.e., the reported sample concentration).

UJ Estimated data; The analyte was not detected above the reported sample detection limit (SDL). The numerical value of the SDL is estimated and may be inaccurate.

H Bias in sample result is likely to be high

L Bias in sample result is likely to be low

J Estimated data; The analyte was detected and identified. The associated numerical value (i.e., the reported sample concentration) is the approximate concentration of the analyte in the sample.

TABLE 3 - FIELD DUPLICATE PRECISION CALCULATIONS

Duplicate and Parent Sample Field Identification	Analyte	Sample Result	Duplicate Result	RPD ^a	Accept or Reject	Qualifier Added
DUP-1/MW-16*	Total Lead	0.00409	0.00463	12.4	А	-
DOF-1/MW-10	Dissolved Lead	0.0022	0.00036	143.8	А	-
	Total Lead	0.00546	0.00513	6.2	А	-
DUP-8/MW-46	Dissolved Lead	0.00302	0.00540	56.5	А	J
DOF-6/MVV-46	Total Cadmium	0.000794	0.000805	1.4	А	-
	Dissolved Cadmium	0.000797	0.000745	6.7	А	-

^{*} Dissolved Lead for Dup-1 was "J" flagged according to lab analysis

A - Acceptable Data

NA - Not Analyzed

The RPD test (<30%) applies if both results are greater than 5x MQL. Otherwise, the absolute difference test (< 2x MQL) applies.

 $^{^{}a}$ RPD = ((SR - DR)*200)/(SR + DR)



THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Houston 6310 Rothway Street Houston, TX 77040 Tel: (713)690-4444

TestAmerica Job ID: 600-86073-1

Client Project/Site: Exide Recycling Center

For:

Golder Associates Inc. 500 Century Plaza Drive Suite 190 Houston, Texas 77073

Attn: Christina Higginbotham

Authorized for release by:

2/6/2014 10:44:26 AM

Cathy Upton, Project Management Assistant II (713)690-4444

cathy.upton@testamericainc.com

Designee for

Dean Joiner, Project Manager II (713)690-4444

dean.joiner@testamericainc.com

.....LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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.

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Appendix A Laboratory Data Package Cover Page - Page 1 of 4

This data package is for TestAmerica Houston job number 600-86073-1 and consists of:

- ☑ R2 Sample identification cross-reference;
- ☑ R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - a. Items consistent with NELAC Chapter 5,
 - b. dilution factors,
 - c. preparation methods,
 - d. cleanup methods, and
 - e. if required for the project, tentatively identified compounds (TICs).
- ☐ R4 Surrogate recovery data including:
 - a. Calculated recovery (%R), and
 - b. The laboratory's surrogate QC limits.
- ☑ R5 Test reports/summary forms for blank samples;
- ☑ R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - a. LCS spiking amounts,
 - b. Calculated %R for each analyte, and
 - c. The laboratory's LCS QC limits.
- ☐ R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - Samples associated with the MS/MSD clearly identified,
 - b. MS/MSD spiking amounts,
 - c. Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d. Calculated %Rs and relative percent differences (RPDs), and
 - e. The laboratory's MS/MSD QC limits
- ☐ R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - a. The amount of analyte measured in the duplicate,
 - b. The calculated RPD, and
 - c. The laboratory's QC limits for analytical duplicates.
- R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
- ☑ R10 Other problems or anomalies.

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Cathy Upton2/6/2014Name (printed)SignatureDate

Project Management Asst II

Official Title (printed)

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Laboratory Review Checklist: Reportable Data - Page 2 of 4

Laboratory Name:	TestAmerica Houston	LRC Date:	2/6/2014
Project Name:	Exide Recycling Center	Laboratory Job Number:	600-86073-1
Paviower Name:	Dean A Joiner		

# ¹ A ²	Description	Yes	No	NA ³	NR ⁴	ER
	of-custody (C-O-C)					
	nples meet the laboratory's standard conditions of sample acceptability upon receipt?		Χ			R01A
	Il departures from standard conditions described in an exception report?	Х				
	e and quality control (QC) identification					
	field sample ID numbers cross-referenced to the laboratory ID numbers?	Х				
Are all la	laboratory ID numbers cross-referenced to the corresponding QC data?	Х				
R3 OI Test re	ports					
	Il samples prepared and analyzed within holding times?	Х				
	han those results < MQL, were all other raw values bracketed by calibration standards?	Х				
	alculations checked by a peer or supervisor?	Х				
	Il analyte identifications checked by a peer or supervisor?	Х				
Were sa	ample detection limits reported for all analytes not detected?	Х				
Were al	Il results for soil and sediment samples reported on a dry weight basis?			Χ		
	6 moisture (or solids) reported for all soil and sediment samples?			Χ		
	ulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			Χ		
	red for the project, are TICs reported?			Χ		
	ate recovery data					
	urrogates added prior to extraction?			Χ		
	urrogate percent recoveries in all samples within the laboratory QC limits?			Χ		
5 OI Test rep	ports/summary forms for blank samples					
Were a	ppropriate type(s) of blanks analyzed?	Х				
Were bl	lanks analyzed at the appropriate frequency?	Х				
Were m	nethod blanks taken through the entire analytical process, including preparation and, if applicable, cleanup					
procedu	ures?	Х				
Were bl	lank concentrations < MQL?	Х				
6 OI Labora	ttory control samples (LCS):					
Were al	Il COCs included in the LCS?	Х				
Was ea	ach LCS taken through the entire analytical procedure, including prep and cleanup steps?	Х				
Were Lo	CSs analyzed at the required frequency?	Х				
Were Lo	CS (and LCSD, if applicable) %Rs within the laboratory QC limits?	Х				
Does th	ne detectability check sample data document the laboratory's capability to detect the COCs at the MDL used					
to calcu	ulate the SDLs?	Х				
Was the	e LCSD RPD within QC limits?			Χ		
7 OI Matrix	spike (MS) and matrix spike duplicate (MSD) data					
	ne project/method specified analytes included in the MS and MSD?			Χ		
Were M	/IS/MSD analyzed at the appropriate frequency?			Χ		
	MS (and MSD, if applicable) %Rs within the laboratory QC limits?			Χ		
	MS/MSD RPDs within laboratory QC limits?			Χ		
8 OI Analytic	cal duplicate data					
	ppropriate analytical duplicates analyzed for each matrix?			Χ		
	nalytical duplicates analyzed at the appropriate frequency?			Χ		
Were R	RPDs or relative standard deviations within the laboratory QC limits?			Χ		
9 OI Method	d quantitation limits (MQLs):					
Are the	MQLs for each method analyte included in the laboratory data package?	Х				
Do the I	MQLs correspond to the concentration of the lowest non-zero calibration standard?	Х				
Are una	adjusted MQLs and DCSs included in the laboratory data package?	Х				
10 Ol Other p	problems/anomalies					
Are all k	known problems/anomalies/special conditions noted in this LRC and ER?	Х				
	oplicable and available technology used to lower the SDL to minimize the matrix interference effects on the					
· ·	results?	Х				
	aboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and					
	Is associated with this laboratory data package?	X				
	dentified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required repo		tems			

- Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items
 identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
- $2. \quad O = organic \ analyses; \ I = inorganic \ analyses \ (and \ general \ chemistry, \ when \ applicable);$
- 3. NA = Not applicable;
- 4. NR = Not reviewed;
- 5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

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Laboratory Review checklist: Supporting Data - Page 3 of 4

Laboratory Name:	TestAmerica Houston	LRC Date:	2/6/2014
Project Name:	Exide Recycling Center	Laboratory Job Number:	600-86073-1
Reviewer Name:	Dean A Joiner		

# ¹	A ²	Description	Yes	Na	NA ³	NP ⁴	ER#⁵
# S1		Description Initial calibration (ICAL)	res	NO	NA	INIK	ER#
31	Oi	` '	V				
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X	-			
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X	.			
		Has the initial calibration curve been verified using an appropriate second source standard?	Х				
•	<u> </u>						
S2	OI	Initial and continuing calibration verification (ICV and CCV) and continuing calibration blank (CCB):					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X	-			
		Was the ICAL curve verified for each analyte?	X	.			
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	Х				
S3		Mass spectral tuning					
		Was the appropriate compound for the method used for tuning?		<u> </u>	Х		
		Were ion abundance data within the method-required QC limits?			Χ		
S 4		Internal standards (IS)					
		Were IS area counts and retention times within the method-required QC limits?			Χ		
S5	OI	Raw data (NELAC Section 5.5.10)					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	Х				
		Were data associated with manual integrations flagged on the raw data?	Х				
36	0	Dual column confirmation					
		Did dual column confirmation results meet the method-required QC?			Χ		
S 7	0	Tentatively identified compounds (TICs)					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			Χ		
S8	I	Interference Check Sample (ICS) results					
		Were percent recoveries within method QC limits?	Х				
S9	li .	Serial dilutions, post digestion spikes, and method of standard additions					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			Х		
310		Method detection limit (MDL) studies					
	٠.	Was a MDL study performed for each reported analyte?	Х				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
211	О	Proficiency test reports					
,,,		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
212		Standards documentation	^				
712	Oi	Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	Х				
242		, , , , , , , , , , , , , , , , , , , ,	^				
913	Oi	Compound/analyte identification procedures					
24.4		Are the procedures for compound/analyte identification documented?	Х				
14	OI	Demonstration of analyst competency (DOC)		-			
		Was DOC conducted consistent with NELAC Chapter 5?	X	1			
245	O:	Is documentation of the analyst's competency up-to-date and on file?	Х	1			
S15	UΙ	Verification/validation documentation for methods (NELAC Chapter 5)		 			
			.,				
	I	Are all the methods used to generate the data documented, verified, and validated, where applicable?	Х	<u> </u>			
516	Ol	Laboratory standard operating procedures (SOPs)					
		Are laboratory SOPs current and on file for each method performed?	X	<u> </u>			
	1.	Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required		Items			
		identified by the letter "S" should be retained and made available upon request for the appropriate retention period	l.				
	2.	O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);					
	3.	NA = Not applicable;					
	4.	NR = Not reviewed;					
	5.	ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "N-	o" is checl	ked).			

Page 5 of 19 2/6/2014

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Laboratory Review Checklist: Exception Reports - Page 4 of 4

Laboratory Name:	TestAmerica Houston	LRC Date:	2/6/2014
Project Name:	Exide Recycling Center	Laboratory Job Number:	600-86073-1
Reviewer Name:	Dean A Joiner		

ER # ¹	Description							
R01A	ne following sample(s) was listed on the Chain of Custody (COC); however, no sample(s) was received: 600-86073-1, 600-86073-2, 600-86073-3, and 600-86073-4. Per chain of custody (attached) Sample 600-86073 (MW-32) was not logged in for dissolved metals analysis. A filtered sample as not received.							
1.	Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items							
	identified by the letter "S" should be retained and made available upon request for the appropriate retention period.							
2.	O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);							
3.	NA = Not applicable;							
4.	NR = Not reviewed;							
5.	ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).							

Detection Check Standard

Matrix: Water Method: 200.7/6010 200.7P/3010 Preparation: Date Analyzed: 12/31/2013 Date Prepared: 12/27/2013 Instrument: Spectro01 . 124030, 123788p TALs Batches: Units: mg/L

Analyte	MDL	DCS Spike	Measured Result	MQL
Aluminum	0.006	0.02	0.028176	0.5
Antimony	0.0063	0.01	0.010016	0.05
Arsenic	0.0033	0.01	0.008253	0.01
Barium	0.0022	0.005	0.004098	0.02
Beryllium	0.00134	0.002	0.004019	0.005
Boron	0.0077	0.02	0.019829	0.2
Cadmium	0.00073	0.001	0.001	0.005
Calcium	0.022	0.05	0.060829	1
Chromium	0.0016	0.002	0.003835	0.01
Cobalt	0.00063	0.001	0.000965	0.01
Copper	0.0014	0.002	0.002451	0.01
Iron	0.087	0.1	0.002258	0.4
Lithium	0.0024	0.005	0.006107	0.2
Lead	0.0029	0.005	0.005478	0.01
Selenium	0.0042	0.01	0.009953	0.04
Manganese	0.00084	0.002	0.001988	0.01
Molybdenum	0.0027	0.005	0.005867	0.01
Nickel	0.00179	0.005	0.005669	0.01
Silver	0.0012	0.0025	0.001901	0.01
Sodium	0.02	0.05	0.088115	1
Strontium	0.0005	0.001	0.000897	0.005
Thallium	0.0078	0.02	0.021503	0.03
Tin	0.0028	0.005	0.005708	0.01
Titanium	0.0011	0.002	0.001905	0.01
Vanadium	0.0017	0.002	0.003578	0.01
Zinc	0.0022	0.005	0.004189	0.01

Case Narrative

Client: Golder Associates Inc. Project/Site: Exide Recycling Center TestAmerica Job ID: 600-86073-1

Job ID: 600-86073-1

Laboratory: TestAmerica Houston

Narrative

Job Narrative 600-86073-1

Comments

No additional comments.

Receipt

The samples were received on 1/24/2014 11:42 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.5° C.

Except:

The following sample(s) was listed on the Chain of Custody (COC); however, no sample(s) was received: . Per chain of custody (attached) Sample 600-86073 (MW-32) was not logged in for dissolved metals analysis. A filtered sample was not received.

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Method Summary

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center

TestAmerica Job ID: 600-86073-1

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL HOU

Protocol References:

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

Laboratory References:

TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

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Sample Summary

Client: Golder Associates Inc. Project/Site: Exide Recycling Center TestAmerica Job ID: 600-86073-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
600-86073-1	MW-33	Water	01/22/14 09:45	01/24/14 11:42
600-86073-2	MW-46	Water	01/22/14 11:35	01/24/14 11:42
600-86073-3	WM-44	Water	01/22/14 13:25	01/24/14 11:42
600-86073-4	WM-32	Water	01/22/14 16:25	01/24/14 11:42

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Client: Golder Associates Inc. Project/Site: Exide Recycling Center

Client Sample ID: MW-33 Lab Sample ID: 600-86073-1 Date Collected: 01/22/14 09:45

Matrix: Water

Date Received: 01/24/14 11:42

Method: 6010B - Metals (ICP)									
Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.00370	J	0.00500	0.000350	mg/L		01/24/14 16:48	01/29/14 17:05	1
Lead	0.0645		0.0100	0.00290	mg/L		01/24/14 16:48	01/29/14 17:05	1

Method: 6010B - Metals (ICP) - Dissolved										
	Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
	Cadmium, Dissolved	0.00360	J	0.00500	0.000350	mg/L		01/24/14 16:48	01/29/14 17:22	1
Į	Lead, Dissolved	0.0557		0.0100	0.00290	mg/L		01/24/14 16:48	01/29/14 17:22	1

Client Sample ID: MW-46 Lab Sample ID: 600-86073-2

Date Collected: 01/22/14 11:35 **Matrix: Water** Date Received: 01/24/14 11:42

Method: 6010B - Metals (ICP) Analyte Result Qualifier MQL (Adj) SDL Unit Prepared Analyzed Dil Fac Cadmium 0.00170 J 0.00500 0.000350 mg/L 01/24/14 16:48 01/29/14 17:07 Lead 0.0304 0.0100 0.00290 mg/L 01/24/14 16:48 01/29/14 17:07

Method: 6010B - Metals (ICP) - Disso	ivea								
Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium, Dissolved	0.00190	J	0.00500	0.000350	mg/L		01/24/14 16:48	01/29/14 17:24	1
Lead, Dissolved	0.0259		0.0100	0.00290	mg/L		01/24/14 16:48	01/29/14 17:24	1

Client Sample ID: WM-44 Lab Sample ID: 600-86073-3 Date Collected: 01/22/14 13:25 Matrix: Water

Date Received: 01/24/14 11:42

Method: 6010B - Metals (ICP)									
Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.00100	J	0.00500	0.000350	mg/L		01/24/14 16:48	01/29/14 17:10	1
Lead	0.00290	U	0.0100	0.00290	mg/L		01/24/14 16:48	01/29/14 17:10	1
Method: 6010B - Metals (ICP) - Dis	solved								

1	,									
Α	nalyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
C	admium, Dissolved	0.00100	J	0.00500	0.000350	mg/L		01/24/14 16:48	01/29/14 17:27	1
Le	ead, Dissolved	0.00290	U	0.0100	0.00290	mg/L		01/24/14 16:48	01/29/14 17:27	1

Client Sample ID: WM-32 Lab Sample ID: 600-86073-4 Date Collected: 01/22/14 16:25 Matrix: Water

Date Received: 01/24/14 11:42

Method: 6010B - Metals (ICP)									
Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.00430	J	0.00500	0.000350	mg/L		01/24/14 16:48	01/29/14 17:13	1
Lead	0.0285		0.0100	0.00290	mg/L		01/24/14 16:48	01/29/14 17:13	1

TestAmerica Houston

Definitions/Glossary

Client: Golder Associates Inc. Project/Site: Exide Recycling Center TestAmerica Job ID: 600-86073-1

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the MQL but greater than or equal to the SDL and the concentration is an estimated value.
U	Analyte was not detected at or above the SDL.

Glossary

TEQ

Toxicity Equivalent Quotient (Dioxin)

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
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)

TestAmerica Houston

QC Sample Results

Client: Golder Associates Inc. Project/Site: Exide Recycling Center TestAmerica Job ID: 600-86073-1

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 600-125831/1-A

Lab Sample ID: LCS 600-125831/2-A

Matrix: Water

Analysis Batch: 126162

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

Prep Batch: 125831

-	MB	MB							
Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.000350	U	0.00500	0.000350	mg/L		01/24/14 16:48	01/29/14 16:51	1
Cadmium, Dissolved	0.000350	U	0.00500	0.000350	mg/L		01/24/14 16:48	01/29/14 16:51	1
Lead	0.00290	U	0.0100	0.00290	mg/L		01/24/14 16:48	01/29/14 16:51	1
Lead, Dissolved	0.00290	U	0.0100	0.00290	mg/L		01/24/14 16:48	01/29/14 16:51	1

Client Sample ID: Lab Control Sample

Matrix: Water

Analysis Batch: 126162							Prep	Batch: 125831
_	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Cadmium	0.500	0.5163		mg/L		103	80 - 120	
Cadmium, Dissolved	0.500	0.5163		mg/L		103	80 - 120	
Lead	1.00	1.036		mg/L		104	80 - 120	
Lead, Dissolved	1.00	1.036		mg/L		104	80 - 120	

Prep Type: Total/NA

Unadjusted Detection Limits

Client: Golder Associates Inc. Project/Site: Exide Recycling Center TestAmerica Job ID: 600-86073-1

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Method: 6010B - Metals (ICP)

Analyte	MQL	MDL	Units	Method
Cadmium	0.00500	0.000350	mg/L	6010B
Lead	0.0100	0.00290	mg/L	6010B

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Method: 6010B - Metals (ICP) - Dissolved

Analyte	MQL	MDL	Units	Method	
Cadmium, Dissolved	0.00500	0.000350	mg/L	6010B	
Lead, Dissolved	0.0100	0.00290	mg/L	6010B	

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QC Association Summary

Client: Golder Associates Inc. Project/Site: Exide Recycling Center TestAmerica Job ID: 600-86073-1

Metals

Prep Batch: 125831

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-86073-1	MW-33	Dissolved	Water	3010A	
600-86073-1	MW-33	Total/NA	Water	3010A	
600-86073-2	MW-46	Dissolved	Water	3010A	
600-86073-2	MW-46	Total/NA	Water	3010A	
600-86073-3	WM-44	Dissolved	Water	3010A	
600-86073-3	WM-44	Total/NA	Water	3010A	
600-86073-4	WM-32	Total/NA	Water	3010A	
LCS 600-125831/2-A	Lab Control Sample	Total/NA	Water	3010A	
MB 600-125831/1-A	Method Blank	Total/NA	Water	3010A	

Analysis Batch: 126162

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-86073-1	MW-33	Dissolved	Water	6010B	125831
600-86073-1	MW-33	Total/NA	Water	6010B	125831
600-86073-2	MW-46	Dissolved	Water	6010B	125831
600-86073-2	MW-46	Total/NA	Water	6010B	125831
600-86073-3	WM-44	Dissolved	Water	6010B	125831
600-86073-3	WM-44	Total/NA	Water	6010B	125831
600-86073-4	WM-32	Total/NA	Water	6010B	125831
LCS 600-125831/2-A	Lab Control Sample	Total/NA	Water	6010B	125831
MB 600-125831/1-A	Method Blank	Total/NA	Water	6010B	125831

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Lab Chronicle

Client: Golder Associates Inc. Project/Site: Exide Recycling Center TestAmerica Job ID: 600-86073-1

Client Sample ID: MW-33 Date Collected: 01/22/14 09:45 Lab Sample ID: 600-86073-1

Matrix: Water

Date Received: 01/24/14 11:42

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	125831	01/24/14 16:48	NER	TAL HOU
Total/NA	Analysis	6010B		1	50 mL	50 mL	126162	01/29/14 17:05	DCL	TAL HOU
Dissolved	Prep	3010A			50 mL	50 mL	125831	01/24/14 16:48	NER	TAL HOU
Dissolved	Analysis	6010B		1	50 mL	50 mL	126162	01/29/14 17:22	DCL	TAL HOU

Lab Sample ID: 600-86073-2

Client Sample ID: MW-46 Date Collected: 01/22/14 11:35 Matrix: Water

Date Received: 01/24/14 11:42

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	125831	01/24/14 16:48	NER	TAL HOU
Total/NA	Analysis	6010B		1	50 mL	50 mL	126162	01/29/14 17:07	DCL	TAL HOU
Dissolved	Prep	3010A			50 mL	50 mL	125831	01/24/14 16:48	NER	TAL HOU
Dissolved	Analysis	6010B		1	50 mL	50 mL	126162	01/29/14 17:24	DCL	TAL HOU

Client Sample ID: WM-44 Lab Sample ID: 600-86073-3

Date Collected: 01/22/14 13:25 **Matrix: Water**

Date Received: 01/24/14 11:42

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	125831	01/24/14 16:48	NER	TAL HOU
Total/NA	Analysis	6010B		1	50 mL	50 mL	126162	01/29/14 17:10	DCL	TAL HOU
Dissolved	Prep	3010A			50 mL	50 mL	125831	01/24/14 16:48	NER	TAL HOU
Dissolved	Analysis	6010B		1	50 mL	50 mL	126162	01/29/14 17:27	DCL	TAL HOU

Client Sample ID: WM-32 Lab Sample ID: 600-86073-4 **Matrix: Water**

Date Collected: 01/22/14 16:25 Date Received: 01/24/14 11:42

Analysis

Batch Batch Dil Initial Final Batch Prepared Prep Type Туре Method Factor Amount Amount Number or Analyzed Analyst Run Lab Prep Total/NA 3010A 50 mL 50 mL 125831 01/24/14 16:48 NER TAL HOU

50 mL

50 mL

126162

01/29/14 17:13

DCL

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Laboratory References:

Total/NA

TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

6010B

TestAmerica Houston

TAL HOU

Certification Summary

Client: Golder Associates Inc. Project/Site: Exide Recycling Center TestAmerica Job ID: 600-86073-1

Laboratory: TestAmerica Houston

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Arkansas DEQ	State Program	6	88-0759	08-04-14
Louisiana	NELAP	6	30643	06-30-14
Oklahoma	State Program	6	1309	08-31-14
Texas	NELAP	6	T104704223	10-31-14
USDA	Federal		P330-08-00217	04-01-14
Utah	NELAP	8	TX00083	10-31-14

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Chain of Custody Record

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Client Information	Randy Schmitz			Joine	Joiner, Dean A					Ì		上							Ç Ç	500-255/3-901/.4	17.4				1
Clent Contact: Chnstina Higginbotham	Phone: 817-281-0510			dean.	E-Mail dean.joiner@testamericainc.com	stamer	icainc	com				_							Page	Page 1 of 1					
Company: Golder Associates Inc.								Αn	nalysis	sis F	Requested	este	Ö			ĺ			Job #:	1		1			
/e Suite 190	Due Date Requested:			J. NEWST.				-											Preserv	Preservation Codes:	odes ≅	, Hex	Ď		
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Phone: 281-821-6868(Tel) 281-821-6870(Fax)	PO# Purchase Order Requested	equested			en en en en			05 res		d Lead	m and								ΞO:	G - Amchlor H - Ascorbic Acid		- H2S	O4 Dodec	S - H2SO4 T - TSP Dodecahydrate	6
Email: Christina Higginhotham@golder.com	WO#:				(j)		t	PH 10		m an	dmiu								Q-0	I - Ice J - DI Water		U - Acetone V - MCAA	A bne		
	Project #:				ine)		d Lis	or T		dmiu	s - C									DA ATO	N S	W - ph 4-5 Z - other (specify)	r(spec	₹	
ie Recycling Center - Water	130-2086			0000	(i)		our	old		- Ca	leta	lata	, Detai						0	1					
Site:	SSOW#:				Alejo), (ΝΗ			lfate	letals			1100111							;					1
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Sample Identification	Sample Date	Sample	= 9		Poko	8270C_			300.0_	6010B	· 		50105					Total		Special Instructions/Note:	instr	uctio	ns/N	ote:	
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MW-33	1/22/14	0945	ធ	Water						Ū	D		<u> </u>				-	, Q							1
MW-46	1/22/14	1135	6 	Water	<u> </u>					ט	U		-	\vdash			<u> </u>	ħ.							1
MW-44	1/22/14	1335	ត	Water	_					ט	o							N							H
MV-32	1/22/14	1625	G	Water	<u> </u>					D	D								E	was only able to mL bottle		callect 125	₽.	in one 2	%
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			6	Water																					l
Possible Hazard Identification Non-Hazard Flammable Skin Initiant Poison B	л В 🗀 Uлкпоwn		Radiological		Sample Disposal (A fee	le Disposal (A 1 Heium To Client	osal (To Cli	A fee ent	may	be as	assessed if samples Disposal By Lab	ssed if san Sal By Lab	ab		are re	stain. Arch	tained long) ğ	than	1 mc	inth) Months				
일					Special Instructions/QC Requirements:	l Instru	ctions	QC H	equire	ment	ķ.														I
Empty Kit Relinquished by:	٥	Date:			īme:								Μe	Method of Shipment	Ship	ment.		†							
Reinquished by: Randy Schnitz	Date/lime: /33/14	153	О —	Company Golder	Rec	Sived by:	2	0	9	Z Z	70				Dag	Date/Tiple:	يري	7		3	Ö	Company	7	\	1
Reinquished by:	Date/Time:	P. Carlotte	7 ₆ 70	Company 7	Rec	Received by:		i							Date/	e/Time	•	l				Company	₹		ĺ
Reinquished by:	Ďate/Time: ∮			Company	7. 60	Received by:									Dan	Date/ilme:						Company			
Custody Seals Intact: Custody Seal No.: A Yes A No	ļ				Coo	Cooler Temperature(s) °C and Other Remarks:	oerature	(s) °C	and Ot	er Rei	narks:							1							1
						1												١							

Login Sample Receipt Checklist

Client: Golder Associates Inc. Job Number: 600-86073-1

Login Number: 86073 List Source: TestAmerica Houston

List Number: 1

Creator: Sundquist, Sean V

Creator: Sundquist, Sean V		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>False</td> <td>Lab does not accept radioactive samples.</td>	False	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

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THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Houston 6310 Rothway Street Houston, TX 77040 Tel: (713)690-4444

TestAmerica Job ID: 600-86073-2

Client Project/Site: Exide Recycling Center 6020

For:

Golder Associates Inc. 500 Century Plaza Drive Suite 190 Houston, Texas 77073

Attn: Christina Higginbotham

Authorized for release by:

2/21/2014 1:55:07 PM

Cathy Upton, Project Management Assistant II (713)690-4444

cathy.upton@testamericainc.com

Designee for

Dean Joiner, Project Manager II (713)690-4444

dean.joiner@testamericainc.com

.....LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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.

Τ	ab	le	of	Co	nte	nts
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Appendix A Laboratory Data Package Cover Page - Page 1 of 4

This data package is for TestAmerica Houston job number 600-86073-2 and consists of:

- ☑ R2 Sample identification cross-reference;
- ☑ R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - a. Items consistent with NELAC Chapter 5,
 - b. dilution factors,
 - c. preparation methods,
 - d. cleanup methods, and
 - e. if required for the project, tentatively identified compounds (TICs).
- ☐ R4 Surrogate recovery data including:
 - a. Calculated recovery (%R), and
 - b. The laboratory's surrogate QC limits.
- ☑ R5 Test reports/summary forms for blank samples;
- ☑ R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - a. LCS spiking amounts,
 - b. Calculated %R for each analyte, and
 - c. The laboratory's LCS QC limits.
- ☐ R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - Samples associated with the MS/MSD clearly identified,
 - b. MS/MSD spiking amounts,
 - c. Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d. Calculated %Rs and relative percent differences (RPDs), and
 - e. The laboratory's MS/MSD QC limits
- ☐ R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - a. The amount of analyte measured in the duplicate,
 - b. The calculated RPD, and
 - c. The laboratory's QC limits for analytical duplicates.
- ☑ R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
- ☑ R10 Other problems or anomalies.

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

2/21/2014 Cathy Upton Signature Name (printed)

Project Management Asst II

Official Title (printed)

Page 3 of 21 2/21/2014

Laboratory Review Checklist: Reportable Data - Page 2 of 4

Laboratory Name:	TestAmerica Houston	LRC Date:	2/21/2014
Project Name:	Exide Recycling Center 6020	Laboratory Job Number:	600-86073-2
Paviower Name:	Cathy Linton		

	-					
$\#^1$ A^2	zoon,p.ion	Yes	No	NA ³	NR ⁴	ER
R1 OI	Chain-of-custody (C-O-C)					
	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?		Χ			R01A
	Were all departures from standard conditions described in an exception report?	Χ				
R2 OI	Sample and quality control (QC) identification					
	Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	Χ				
	Are all laboratory ID numbers cross-referenced to the corresponding QC data?	Χ				
R 3 OI	Test reports					
	Were all samples prepared and analyzed within holding times?	Χ				
	Other than those results < MQL, were all other raw values bracketed by calibration standards?	Χ				
	Were calculations checked by a peer or supervisor?	Χ				
	Were all analyte identifications checked by a peer or supervisor?	Х				
	Were sample detection limits reported for all analytes not detected?	Χ				
	Were all results for soil and sediment samples reported on a dry weight basis?			Χ		
	Were % moisture (or solids) reported for all soil and sediment samples?			Χ		
	Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			Χ		
	If required for the project, are TICs reported?			Χ		
4 0	Surrogate recovery data					
	Were surrogates added prior to extraction?			Χ		
	Were surrogate percent recoveries in all samples within the laboratory QC limits?			Χ		
5 OI	Test reports/summary forms for blank samples					
	Were appropriate type(s) of blanks analyzed?	Х				
	Were blanks analyzed at the appropriate frequency?	Х				
	Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup					
	procedures?	Х				
	Were blank concentrations < MQL?	Х				
6 OI	Laboratory control samples (LCS):					
<u>.</u>	Were all COCs included in the LCS?	Х				
	Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
	Were LCSs analyzed at the required frequency?	X				
	Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
	Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used					
	to calculate the SDLs?	Х				
	Was the LCSD RPD within QC limits?	^		Х		
7 OI						
<i>i</i> 01	Matrix spike (MS) and matrix spike duplicate (MSD) data			V		
	Were the project/method specified analytes included in the MS and MSD? Were MS/MSD analyzed at the appropriate frequency?	-	-	X		
		-	-			
	Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	-	-	X		
<u>. I</u>	Were MS/MSD RPDs within laboratory QC limits?	-	-	Х		
8 OI	Analytical duplicate data	-	-	V		
	Were appropriate analytical duplicates analyzed for each matrix?	-	-	X		
	Were analytical duplicates analyzed at the appropriate frequency?	1		X		
<u>, lo</u>	Were RPDs or relative standard deviations within the laboratory QC limits?			Х		
9 OI	Method quantitation limits (MQLs):	L.,				
	Are the MQLs for each method analyte included in the laboratory data package?	X				
	Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
40 10:	Are unadjusted MQLs and DCSs included in the laboratory data package?	Х				
10 OI	Other problems/anomalies					
	Are all known problems/anomalies/special conditions noted in this LRC and ER?	Χ				
	Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the					
	sample results?	Χ				
	Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and					
	methods associated with this laboratory data package?	Х	l			1

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items
identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

- 2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
- 3. NA = Not applicable;
- 4. NR = Not reviewed;
- 5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

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Laboratory Review checklist: Supporting Data - Page 3 of 4

Laboratory Name:	TestAmerica Houston	LRC Date:	2/21/2014
Project Name:	Exide Recycling Center 6020	Laboratory Job Number:	600-86073-2
Reviewer Name:	Cathy Upton		

# ¹	A ²	Description	Yes	Na	NA ³	NP ⁴	ER#⁵
# S1		Description Initial calibration (ICAL)	res	NO	NA	INIK	ER#
31	Oi	` '	V				
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X	-			
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X	<u> </u>			
		Has the initial calibration curve been verified using an appropriate second source standard?	Х				
•	<u> </u>						
S2	OI	Initial and continuing calibration verification (ICV and CCV) and continuing calibration blank (CCB):					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X	-			
		Was the ICAL curve verified for each analyte?	X	<u> </u>			
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	Х				
S3		Mass spectral tuning					
		Was the appropriate compound for the method used for tuning?		<u> </u>	Х		
		Were ion abundance data within the method-required QC limits?			Χ		
S 4		Internal standards (IS)					
		Were IS area counts and retention times within the method-required QC limits?			Χ		
S5	OI	Raw data (NELAC Section 5.5.10)					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	Х				
		Were data associated with manual integrations flagged on the raw data?	Х				
36	0	Dual column confirmation					
		Did dual column confirmation results meet the method-required QC?			Χ		
S 7	0	Tentatively identified compounds (TICs)					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			Χ		
S8	I	Interference Check Sample (ICS) results					
		Were percent recoveries within method QC limits?	Х				
S9	l	Serial dilutions, post digestion spikes, and method of standard additions					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			Х		
310		Method detection limit (MDL) studies					
	٠.	Was a MDL study performed for each reported analyte?	Х				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
211	О	Proficiency test reports					
,,,		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
212		Standards documentation	^				
712	Oi	Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	Х				
242		, , , , , , , , , , , , , , , , , , , ,	^				
913	Oi	Compound/analyte identification procedures					
24.4		Are the procedures for compound/analyte identification documented?	Х				
14	OI	Demonstration of analyst competency (DOC)		-			
		Was DOC conducted consistent with NELAC Chapter 5?	X	1			
245	O:	Is documentation of the analyst's competency up-to-date and on file?	Х	1			
S15	UΙ	Verification/validation documentation for methods (NELAC Chapter 5)		 			
			.,				
	I	Are all the methods used to generate the data documented, verified, and validated, where applicable?	Х	<u> </u>			
516	Ol	Laboratory standard operating procedures (SOPs)					
		Are laboratory SOPs current and on file for each method performed?	X	<u> </u>			
	1.	Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required		Items			
		identified by the letter "S" should be retained and made available upon request for the appropriate retention period	l.				
	2.	O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);					
	3.	NA = Not applicable;					
	4.	NR = Not reviewed;					
	5.	ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "N-	o" is checl	ked).			

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Laboratory Review Checklist: Exception Reports - Page 4 of 4

Laboratory Name:	TestAmerica Houston	LRC Date:	2/21/2014
Project Name:	Exide Recycling Center 6020	Laboratory Job Number:	600-86073-2
Reviewer Name:	Cathy Upton		

ER # ¹	Description
IRO14	The following sample(s) was listed on the Chain of Custody (COC); however, no sample(s) was received: 600-86073-4. Per chain of custody (attached) Sample 600-86073 (MW-32) was not logged in for dissolved metals analysis. A filtered sample was not received.
1.	Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items
	identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2.	O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
3.	NA = Not applicable;
4.	NR = Not reviewed;
5.	ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

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Water Client Sample ID Analyte Result Unit Amount WDL RL 1 Water CQ4 2013 AQ MDLV ICPMSC Attiminum 56.4 ug/L 2.5 2.3 50 Water CQ4 2013 AQ MDLV ICPMSC Attiminum 2.375 ug/L 2 1.3 5 Water CQ4 2013 AQ MDLV ICPMSC Barium 1.985 ug/L 2 1.3 5 Water CQ4 2013 AQ MDLV ICPMSC Barium 0.52 ug/L 2 1.3 5 Water CQ4 2013 AQ MDLV ICPMSC Barium 0.195 ug/L 50 0.25 0.5 Water CQ4 2013 AQ MDLV ICPMSC Calcium 2.947 ug/L 50 1.00 1.00 Water CQ4 2013 AQ MDLV ICPMSC Calcium 2.49 ug/L 50 2.5 5 Water CQ4 2013 AQ MDLV ICPMSC Chromium 5.413 ug/L 50 1.5 1.5 Water CQ4 2013 AQ MDLV ICPMSC Chromium							Spike			Percent		Analysis	Instrument			Analysis
Water OLD 2013 AO MULVI ICPMSQ Amminium 564 9/L 2.5 113 300SA 602DA ICPMSC 7429-0-90 60227813 Water OLA 2013 AO MULVI ICPMSQ Amminowy 2.875 ugL 2.5 1.3 2.5 119 300SA 602DA ICPMSC 7440-98-0 66027813 Water OLA 2013 AO MULVI ICPMSQ Amerina 1.365 ugL 2.5 1.5 1.04 300SA 602DA ICPMSC 7440-43-7 660-237813 Water OLA 2013 AO MULVI ICPMSQ Berlium 0.52 ugL 0.5 0.5 1.04 300SA 602DA ICPMSC 7440-43-9 660-237813 Water OLA 2013 AO MULVI ICPMSQ Cachium 0.195 ugL 0.5 1.0 1.0 300SA 602DA ICPMSC 7440-43-9 660-237813 Water OLA 2013 AO MULVI ICPMSQ Cachium 0.195 0.5 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 <t< th=""><th>Dept</th><th>Matrix</th><th>Client Sample ID</th><th>Analyte</th><th>Result</th><th>Unit</th><th>Amount</th><th>MDL</th><th>RL</th><th>Recovery</th><th></th><th>Method</th><th>Q</th><th>CAS</th><th>Prep Batch</th><th>Batch</th></t<>	Dept	Matrix	Client Sample ID	Analyte	Result	Unit	Amount	MDL	RL	Recovery		Method	Q	CAS	Prep Batch	Batch
Water Q 2013 AO MOLV ICPANSC Antimotory 2.87 a. gg/L 2.5 115 3005A 6020A ICPANSC 7440-39-3 680-237813 Water Q 2013 AO MOLV ICPANSC Bearine 1.965 gg/L 2 1.3 2.5 119 3005A 6020A ICPANSC 7440-39-3 680-237813 Water Q 42013 AO MOLV ICPANSC Bearine 1.965 gg/L 2 1.0 3005A 6020A ICPANSC 7440-39-3 680-237813 Water Q 42013 AO MOLV ICPANSC Bearine 0.15 0.2 0.05 1.0 100 3005A 6020A ICPANSC 7440-47-8 680-237813 Water Q 2013 AO MOLV ICPANSC Calcium 0.13 2.5 1.0 100 100 3005A 6020A ICPANSC 7440-4-8 680-237813 Water Q 2013 AO MOLV ICPANSC Calcium 0.4 0.0 10 100 3005A 6020A ICPANSC 7440-4-8 680-237813 Water Q	Æ	Water	Q4 2013 AQ MDLV ICPMSC	Aluminum	56.4	ng/L	20	23	20	113	3005A	6020A	ICPMSC	7429-90-5	680-297813	680-298498
Water O4 2013 AO MULV ICPMISG Arsenic 2.375 g/L 2 1.3 2.5 119 3005A 6020A ICPMISG 7440-34-7 680-237813 1 Water O4 2013 AO MULV ICPMISG Beryllum 0.52 ug/L 2 1.3 5 98 3005A 6020A ICPMISC 7440-41-7 680-237813 Water O4 2013 AO MULV ICPMISG Beryllum 0.52 ug/L 0.5 0.5 104 3005A 6020A ICPMISC 7440-41-7 680-237813 Water O4 2013 AO MULV ICPMISG Carlnium 0.156 ug/L 0.5 1.5 1.9 3005A ICPMISC 7440-41-7 680-237813 Water O4 2013 AO MULV ICPMISG Carlnium 0.24 ug/L 0.5 1.5 1.9 3005A ICPMISC 7440-43-9 680-237813 Water O4 2013 AO MULV ICPMISG Cheban 0.21 ug/L 0.5 0.1 1.0 3005A 1.0 3005A 1.0 1.0 1	¥	Water	Q4 2013 AQ MDLV ICPMSC	Antimony	2.875	ng/L	2.5	2.3	2	115	3005A	6020A	ICPMSC	7440-36-0	680-297813	680-298498
Water C4 2013 AO MIDLY ICPNISG Benrium 1.985 ugh 2 1.3 1.3 9.8 3005A GCDA ICPNISG T440-34-17 680-237813 1 Water O4 2013 AO MIDLY ICPNISG Berylium 6.02 ugh 6.02 0.05 6.0 100 102 3005A 6020A ICPNISG 7440-42-8 680-237813 Water O4 2013 AO MIDLY ICPNISG Caemium 6.154 ugh 2.0 10	Щ	Water	Q4 2013 AQ MDLV ICPMSC	Arsenic	2.375	ng/L	2	1.3	2.5	119	3005A	6020A	ICPMSC	7440-38-2	680-297813	680-298498
Water CAZ 2013 AG MULV ICPMSC Beryllium 0.55 up/L 0.5 104 300GA G0ZOA ICPMSC 7440-47-7 660-2277813 Water O4 2013 AG MULV ICPMSC Beryllium 0.152 up/L 5.0 40 100 100 100 300GA GCDAA ICPMSC 7440-42-9 680-2277813 Water Q4 2013 AG MULV ICPMSC Cadmium 0.196 up/L 5.0 110 300GA 6020A ICPMSC 7440-42-9 680-2277813 Water Q4 2013 AG MULV ICPMSC Cabrillium 0.21 up/L 6.0 116 300GA 6020A ICPMSC 7440-48-4 680-2277813 Water Q4 2013 AG MULV ICPMSC Cabrillium 0.21 up/L 0.2 0.15 0.16 0.5 110 300GA 6020A ICPMSC 7440-48-4 680-2277813 Water Q4 2013 AG MULV ICPMSC Cabrillium 0.3 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	ш	Water	Q4 2013 AQ MDLV ICPMSC	Barium	1.965	ng/L	2	1.3	2	86	3005A	6020A	ICPMSC	7440-39-3	680-297813	680-298498
Water Q2013 AO MDLV ICPMISC Bronn 61124 gg/L 50 40 100 102 3005A 6020A ICPMISC 7440-42-8 602-207813 Water Q4 2013 AO MDLV ICPMISC Cadmium 0.196 ug/L 550 10 550 116 3005A 6020A ICPMISC 7440-47-02 680-237813 Water Q4 2013 AO MDLV ICPMISC Cacium 284,73 ug/L 55 10 3005A 6020A ICPMISC 7440-47-0 680-237813 Water Q4 2013 AO MDLV ICPMISC Cobat 0.21 ug/L 5 10 3005A 6020A ICPMISC 7440-47-0 680-237813 Water Q4 2013 AO MDLV ICPMISC Copat 0.21 ug/L 5 11 5 10 3005A 6020A ICPMISC 7440-44-4 680-237813 Water Q4 2013 AO MDLV ICPMISC Copat ug/L 5 1 60 43 250 1 8 10 10 3005A 6020A<	ш	Water	Q4 2013 AQ MDLV ICPMSC	Beryllium	0.52	ng/L	0.5	0.25	0.5	104	3005A	6020A	ICPMSC	7440-41-7	680-297813	680-298498
Water O42013 AO MDLV ICPNISC Cadmium 0.95 u.g.L 0.05 1.05 0.05 0.05 0.05 0.05A ICDNISC 7440-73-2 680-297813 Water O42013 AO MDLV ICPNISC Caclinim 2.94 1.01 2.50 110 3005A 6020A ICPNISC 7440-47-3 680-297813 Water O42013 AO MDLV ICPNISC Chonnium 2.94 1.01 5 1.05 3005A 6020A ICPNISC 7440-48-8 680-297813 Water O42013 AO MDLV ICPNISC Choper 2.0 1.01 5 1.05 3005A 6020A ICPNISC 7440-48-8 680-297813 Water O42013 AO MDLV ICPNISC Lion 5.4 1.0 3005A 6020A ICPNISC 7440-48-8 680-297813 Water O42013 AO MDLV ICPNISC Lion 5.4 1.0 1.0 1.0 1.0 1.0 3005A 6020A ICPNISC 7440-48-9 680-297813 Water O42013 AO MDLV ICPNISC Lion	Ш	Water	Q4 2013 AQ MDLV ICPMSC	Boron	51.24	ng/L	20	40	100	102	3005A	6020A	ICPMSC	7440-42-8	680-297813	680-298498
Water Q4 2013 AQ MDLV ICPMSC Caclum 294,73 ug1 250 130 250 118 300GA 6020A ICPMSC 7440-70-2 680-297813 Water Q4 2013 AQ MDLV ICPMSC Chonim 5.49 ug1 5 2.5 105 300GA 6020A ICPMSC 7440-47-9 860-297813 Water Q4 2013 AQ MDLV ICPMSC Copper 2.02 ug1 2 1.1 5 107 300GA 6020A ICPMSC 7440-50-8 860-297813 Water Q4 2013 AQ MDLV ICPMSC Iron 54.13 9.0 1.6 100 108 300GA 6020A ICPMSC 7440-56-8 860-297813 Water Q4 2013 AQ MDLV ICPMSC Iron 54.1 5 1.6 10 300GA 6020A ICPMSC 7439-95-4 860-297813 Water Q4 2013 AQ MDLV ICPMSC Magnesium 78.42 ug1 2 1 5 1 6020A ICPMSC 7439-95-4 860-297813	Ш	Water	Q4 2013 AQ MDLV ICPMSC	Cadmium	0.195	ng/L	0.2	0.095	0.5	86	3005A	6020A	ICPMSC	7440-43-9	680-297813	680-298498
Water Q4 2013 AQ MDLV ICPMSG Chromium 5.49 ug/L 6.2 110 3005A 6020A ICPMSG 7440-44-3 680-297813 Water Q4 2013 AQ MDLV ICPMSG Cobalit 0.21 ug/L 0.2 1.15 5 105 3005A 6020A ICPMSG 7440-48-8 680-297813 Water Q4 2013 AQ MDLV ICPMSG Load 0.355 ug/L 50 1.05 106 3005A 6020A ICPMSG 7440-48-9 680-297813 Water Q4 2013 AQ MDLV ICPMSG Lead 0.355 ug/L 2 1.1 5 98 3005A 6020A ICPMSG 7439-96-5 680-297813 Water Q4 2013 AQ MDLV ICPMSG Magnesium 2.26 1 5 98 3005A 6020A ICPMSG 7439-96-5 680-297813 Water Q4 2013 AQ MDLV ICPMSG Marcury 0.625 ug/L 2 1 5 1 1 7440-84-4 680-297813 Water Q4 2013 AQ MDLV	Ш	Water	Q4 2013 AQ MDLV ICPMSC	Calcium	294.73	ng/L	250	130	250	118	3005A	6020A	ICPMSC	7440-70-2	680-297813	680-298498
Water Q4 2013 AQ MDLV ICPMISG Cobalt 0.2 0.15 0.5 105 3005A 6020A ICPMISG 7440-68-6 60207813 4 Water Q4 2013 AQ MDLV ICPMISG Coppet 2.02 ug/L 2 1.1 5 101 3005A 6020A ICPMISG 7440-50-6 6020P313 Water Q4 2013 AQ MDLV ICPMISG Lead 0.355 ug/L 0.3 1.5 1.6 108 3005A 6020A ICPMISG 7439-69-1 602-297813 Water Q4 2013 AQ MDLV ICPMISG Magnaese 1.955 ug/L 0.3 1.5 98 3005A 6020A ICPMISG 7439-95-6 602-27813 Water Q4 2013 AQ MDLV ICPMISG Magnaese ug/L 0.5 0.4 0.8 1.0 3005A 6020A ICPMISG 7439-95-6 600-297813 Water Q4 2013 AQ MDLV ICPMISG Mixloentum 2.05 ug/L 0.5 0.4 0.8 3005A 6020A ICPMISG 7440-22-5	Ш	Water	Q4 2013 AQ MDLV ICPMSC	Chromium	5.49	ng/L	5	2.5	2	110	3005A	6020A	ICPMSC	7440-47-3	680-297813	680-298498
Water Q4 2013 AQ MDLV ICPMISG Copper 2.02 ug/L 2 1.1 5 101 3005A 6020A ICPMISG 740-50-8 660-297813 Water Q4 2013 AQ MDLV ICPMISG Ind 54.13 ug/L 0.3 0.2 1.5 118 3005A 6020A ICPMISG 7439-95-4 680-297813 Water Q4 2013 AQ MDLV ICPMISG Inend 0.355 ug/L 0.3 0.2 1.5 118 3005A 6020A ICPMISG 7439-95-4 680-297813 Water Q4 2013 AQ MDLV ICPMISG Marcuny 0.655 ug/L 2 1 5 98 3005A 6020A ICPMISG 7439-95-4 680-297813 Water Q4 2013 AQ MDLV ICPMISG Marcuny 0.655 ug/L 2 1.5 5 110 3005A 6020A ICPMISG 7439-95-6 680-297813 Water Q4 2013 AQ MDLV ICPMISG Microuny 0.65 ug/L 2 1.5 5 110 740-02-0	Ш	Water	Q4 2013 AQ MDLV ICPMSC	Cobalt	0.21	ng/L	0.2	0.15	0.5	105	3005A	6020A	ICPMSC	7440-48-4	680-297813	680-298498
Water CA 2013 AQ MDLV ICPMISC Iron 54.13 ug/L 50 33 100 108 3005A 6020A ICPMISC 7439-92-1 680-297813 Water CA 2013 AQ MDLV ICPMISC Lead 0.355 ug/L 0.3 1.5 118 3005A 6020A ICPMISC 7439-96-5 680-297813 Water CA 2013 AQ MDLV ICPMISC Manganesium 7.842 ug/L 2 1 5 98 3005A 6020A ICPMISC 7439-96-5 680-297813 Water CA 2013 AQ MDLV ICPMISC Manganesium 2.05 ug/L 2 1 5 98 3005A 6020A ICPMISC 7439-96-5 680-297813 Water CA 2013 AQ MDLV ICPMISC Mercury 0.625 ug/L 2 1 2 125 3005A 6020A ICPMISC 7439-96-5 680-297813 Water CA 2013 AQ MDLV ICPMISC Mercury 0.625 ug/L 2 1 2 1 2 1 2<	Ш	Water	Q4 2013 AQ MDLV ICPMSC	Copper	2.02	ng/L	2	1.1	2	101	3005A	6020A	ICPMSC	7440-50-8	680-297813	680-298498
Water Q4 2013 AQ MDLV ICPMSC Lead 0.355 ug/L 0.3 1.5 118 3005A 6020A ICPMSC 7439-92-1 680-297813 Water Q4 2013 AQ MDLV ICPMSC Manganese 1.955 ug/L 0.6 4.3 250 98 3005A 6020A ICPMSC 7439-96-6 680-297813 Water Q4 2013 AQ MDLV ICPMSC Mercury 0.655 ug/L 0.5 0.4 0.8 125 3005A 6020A ICPMSC 7439-96-6 680-297813 Water Q4 2013 AQ MDLV ICPMSC Mercury 0.655 ug/L 2 5 12 3005A 6020A ICPMSC 7439-96-6 680-297813 Water Q4 2013 AQ MDLV ICPMSC Mercury 2.205 ug/L 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2	Е	Water	Q4 2013 AQ MDLV ICPMSC	Iron	54.13	ng/L	20	33	100	108	3005A	6020A	ICPMSC	7439-89-6	680-297813	680-298498
Water Q4 2013 AQ MDLV ICPMSC Magnesium 78.42 ug/L 80 43 250 98 3005A 6020A ICPMSC 7439-95-5 680-297813 Water Q4 2013 AQ MDLV ICPMSC Manganese 1.955 ug/L 2 1 5 98 3005A 6020A ICPMSC 7439-95-5 680-297813 Water Q4 2013 AQ MDLV ICPMSC Mercury 0.6255 ug/L 0.5 1.5 5 122 3005A 6020A ICPMSC 7439-96-7 680-297813 Water Q4 2013 AQ MDLV ICPMSC Mercury 2.65 ug/L 2 1 5 1 10 3005A 6020A ICPMSC 7440-02-0 680-297813 Water Q4 2013 AQ MDLV ICPMSC Polentium 1.855 ug/L 2 1 2 5 122 3005A 6020A ICPMSC 7440-02-0 680-297813 Water Q4 2013 AQ MDLV ICPMSC Selentium 1.855 ug/L 2 1 2 5	Ш	Water	Q4 2013 AQ MDLV ICPMSC	Lead	0.355	ng/L	0.3	0.2	1.5	118	3005A	6020A	ICPMSC	7439-92-1	680-297813	680-298498
Water Q4 2013 AQ MDLV ICPMSC Manganese 1.965 ug/L 2 1 5 98 3005A 6020A ICPMSC 7439-96-5 680-297813 Water Q4 2013 AQ MDLV ICPMSC Mercury 0.625 ug/L 2 1.5 5 110 3005A 6020A ICPMSC 7439-97-6 680-297813 Water Q4 2013 AQ MDLV ICPMSC Nickel 4.26 ug/L 4 2 5 12 3005A 6020A ICPMSC 7440-02-0 680-297813 Water Q4 2013 AQ MDLV ICPMSC Nickel ug/L 2 5 1 3005A 6020A ICPMSC 7440-02-0 680-297813 Water Q4 2013 AQ MDLV ICPMSC Selenium 1.855 ug/L 2 1 2.5 93 3005A 6020A ICPMSC 7440-02-0 680-297813 Water Q4 2013 AQ MDLV ICPMSC Selenium 1.855 ug/L 1 0.25 1 0.26 1740-02-0 6620A ICPMSC 7	Е	Water	Q4 2013 AQ MDLV ICPMSC	Magnesium	78.42	ng/L	80	43	250	86	3005A	6020A	ICPMSC	7439-95-4	680-297813	680-298498
Water Q4 2013 AQ MDLV ICPMSC Mercury 0.625 ug/L 2 15 3005A 6020A ICPMSC 7439-97-6 680-297813 Water Q4 2013 AQ MDLV ICPMSC Molybelenum 2.205 ug/L 2 1.5 1 3005A 6020A ICPMSC 7440-02-0 680-297813 Water Q4 2013 AQ MDLV ICPMSC Nicken 4.86 ug/L 2 1 5 1 3005A 6020A ICPMSC 7440-02-0 680-297813 Water Q4 2013 AQ MDLV ICPMSC Selenium 1.855 ug/L 2 1 1 3005A 6020A ICPMSC 377740 680-297813 Water Q4 2013 AQ MDLV ICPMSC Silver 0.435 ug/L 2 1 0.5 1 0 3005A 6020A ICPMSC 7440-22-4 680-297813 Water Q4 2013 AQ MDLV ICPMSC Sitrorium 4.95 ug/L 4 0.25 1 0 0 1 7 7440-22-4 680-297813 <td>Ш</td> <td>Water</td> <td>Q4 2013 AQ MDLV ICPMSC</td> <td>Manganese</td> <td>1.955</td> <td>ng/L</td> <td>2</td> <td>1</td> <td>2</td> <td>86</td> <td>3005A</td> <td>6020A</td> <td>ICPMSC</td> <td>7439-96-5</td> <td>680-297813</td> <td>680-298498</td>	Ш	Water	Q4 2013 AQ MDLV ICPMSC	Manganese	1.955	ng/L	2	1	2	86	3005A	6020A	ICPMSC	7439-96-5	680-297813	680-298498
Water Q4 2013 AQ MDLV ICPMSC Molybdenum 2.205 ug/L 2 15 5 110 3005A 6020A ICPMSC 7439-98-7 680-297813 Water Q4 2013 AQ MDLV ICPMSC Nickel 4.86 ug/L 2 5 122 3005A 6020A ICPMSC 7440-02-0 680-297813 Water Q4 2013 AQ MDLV ICPMSC Selenium 12.96 ug/L 2 5 1 2.6 93 3005A 6020A ICPMSC 7440-22-9 680-297813 Water Q4 2013 AQ MDLV ICPMSC Selenium 4.535 ug/L 1 2.5 1 3005A 6020A ICPMSC 7440-22-4 680-297813 Water Q4 2013 AQ MDLV ICPMSC Selenium 4.535 ug/L 1 0.5 1 3005A 6020A ICPMSC 7440-23-6 680-297813 Water Q4 2013 AQ MDLV ICPMSC Stentium 6.98 ug/L 1 0.5 1 96 3005A 6020A ICPMSC <t< td=""><td>Ш</td><td>Water</td><td>Q4 2013 AQ MDLV ICPMSC</td><td>Mercury</td><td>0.625</td><td>ng/L</td><td>0.5</td><td>0.4</td><td>0.8</td><td>125</td><td>3005A</td><td>6020A</td><td>ICPMSC</td><td>7439-97-6</td><td>680-297813</td><td>680-298498</td></t<>	Ш	Water	Q4 2013 AQ MDLV ICPMSC	Mercury	0.625	ng/L	0.5	0.4	0.8	125	3005A	6020A	ICPMSC	7439-97-6	680-297813	680-298498
Water Q4 2013 AQ MDLV ICPMSC Nickel 4.86 ug/L 4.8 2 5 122 3005A 6020A ICPMSC 7440-02-0 680-297813 Water Q4 2013 AQ MDLV ICPMSC Potassium 219.45 ug/L 20 170 500 110 3005A 6020A ICPMSC 7774-9-2 680-297813 Water Q4 2013 AQ MDLV ICPMSC Selenium 1.855 ug/L 0.4 0.25 1 0.9 3005A 6020A ICPMSC 7440-22-4 680-297813 Water Q4 2013 AQ MDLV ICPMSC Selenium 457.985 ug/L 1 0.5 1 95 3005A 6020A ICPMSC 7440-23-6 680-297813 Water Q4 2013 AQ MDLV ICPMSC Stentium 0.945 ug/L 1 0.5 1 96 3005A 6020A ICPMSC 7440-23-6 680-297813 Water Q4 2013 AQ MDLV ICPMSC Trianium 0.98 ug/L 1 0.5 1 96 3005A	Е	Water	Q4 2013 AQ MDLV ICPMSC	Molybdenum	2.205	ng/L	2	1.5	2	110	3005A	6020A	ICPMSC	7439-98-7	680-297813	680-298498
Water Q4 2013 AQ MDLV ICPMSQ Potassium 219.45 ug/L 200 170 500 110 3005A 6020A ICPMSC 97/7440 680-297813 Water Q4 2013 AQ MDLV ICPMSG Silverium 1.855 ug/L 0.4 0.25 1 1.09 3005A 6020A ICPMSC 7740-22-4 680-297813 Water Q4 2013 AQ MDLV ICPMSG Silverium 0.545 ug/L 400 250 50 114 3005A 6020A ICPMSC 7440-23-5 680-297813 Water Q4 2013 AQ MDLV ICPMSG Strontium 0.945 ug/L 1 0.5 1 96 3005A 6020A ICPMSC 7440-23-5 680-297813 Water Q4 2013 AQ MDLV ICPMSG Trallium 0.946 ug/L 1 0.5 1 96 3005A 6020A ICPMSC 7440-23-5 680-297813 Water Q4 2013 AQ MDLV ICPMSG Trallium 0.94 ug/L 1 0.5 1 3005A 6020A<	Ш	Water	Q4 2013 AQ MDLV ICPMSC	Nickel	4.86	ng/L	4	2	2	122	3005A	6020A	ICPMSC	7440-02-0	680-297813	680-298498
Water Q4 2013 AQ MDLV ICPMSG Selenium 1.855 ug/L 2 1 2.5 93 3005A 6020A ICPMSC 7782-49-2 680-297813 1 Water Q4 2013 AQ MDLV ICPMSG Silver 0.435 ug/L 400 250 500 114 3005A 6020A ICPMSC 7440-22-4 680-297813 680-297813 Water Q4 2013 AQ MDLV ICPMSG Strontium 0.98 ug/L 1 0.5 1 98 3005A 6020A ICPMSC 7440-24-6 680-297813 1 Water Q4 2013 AQ MDLV ICPMSG Traflium 0.98 ug/L 1 0.5 1 98 3005A 6020A ICPMSC 7440-24-6 680-297813 1 Water Q4 2013 AQ MDLV ICPMSG Traflium 0.98 ug/L 1 0.5 1 98 3005A 6020A ICPMSC 7440-31-5 680-297813 1 Water Q4 2013 AQ MDLV ICPMSG Traflium 0.98 u/3 1	Ξ	Water	Q4 2013 AQ MDLV ICPMSC	Potassium	219.45	ng/L	200	170	200	110	3005A	6020A	ICPMSC	9/7/7440	680-297813	680-298498
Water Q4 2013 AQ MDLV ICPMSC Silver 0.435 ug/L 0.4 0.25 1 109 3005A 6020A ICPMSC 7440-22-4 680-297813 Water Q4 2013 AQ MDLV ICPMSC Strivertium 0.945 ug/L 1 0.5 1 95 3005A 6020A ICPMSC 7440-24-6 680-297813 Water Q4 2013 AQ MDLV ICPMSC Trafflium 0.945 ug/L 1 0.5 1 95 3005A 6020A ICPMSC 7440-24-6 680-297813 Water Q4 2013 AQ MDLV ICPMSC Trafflium 0.946 ug/L 2 1.3 5 124 3005A 6020A ICPMSC 7440-24-6 680-297813 Water Q4 2013 AQ MDLV ICPMSC Trimium 3.7 ug/L 2 1.3 5 1.2 3005A 6020A ICPMSC 7440-24-6 680-297813 Water Q4 2013 AQ MDLV ICPMSC Trimium 5.55 ug/L 5 1.3 6020A ICPMSC 7440-66-6 <td>Е</td> <td>Water</td> <td>Q4 2013 AQ MDLV ICPMSC</td> <td>Selenium</td> <td>1.855</td> <td>ng/L</td> <td>2</td> <td>,</td> <td>2.5</td> <td>93</td> <td>3005A</td> <td>6020A</td> <td>ICPMSC</td> <td>7782-49-2</td> <td>680-297813</td> <td>680-298498</td>	Е	Water	Q4 2013 AQ MDLV ICPMSC	Selenium	1.855	ng/L	2	,	2.5	93	3005A	6020A	ICPMSC	7782-49-2	680-297813	680-298498
Water Q4 2013 AQ MDLV ICPMSG Sodium 457.385 ug/L 400 250 500 114 3005A 6020A ICPMSC 7440-23-5 680-297813 Water Q4 2013 AQ MDLV ICPMSG Tinnitum 0.385 ug/L 1 0.5 1 98 3005A 6020A ICPMSC 7440-28-0 680-297813 Water Q4 2013 AQ MDLV ICPMSG Thallium 0.38 ug/L 2 1.3 5 124 3005A 6020A ICPMSC 7440-28-0 680-297813 Water Q4 2013 AQ MDLV ICPMSG Titanium 5.55 ug/L 2.5 1.3 5 127 3005A 6020A ICPMSC 7440-28-0 680-297813 Water Q4 2013 AQ MDLV ICPMSG Titanium 5.55 ug/L 5 1.3 5 127 3005A 6020A ICPMSC 7440-62-2 680-297813 Water Q4 2013 AQ MDLV ICPMSG Zinc ug/L 5 3.8 10 11 3005A 6020A <t< td=""><td>Ш</td><td>Water</td><td>Q4 2013 AQ MDLV ICPMSC</td><td>Silver</td><td>0.435</td><td>ng/L</td><td>0.4</td><td>0.25</td><td>-</td><td>109</td><td>3005A</td><td>6020A</td><td>ICPMSC</td><td>7440-22-4</td><td>680-297813</td><td>680-298498</td></t<>	Ш	Water	Q4 2013 AQ MDLV ICPMSC	Silver	0.435	ng/L	0.4	0.25	-	109	3005A	6020A	ICPMSC	7440-22-4	680-297813	680-298498
Water Q4 2013 AQ MDLV ICPMSC Strontium 0.945 ug/L 1 0.5 1 95 3005A 6020A ICPMSC 7440-24-6 680-297813 Water Q4 2013 AQ MDLV ICPMSC Thellium 0.98 ug/L 1 95 124 3005A 6020A ICPMSC 7440-28-0 680-297813 680-297813 Water Q4 2013 AQ MDLV ICPMSC Titanium 2.47 ug/L 2.5 1.3 5 127 3005A 6020A ICPMSC 7440-32-6 680-297813 Water Q4 2013 AQ MDLV ICPMSC Titanium 5.55 ug/L 5 1.3 5 127 3005A 6020A ICPMSC 7440-32-6 680-297813 Water Q4 2013 AQ MDLV ICPMSC Zinc ug/L 5 3.8 10 11 3005A 6020A ICPMSC 7440-62-2 680-297813 Water Q4 2013 AQ MDLV ICPMSC Zinc 10.095 ug/L 10 8:3 20 101 3005A 6020A	Е	Water	Q4 2013 AQ MDLV ICPMSC	Sodium	457.985	ng/L	400	250	200	114	3005A	6020A	ICPMSC	7440-23-5	680-297813	680-298498
Water Q4 2013 AQ MDLV ICPMSC Thellium 0.98 ug/L 1 0.5 1 98 3005A 6020A ICPMSC 7440-28-0 680-297813 Water Q4 2013 AQ MDLV ICPMSC Tin 2.47 ug/L 2.5 1.3 5 124 3005A 6020A ICPMSC 7440-31-5 680-297813 Water Q4 2013 AQ MDLV ICPMSC Tranium 3.17 ug/L 2.5 1.3 5 127 3005A 6020A ICPMSC 7440-32-6 680-297813 Water Q4 2013 AQ MDLV ICPMSC Zinc 10.095 ug/L 5 3.8 10 11 3005A 6020A ICPMSC 7440-62-2 680-297813 Water Q4 2013 AQ MDLV ICPMSC Zinc 10.095 ug/L 10 8.3 20 101 3005A 6020A ICPMSC 7440-66-2 680-297813	Е	Water	Q4 2013 AQ MDLV ICPMSC	Strontium	0.945	ng/L	1	0.5	1	96	3005A	6020A	ICPMSC	7440-24-6	680-297813	680-298498
Water Q4 2013 AQ MDLV ICPMISC Tin 2.47 ug/L 2 1.3 5 124 3005A 6020A ICPMISC 7440-31-5 680-297813 680-297813 Water Q4 2013 AQ MDLV ICPMISC Titanium 3.17 ug/L 5 1.3 5 127 3005A 6020A ICPMISC 7440-32-6 680-297813 Water Q4 2013 AQ MDLV ICPMISC Vanadium 5.55 ug/L 6 3.8 10 111 3005A 6020A ICPMISC 7440-62-2 680-297813 680-297813 Water Q4 2013 AQ MDLV ICPMISC Zinc 10.095 ug/L 10 8:3 20 101 3005A 6020A ICPMISC 7440-66-6 680-297813	Ш	Water	Q4 2013 AQ MDLV ICPMSC	Thallium	0.98	ng/L	-	9.0	-	86	3005A	6020A	ICPMSC	7440-28-0	680-297813	680-298498
Water Q4 2013 AQ MDLV ICPMISC Titanium 3.17 ug/L 2.5 1.3 5 127 3005A 6020A ICPMISC 7440-32-6 680-297813 Water Q4 2013 AQ MDLV ICPMISC Zinc 10.095 ug/L 10 8.3 10 101 3005A 6020A ICPMISC 7440-62-2 680-297813 Water Q4 2013 AQ MDLV ICPMISC Zinc 10.095 ug/L 10 8.3 20 101 3005A 6020A ICPMISC 7440-66-6 680-297813	Е	Water	Q4 2013 AQ MDLV ICPMSC	Tin	2.47	ng/L	2	1.3	5	124	3005A	6020A	ICPMSC	7440-31-5	680-297813	680-298498
Water Q4 2013 AQ MDLV ICPMSC Vanadium 5.55 ug/L 10 8.3 10 111 3005A 6020A ICPMSC 7440-62-2 680-297813 680-297813 Water Q4 2013 AQ MDLV ICPMSC Zinc 10.095 ug/L 10 8.3 20 101 3005A 6020A ICPMSC 7440-66-6 680-297813 680-297813	Е	Water	Q4 2013 AQ MDLV ICPMSC	Titanium	3.17	ng/L	2.5	1.3	2	127	3005A	6020A	ICPMSC	7440-32-6	680-297813	680-298498
Water Q4 2013 AQ MDLV ICPMSQ Zinc 10.095 ug/L 10 8.3 20 101 3005A 6020A ICPMSC 7440-66-6 680-297813	Ш	Water	Q4 2013 AQ MDLV ICPMSC	Vanadium	5.55	ng/L	5	3.8	10	111	3005A	6020A	ICPMSC	7440-62-2	680-297813	680-298498
	Ш	Water	Q4 2013 AQ MDLV ICPMSC	Zinc	10.095	ng/L	10	8.3	20	101	3005A	6020A	ICPMSC	7440-66-6	680-297813	680-298498

Case Narrative

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center 6020

TestAmerica Job ID: 600-86073-2

Job ID: 600-86073-2

Laboratory: TestAmerica Houston

Narrative

Job Narrative 600-86073-2

Comments

No additional comments.

Receipt

The samples were received on 1/24/2014 11:42 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.5° C.

Except:

The following sample(s) was listed on the Chain of Custody (COC); however, no sample(s) was received: 600-86073 (MW-32). Per chain of custody (attached) Sample 600-86073 (MW-32) was not logged in for dissolved metals analysis. A filtered sample was not received.

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Method Summary

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center 6020

TestAmerica Job ID: 600-86073-2

Method	Method Description	Protocol	Laboratory
6020A	Metals (ICP/MS)	SW846	TAL SAV

Protocol References:

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

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

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Sample Summary

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center 6020

TestAmerica Job ID: 600-86073-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
600-86073-3	MW-44	Water	01/22/14 13:25	01/24/14 11:42

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Client Sample Results

Client: Golder Associates Inc.

Client Sample ID: MW-44

Date Collected: 01/22/14 13:25

Date Received: 01/24/14 11:42

Project/Site: Exide Recycling Center 6020

TestAmerica Job ID: 600-86073-2

Lab Sample ID: 600-86073-3

Matrix: Water

Method: 6020A - Metals (ICP/MS) -	Dissolved								
Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.000495	J	0.000500	0.0000950	mg/L		02/19/14 10:07	02/20/14 05:58	1
Lead	0.00148	J	0.00150	0.000200	mg/L		02/19/14 10:07	02/20/14 05:58	1

Definitions/Glossary

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center 6020

TestAmerica Job ID: 600-86073-2

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the MQL but greater than or equal to the SDL and the concentration is an estimated value.
U	Analyte was not detected at or above the SDL.

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
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)

QC Sample Results

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center 6020

TestAmerica Job ID: 600-86073-2

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 680-316222/1-A

Matrix: Water

Analysis Batch: 316533

Client Sample ID: Method Blank **Prep Type: Total Recoverable**

Prep Batch: 316222

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.0000950	U	0.000500	0.0000950	mg/L		02/19/14 10:07	02/20/14 05:10	1
Lead	0.000200	U	0.00150	0.000200	mg/L		02/19/14 10:07	02/20/14 05:10	1

MB MB

Lab Sample ID: LCS 680-316222/2-A **Client Sample ID: Lab Control Sample Matrix: Water Prep Type: Total Recoverable**

Analysis Batch: 316533 **Prep Batch: 316222**

Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit %Rec Limits 0.05150 Cadmium 0.0500 103 75 - 125 mg/L 0.0500 Lead 0.05175 mg/L 104 75 - 125

Unadjusted Detection Limits

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center 6020

TestAmerica Job ID: 600-86073-2

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	MQL	MDL	Units	Method	
Cadmium	0.000500	0.0000950	mg/L	6020A	
Lead	0.00150	0.000200	mg/L	6020A	

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QC Association Summary

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center 6020

TestAmerica Job ID: 600-86073-2

Metals

Prep Batch: 316222

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-86073-3	MW-44	Dissolved	Water	3005A	
LCS 680-316222/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
MB 680-316222/1-A	Method Blank	Total Recoverable	Water	3005A	

Analysis Batch: 316533

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-86073-3	MW-44	Dissolved	Water	6020A	316222
LCS 680-316222/2-A	Lab Control Sample	Total Recoverable	Water	6020A	316222
MB 680-316222/1-A	Method Blank	Total Recoverable	Water	6020A	316222

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Lab Chronicle

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center 6020

TestAmerica Job ID: 600-86073-2

Lab Sample ID: 600-86073-3

Matrix: Water

Client Sample ID: MW-44
Date Collected: 01/22/14 13:25
Date Received: 01/24/14 11:42

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	250 mL	316222	02/19/14 10:07	BJB	TAL SAV
Dissolved	Analysis	6020A		1	50 mL	250 mL	316533	02/20/14 05:58	BWR	TAL SAV

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

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Client: Golder Associates Inc.

Project/Site: Exide Recycling Center 6020

TestAmerica Job ID: 600-86073-2

Laboratory: TestAmerica Houston

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Arkansas DEQ	State Program	6	88-0759	08-04-14
Louisiana	NELAP	6	30643	06-30-14
Oklahoma	State Program	6	1309	08-31-14
Texas	NELAP	6	T104704223	10-31-14
USDA	Federal		P330-08-00217	04-01-14
Utah	NELAP	8	TX00083	10-31-14

Laboratory: TestAmerica Savannah

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

Authority	Program	EPA Region	Certification ID	Expiration Date	
	AFCEE		SAVLAB		
A2LA	DoD ELAP		399.01	02-28-15	
A2LA	ISO/IEC 17025		399.01	02-28-15	
Alabama	State Program	4	41450	06-30-14	
Arkansas DEQ	State Program	6	88-0692	01-31-15	
California	NELAP	9	3217CA	07-31-14	
Colorado	State Program	8	N/A	12-31-14	
Connecticut	State Program	1	PH-0161	03-31-15	
Florida	NELAP	4	E87052	06-30-14	
GA Dept. of Agriculture	State Program	4	N/A	06-30-14	
Georgia	State Program	4	N/A	06-30-14	
Georgia	State Program	4	803	06-30-14	
Guam	State Program	9	09-005r	04-17-14	
Hawaii	State Program	9	N/A	06-30-14	
Illinois	NELAP	5	200022	11-30-14	
Indiana	State Program	5	N/A	06-30-14	
lowa	State Program	7	353	07-01-15	
Kentucky (DW)	State Program	4	90084	12-31-14	
Kentucky (UST)	State Program	4	18	06-30-14	
Louisiana	NELAP	6	LA100015	12-31-14	
Maine	State Program	1	GA00006	08-16-14	
Maryland	State Program	3	250	12-31-14	
Massachusetts	State Program	1	M-GA006	06-30-14	
Michigan	State Program	5	9925	06-30-14	
Mississippi	State Program	4	N/A	06-30-14	
Montana	State Program	8	CERT0081	01-01-15	
Nebraska	State Program	7	TestAmerica-Savannah	06-30-14	
New Jersey	NELAP	2	GA769	06-30-14	
New Mexico	State Program	6	N/A	06-30-14	
New York	NELAP	2	10842	03-31-14	
North Carolina DENR	State Program	4	269	12-31-14	
North Carolina DHHS	State Program	4	13701	07-31-14	
Oklahoma	State Program	6	9984	08-31-14	
Pennsylvania	NELAP	3	68-00474	06-30-14	
Puerto Rico	State Program	2	GA00006	01-01-14 *	
South Carolina	State Program	4	98001	06-30-14	
Tennessee	State Program	4	TN02961	06-30-14	
Texas	NELAP	6	T104704185-08-TX	11-30-14	
USDA	Federal		SAV 3-04	04-07-14	

^{*} Expired certification is currently pending renewal and is considered valid.

TestAmerica Houston

2/21/2014

Certification Summary

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center 6020

TestAmerica Job ID: 600-86073-2

Laboratory: TestAmerica Savannah (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Virginia	NELAP	3	460161	06-14-14
Washington	State Program	10	C1794	06-10-14
West Virginia DEP	State Program	3	94	06-30-14
West Virginia DHHR	State Program	3	9950C	12-31-13 *
Wisconsin	State Program	5	999819810	08-31-14
Wyoming	State Program	8	8TMS-L	06-30-14

^{*} Expired certification is currently pending renewal and is considered valid.

Chain of Custody Record

Login Sample Receipt Checklist

Client: Golder Associates Inc. Job Number: 600-86073-2

Login Number: 86073 List Source: TestAmerica Houston

List Number: 1

Creator: Sundquist, Sean V

Creator: Sundquist, Sean v		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>False</td> <td>Lab does not accept radioactive samples.</td>	False	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

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Login Sample Receipt Checklist

Client: Golder Associates Inc. Job Number: 600-86073-2

Login Number: 86073
List Source: TestAmerica Savannah
List Number: 1
List Creation: 02/18/14 12:11 PM

Creator: Conner, Keaton

Answer N/A True	Comment
True	
True	
N/A	
True	
N/A	
	True True True True True True True True

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THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Houston 6310 Rothway Street Houston, TX 77040 Tel: (713)690-4444

TestAmerica Job ID: 600-87211-1

Client Project/Site: Exide Recycling Center, Frisco TX Projec

For:

Golder Associates Inc. 500 Century Plaza Drive Suite 190 Houston, Texas 77073

Attn: Christina Higginbotham

Authorized for release by: 2/28/2014 2:38:08 PM

Cathy Upton, Project Management Assistant II

(713)690-4444

cathy.upton@testamericainc.com

Designee for

Dean Joiner, Project Manager II (713)690-4444

dean.joiner@testamericainc.com

..... Links

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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.

Job ID: 600-87211-1

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Appendix A Laboratory Data Package Cover Page - Page 1 of 4

This data package is for TestAmerica Houston job number 600-87211-1 and consists of:

$ \sqrt{} $	R1 -	Field	chain-o	f-custody	docum	entation
---------------	------	-------	---------	-----------	-------	----------

- ☑ R2 Sample identification cross-reference;
- ☑ R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - a. Items consistent with NELAC Chapter 5,
 - b. dilution factors,
 - c. preparation methods,
 - d. cleanup methods, and
 - e. if required for the project, tentatively identified compounds (TICs).
- ☐ R4 Surrogate recovery data including:
 - a. Calculated recovery (%R), and
 - b. The laboratory's surrogate QC limits.
- ☑ R5 Test reports/summary forms for blank samples;
- ☑ R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - a. LCS spiking amounts,
 - b. Calculated %R for each analyte, and
 - c. The laboratory's LCS QC limits.
- ☐ R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - Samples associated with the MS/MSD clearly identified,
 - b. MS/MSD spiking amounts,
 - c. Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d. Calculated %Rs and relative percent differences (RPDs), and
 - e. The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - a. The amount of analyte measured in the duplicate,
 - b. The calculated RPD, and
 - c. The laboratory's QC limits for analytical duplicates.
- ☑ R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
- ☑ R10 Other problems or anomalies.

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

2/25/2014 Cathy Upton Signature Name (printed)

Project Management Asst II

Official Title (printed)

Page 3 of 21 2/28/2014

Laboratory Review Checklist: Reportable Data - Page 2 of 4

Laboratory Name:	TestAmerica Houston	LRC Date:	2/25/2014
Project Name:	Exide Recycling Center, Frisco TX Projec	Laboratory Job Number:	600-87211-1
Reviewer Name:	Cathy Linton		

	-					
$\#^1$ A^2	zoon,p.ion	Yes	No	NA ³	NR ⁴	ER
R1 OI	Chain-of-custody (C-O-C)					
	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?		Χ			R01A
	Were all departures from standard conditions described in an exception report?	Χ				
R2 OI	Sample and quality control (QC) identification					
	Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	Χ				
	Are all laboratory ID numbers cross-referenced to the corresponding QC data?	Χ				
R 3 OI	Test reports					
	Were all samples prepared and analyzed within holding times?	Χ				
	Other than those results < MQL, were all other raw values bracketed by calibration standards?	Χ				
	Were calculations checked by a peer or supervisor?	Χ				
	Were all analyte identifications checked by a peer or supervisor?	Х				
	Were sample detection limits reported for all analytes not detected?	Χ				
	Were all results for soil and sediment samples reported on a dry weight basis?			Χ		
	Were % moisture (or solids) reported for all soil and sediment samples?			Χ		
	Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			Χ		
	If required for the project, are TICs reported?			Χ		
4 0	Surrogate recovery data					
	Were surrogates added prior to extraction?			Χ		
	Were surrogate percent recoveries in all samples within the laboratory QC limits?			Χ		
5 OI	Test reports/summary forms for blank samples					
	Were appropriate type(s) of blanks analyzed?	Х				
	Were blanks analyzed at the appropriate frequency?	Х				
	Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup					
	procedures?	Х				
	Were blank concentrations < MQL?	Х				
6 OI	Laboratory control samples (LCS):					
<u>.</u>	Were all COCs included in the LCS?	Х				
	Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
	Were LCSs analyzed at the required frequency?	X				
	Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
	Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used					
	to calculate the SDLs?	Х				
	Was the LCSD RPD within QC limits?	^		Х		
7 OI						
<i>i</i> 01	Matrix spike (MS) and matrix spike duplicate (MSD) data			V		
	Were the project/method specified analytes included in the MS and MSD? Were MS/MSD analyzed at the appropriate frequency?	-	-	X		
		-	-			
	Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	-	-	X		
<u>. I</u>	Were MS/MSD RPDs within laboratory QC limits?	-	-	Х		
8 OI	Analytical duplicate data	-	-	V		
	Were appropriate analytical duplicates analyzed for each matrix?	-	-	X		
	Were analytical duplicates analyzed at the appropriate frequency?	1		X		
<u>, lo</u>	Were RPDs or relative standard deviations within the laboratory QC limits?			Х		
9 OI	Method quantitation limits (MQLs):	L				
	Are the MQLs for each method analyte included in the laboratory data package?	X				
	Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
40 10:	Are unadjusted MQLs and DCSs included in the laboratory data package?	Х				
10 OI	Other problems/anomalies					
	Are all known problems/anomalies/special conditions noted in this LRC and ER?	Χ				
	Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the					
	sample results?	Χ				
	Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and					
	methods associated with this laboratory data package?	Х	l			1

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items
identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

- 2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
- 3. NA = Not applicable;
- 4. NR = Not reviewed;
- 5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

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Laboratory Review checklist: Supporting Data - Page 3 of 4

Laboratory Name:	TestAmerica Houston	LRC Date:	2/25/2014
Project Name:	Exide Recycling Center, Frisco TX Projec	Laboratory Job Number:	600-87211-1
Reviewer Name:	Cathy Upton		

# ¹	A ²	Description	Yes	Na	NA ³	NP ⁴	ER#⁵
# S1		Description Initial calibration (ICAL)	res	NO	NA	INIK	ER#
31	Oi	` '	V				
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X	-			
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X	.			
		Has the initial calibration curve been verified using an appropriate second source standard?	Х				
•	<u> </u>						
S2	OI	Initial and continuing calibration verification (ICV and CCV) and continuing calibration blank (CCB):					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X	-			
		Was the ICAL curve verified for each analyte?	X	.			
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	Х				
S3		Mass spectral tuning					
		Was the appropriate compound for the method used for tuning?		<u> </u>	Х		
		Were ion abundance data within the method-required QC limits?			Χ		
S 4		Internal standards (IS)					
		Were IS area counts and retention times within the method-required QC limits?			Χ		
S5	OI	Raw data (NELAC Section 5.5.10)					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	Х				
		Were data associated with manual integrations flagged on the raw data?	Х				
36	0	Dual column confirmation					
		Did dual column confirmation results meet the method-required QC?			Χ		
S 7	0	Tentatively identified compounds (TICs)					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			Χ		
S8	I	Interference Check Sample (ICS) results					
		Were percent recoveries within method QC limits?	Х				
S9	li .	Serial dilutions, post digestion spikes, and method of standard additions					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			Х		
310		Method detection limit (MDL) studies					
	٠.	Was a MDL study performed for each reported analyte?	Х				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
211	О	Proficiency test reports					
,,,		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
212		Standards documentation	^				
712	Oi	Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	Х				
242		, , , , , , , , , , , , , , , , , , , ,	^				
913	Oi	Compound/analyte identification procedures					
24.4		Are the procedures for compound/analyte identification documented?	Х				
14	OI	Demonstration of analyst competency (DOC)		-			
		Was DOC conducted consistent with NELAC Chapter 5?	X	1			
245	O:	Is documentation of the analyst's competency up-to-date and on file?	Х	1			
S15	UΙ	Verification/validation documentation for methods (NELAC Chapter 5)		 			
			.,				
	I	Are all the methods used to generate the data documented, verified, and validated, where applicable?	Х	<u> </u>			
516	Ol	Laboratory standard operating procedures (SOPs)					
		Are laboratory SOPs current and on file for each method performed?	X	<u> </u>			
	1.	Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required		Items			
		identified by the letter "S" should be retained and made available upon request for the appropriate retention period	l.				
	2.	O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);					
	3.	NA = Not applicable;					
	4.	NR = Not reviewed;					
	5.	ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "N-	o" is checl	ked).			

2/28/2014

Laboratory Review Checklist: Exception Reports - Page 4 of 4

Laboratory Name:	TestAmerica Houston	LRC Date:	2/25/2014
Project Name:	Exide Recycling Center, Frisco TX Projec	Laboratory Job Number:	600-87211-1
Reviewer Name:	Cathy Upton		

ER # ¹	Description
IROTA	The Chain-of-Custody (COC) was incomplete as received and/or improperly completed. The COC says dissolved while the bottle says Total. Per client's email, run as Total.
1.	Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items
	identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2.	O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
3.	NA = Not applicable;
4.	NR = Not reviewed;
5.	ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

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Matrix: Water Method: 200.7/6010 Preparation: 200.7P/3010 Date Analyzed: 12/31/2013 Date Prepared: 12/27/2013 Instrument: Spectro01 . 124030, 123788p TALs Batches: Units: mg/L

Analyte	MDL	DCS Spike	Measured Result	MQL
Aluminum	0.006	0.02	0.028176	0.5
Antimony	0.0063	0.01	0.010016	0.05
Arsenic	0.0033	0.01	0.008253	0.01
Barium	0.0022	0.005	0.004098	0.02
Beryllium	0.00134	0.002	0.004019	0.005
Boron	0.0077	0.02	0.019829	0.2
Cadmium	0.00073	0.001	0.001	0.005
Calcium	0.022	0.05	0.060829	1
Chromium	0.0016	0.002	0.003835	0.01
Cobalt	0.00063	0.001	0.000965	0.01
Copper	0.0014	0.002	0.002451	0.01
Iron	0.087	0.1	0.002258	0.4
Lithium	0.0024	0.005	0.006107	0.2
Lead	0.0029	0.005	0.005478	0.01
Selenium	0.0042	0.01	0.009953	0.04
Manganese	0.00084	0.002	0.001988	0.01
Molybdenum	0.0027	0.005	0.005867	0.01
Nickel	0.00179	0.005	0.005669	0.01
Silver	0.0012	0.0025	0.001901	0.01
Sodium	0.02	0.05	0.088115	1
Strontium	0.0005	0.001	0.000897	0.005
Thallium	0.0078	0.02	0.021503	0.03
Tin	0.0028	0.005	0.005708	0.01
Titanium	0.0011	0.002	0.001905	0.01
Vanadium	0.0017	0.002	0.003578	0.01
Zinc	0.0022	0.005	0.004189	0.01

Case Narrative

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-87211-1

Job ID: 600-87211-1

Laboratory: TestAmerica Houston

Narrative

Job Narrative 600-87211-1

Comments

No additional comments.

Receipt

The samples were received on 2/15/2014 11:21 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.2° C.

Except:

The Chain-of-Custody (COC) was incomplete as received and/or improperly completed. The COC says dissolved while the bottle says Total. Per client's email, run as Total.

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Method Summary

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-87211-1

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL HOU

Protocol References:

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

Laboratory References:

TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

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Sample Summary

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-87211-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
600-87211-1	MW-34	Water	02/14/14 16:40	02/15/14 11:21
600-87211-2	MW-41	Water	02/14/14 09:45	02/15/14 11:21
600-87211-3	MW-42	Water	02/14/14 10:35	02/15/14 11:21

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Client Sample Results

Client: Golder Associates Inc.

Client Sample ID: MW-34

Date Collected: 02/14/14 16:40

Date Received: 02/15/14 11:21

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-87211-1

Lab Sample ID: 600-87211-1

Matrix: Water

Method: 6010B - Metals (ICP)

Analyte	Result C	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.0346		0.00500	0.000350	mg/L		02/18/14 13:09	02/19/14 16:24	1
Lead	0.0357		0.0100	0.00290	mg/L		02/18/14 13:09	02/19/14 16:24	1

Client Sample ID: MW-41 Lab Sample ID: 600-87211-2

Date Collected: 02/14/14 09:45 Matrix: Water

Date Received: 02/15/14 11:21

Method: 6010B - Metals (ICP) - Dissolved										
Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac	
Arsenic, Dissolved	0.00328	U	0.0100	0.00328	mg/L		02/18/14 13:09	02/19/14 16:27	1	
Cadmium, Dissolved	0.000350	U	0.00500	0.000350	mg/L		02/18/14 13:09	02/19/14 16:27	1	
Lead, Dissolved	0.00290	U	0.0100	0.00290	mg/L		02/18/14 13:09	02/19/14 16:27	1	
Selenium, Dissolved	0.00417	U	0.0400	0.00417	mg/L		02/18/14 13:09	02/19/14 16:27	1	

Client Sample ID: MW-42 Lab Sample ID: 600-87211-3

Date Collected: 02/14/14 10:35 Matrix: Water

Date Received: 02/15/14 11:21

Method: 6010B - Metals (ICP) - Dis	solved								
Analyte		Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic, Dissolved	0.00328	U	0.0100	0.00328	mg/L		02/18/14 13:09	02/19/14 16:29	1
Cadmium, Dissolved	0.000350	U	0.00500	0.000350	mg/L		02/18/14 13:09	02/19/14 16:29	1
Lead, Dissolved	0.00290	U	0.0100	0.00290	mg/L		02/18/14 13:09	02/19/14 16:29	1
Selenium, Dissolved	0.00417	U	0.0400	0.00417	mg/L		02/18/14 13:09	02/19/14 16:29	1

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Definitions/Glossary

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

Toxicity Equivalent Factor (Dioxin) Toxicity Equivalent Quotient (Dioxin)

Reporting Limit or Requested Limit (Radiochemistry)

Relative Percent Difference, a measure of the relative difference between two points

TestAmerica Job ID: 600-87211-1

Qualifiers

Metals

Qualifier	Qualifier Description
U	Analyte was not detected at or above the SDL.

Glossary

RL

RPD

TEF

TEQ

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
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

TestAmerica Houston

QC Sample Results

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-87211-1

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 600-127600/1-A

Matrix: Water

Analysis Batch: 127679

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

Prep Batch: 127600

	IVID	IVID							
Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic, Dissolved	0.00328	U	0.0100	0.00328	mg/L		02/18/14 13:09	02/19/14 14:25	1
Cadmium	0.000350	U	0.00500	0.000350	mg/L		02/18/14 13:09	02/19/14 14:25	1
Cadmium, Dissolved	0.000350	U	0.00500	0.000350	mg/L		02/18/14 13:09	02/19/14 14:25	1
Lead	0.00290	U	0.0100	0.00290	mg/L		02/18/14 13:09	02/19/14 14:25	1
Lead, Dissolved	0.00290	U	0.0100	0.00290	mg/L		02/18/14 13:09	02/19/14 14:25	1
Selenium, Dissolved	0.00417	U	0.0400	0.00417	mg/L		02/18/14 13:09	02/19/14 14:25	1

MR MR

Lab Sample ID: LCS 600-127600/2-A

Matrix: Water

Analysis Batch: 127679

	Alialysis Dalcii. 12/0/3							Fieb Da	ICII. 12/600
		Spike	LCS	LCS				%Rec.	
	Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
	Arsenic, Dissolved	1.00	1.068		mg/L		107	80 - 120	
	Cadmium	0.500	0.5195		mg/L		104	80 - 120	
	Cadmium, Dissolved	0.500	0.5195		mg/L		104	80 - 120	
ı	Lead	1.00	1.027		mg/L		103	80 - 120	
ı	Lead, Dissolved	1.00	1.027		mg/L		103	80 - 120	
	Selenium, Dissolved	1.00	1.068		mg/L		107	80 - 120	

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 127600

Unadjusted Detection Limits

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-87211-1

Method: 6010B - Metals (ICP)

Analyte	MQL	MDL	Units	Method
Cadmium	0.00500	0.000350	mg/L	6010B
Lead	0.0100	0.00290	mg/L	6010B

Method: 6010B - Metals (ICP) - Dissolved

Analyte	MQL	MDL	Units	Method
Arsenic, Dissolved	0.0100	0.00328	mg/L	6010B
Cadmium, Dissolved	0.00500	0.000350	mg/L	6010B
Lead, Dissolved	0.0100	0.00290	mg/L	6010B
Selenium, Dissolved	0.0400	0.00417	mg/L	6010B

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QC Association Summary

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

Metals

Prep Batch: 127600

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-87211-1	MW-34	Total/NA	Water	3010A	
600-87211-2	MW-41	Dissolved	Water	3010A	
600-87211-3	MW-42	Dissolved	Water	3010A	
LCS 600-127600/2-A	Lab Control Sample	Total/NA	Water	3010A	
MB 600-127600/1-A	Method Blank	Total/NA	Water	3010A	

Analysis Batch: 127679

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-87211-1	MW-34	Total/NA	Water	6010B	127600
600-87211-2	MW-41	Dissolved	Water	6010B	127600
600-87211-3	MW-42	Dissolved	Water	6010B	127600
LCS 600-127600/2-A	Lab Control Sample	Total/NA	Water	6010B	127600
MB 600-127600/1-A	Method Blank	Total/NA	Water	6010B	127600

Lab Chronicle

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-87211-1

Client Sample ID: MW-34

Date Collected: 02/14/14 16:40 Date Received: 02/15/14 11:21

Lab Sample ID: 600-87211-1

Matrix: Water

Batch Dil Initial Final Batch Batch Prepared Method Prep Type Type Run Factor Amount **Amount** Number or Analyzed Analyst Lab Total/NA Prep 3010A 50 mL 50 mL 127600 02/18/14 13:09 NER TAL HOU 6010B 02/19/14 16:24 TAL HOU Total/NA Analysis 1 50 mL 50 mL 127679 DCL

Client Sample ID: MW-41 Lab Sample ID: 600-87211-2

Matrix: Water

Date Collected: 02/14/14 09:45 Date Received: 02/15/14 11:21

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			50 mL	50 mL	127600	02/18/14 13:09	NER	TAL HOU
Dissolved	Analysis	6010B		1	50 mL	50 mL	127679	02/19/14 16:27	DCL	TAL HOU

Client Sample ID: MW-42 Lab Sample ID: 600-87211-3

Date Collected: 02/14/14 10:35 **Matrix: Water**

Date Received: 02/15/14 11:21

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			50 mL	50 mL	127600	02/18/14 13:09	NER	TAL HOU
Dissolved	Analysis	6010B		1	50 mL	50 mL	127679	02/19/14 16:29	DCL	TAL HOU

Laboratory References:

TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

Certification Summary

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-87211-1

Laboratory: TestAmerica Houston

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Arkansas DEQ	State Program	6	88-0759	08-04-14
Louisiana	NELAP	6	30643	06-30-14
Oklahoma	State Program	6	1309	08-31-14
Texas	NELAP	6	T104704223	10-31-14
USDA	Federal		P330-08-00217	04-01-14
Utah	NELAP	8	TX00083	10-31-14

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Let Associal tes Inc. Proper Manager n Sample Disposal mnable □ Skin Irritant □ Poison B ﴿ Unknown □ Return To Client ↓	In the State The	190 114/14 114/14	Time Aquieous Time Aquieous Aqui	Sed Sed Inniber Innibe	Hesod Hesod Holl Hall Hall Hall Hall Hall Hall Hall	Ph. Cd. 6010 Pissolved Metals Ph. Cd. 9010 Ph. Cd. 9010 Ph. Cd. 9010 Ph. Cd. Metals	Phycu, As, Se -6010 Physiolical Methods Analysis (Attach list if more space is needed) X Y V STILLENED Sample Date O 2 / JH / JH X Y V N STILLENED Sample Date O 2 / JH / JH Analysis (Attach list if more space is needed)	Chain of Custody No. 2552 Page Filtery Filtery	
001/4/14 1035 X X XX XX Fitenot for	Control Cont								#
1 8	The Transfer of the State State	identification Fammable Skin Imlant Required Tourn Tourn	Poison B	·	lient \	1 Disposal By Lab	Archive For		0-87211 Chain of Custody
Identification Identification		3. Relinquished By Comments		Date	Time	3. Received By	A Company of the Comp		2115/14 Time (2

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

Upton, Cathy

From: Joiner, Dean

Sent: Monday, February 17, 2014 10:02 PM

To: Upton, Cathy

Subject: FW: Sample Cooler Saturdy Delivery Exide Battery Plant Frisco

Follow Up Flag: Follow up Flag Status: Red

Cathy, Can you check this? Thanks!

From: Schmitz, Randy [mailto:Randy_Schmitz@golder.com]

Sent: Monday, February 17, 2014 5:04 PM

To: Joiner, Dean

Cc: Faeth-Boyd, Anne; Trevino, Christopher

Subject: RE: Sample Cooler Saturdy Delivery Exide Battery Plant Frisco

Dean,

I am not able to get through to you on the phone. We need to ensure that the sample on COC 255251 for MW-34 is run as labeled on the bottle for Total Metals 6010 for Pb and Cd only rather than for dissolved.

Randy

Sent from my Verizon Wireless 4G LTE smartphone

----- Original message -----

From: "Joiner, Dean"

Date:02/16/2014 12:36 PM (GMT-06:00)

To: "Schmitz, Randy"

Subject: RE: Sample Cooler Saturdy Delivery Exide Battery Plant Frisco

Thanks!

From: Schmitz, Randy [mailto:Randy_Schmitz@golder.com]

Sent: Friday, February 14, 2014 10:01 PM

To: Joiner, Dean

Cc: Higginbotham, Christina; Faeth-Boyd, Anne

Subject: Sample Cooler Saturdy Delivery Exide Battery Plant Frisco

Hello Dean,

I wanted to let you know that we shipped two coolers with samples tonight to be delivered Saturday morning (FedEx Saturday delivery priority overnight); one to the Savannah lab, and one to the Houston lab. I have listed the FedEx tracking number and COC Number below:

Savannah: FedEx - 805043183223 COC # - 255250

Page 19 of 21 2/28/2014

Houston: FedEx - 805043182960 COC # - 255251

Please contact me if you have any questions and thank you.

Randy

Randy Schmitz | Staff Scientist | Golder Associates Inc. (Dallas-Fort Worth Office)

9289 Huntington Square, Ste. 100, North Richland Hills, TX, USA 76182

T: +1 (817) 281-0510 | F: +1 (817) 281-0559 | C: +1 (817) 807-1316

E: RSchmitz@golder.com | www.golder.com

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Please consider the environment before printing this email.

Login Sample Receipt Checklist

Client: Golder Associates Inc. Job Number: 600-87211-1

Login Number: 87211 List Source: TestAmerica Houston

List Number: 1

Creator: Lopez, Sandro R

duestion	Answer	Comment
adioactivity wasn't checked or is = background as measured by a urvey meter.</td <td>N/A</td> <td>Lab does not accept radioactive samples.</td>	N/A	Lab does not accept radioactive samples.
he cooler's custody seal, if present, is intact.	True	
ample custody seals, if present, are intact.	True	
he cooler or samples do not appear to have been compromised or ampered with.	True	
amples were received on ice.	True	
cooler Temperature is acceptable.	True	
cooler Temperature is recorded.	True	3.2
OC is present.	True	
OC is filled out in ink and legible.	True	
OC is filled out with all pertinent information.	True	
the Field Sampler's name present on COC?	True	
here are no discrepancies between the containers received and the COC.	True	
amples are received within Holding Time.	True	
ample containers have legible labels.	True	
containers are not broken or leaking.	True	
ample collection date/times are provided.	True	
ppropriate sample containers are used.	True	
ample bottles are completely filled.	True	
ample Preservation Verified.	True	
here is sufficient vol. for all requested analyses, incl. any requested IS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is 6mm (1/4").	True	
fultiphasic samples are not present.	True	
amples do not require splitting or compositing.	True	
tesidual Chlorine Checked.	N/A	Check done at department level as required

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THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Houston 6310 Rothway Street Houston, TX 77040 Tel: (713)690-4444

TestAmerica Job ID: 600-87304-1

Client Project/Site: Exide Recycling Center, Frisco TX Projec

For:

Golder Associates Inc. 500 Century Plaza Drive Suite 190 Houston, Texas 77073

Attn: Christina Higginbotham

Authorized for release by: 2/28/2014 2:50:52 PM

Cathy Upton, Project Management Assistant II (713)690-4444

cathy.upton@testamericainc.com

Designee for

Dean Joiner, Project Manager II (713)690-4444

dean.joiner@testamericainc.com

.....LINKS

Review your project results through

Total Access

Have a Question?



Visit us at:www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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.

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Appendix A Laboratory Data Package Cover Page - Page 1 of 4

This data package is for TestAmerica Houston job number 600-87304-1 and consists of:

$ \sqrt{} $	R1 -	Field	chain-of-custo	ody documentation
---------------	------	-------	----------------	-------------------

- ☑ R2 Sample identification cross-reference;
- ☑ R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - a. Items consistent with NELAC Chapter 5,
 - b. dilution factors,
 - c. preparation methods,
 - d. cleanup methods, and
 - e. if required for the project, tentatively identified compounds (TICs).
- ☐ R4 Surrogate recovery data including:
 - a. Calculated recovery (%R), and
 - b. The laboratory's surrogate QC limits.
- ☑ R5 Test reports/summary forms for blank samples;
- ☑ R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - a. LCS spiking amounts,
 - b. Calculated %R for each analyte, and
 - c. The laboratory's LCS QC limits.
- ☑ R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a. Samples associated with the MS/MSD clearly identified,
 - b. MS/MSD spiking amounts,
 - c. Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d. Calculated %Rs and relative percent differences (RPDs), and
 - e. The laboratory's MS/MSD QC limits
- ☐ R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - a. The amount of analyte measured in the duplicate,
 - b. The calculated RPD, and
 - c. The laboratory's QC limits for analytical duplicates.
- R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
- ☑ R10 Other problems or anomalies.

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Cathy Upton	CM	2/25/2014
Name (printed)	Signature	Date

Project Management Asst II

Official Title (printed)

Page 3 of 22 2/28/2014

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Laboratory Review Checklist: Reportable Data - Page 2 of 4

Laboratory Name:	TestAmerica Houston	LRC Date:	2/25/2014
Project Name:	Exide Recycling Center, Frisco TX Projec	Laboratory Job Number:	600-87304-1
Reviewer Name:	Cathy Linton		

	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
R1		Chain-of-custody (C-O-C)					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	Х				
		Were all departures from standard conditions described in an exception report?	Х				
2		Sample and quality control (QC) identification					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	Х				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	Х				
23		Test reports					
		Were all samples prepared and analyzed within holding times?	Х				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	Χ				
		Were calculations checked by a peer or supervisor?	Χ				
		Were all analyte identifications checked by a peer or supervisor?	Χ				
		Were sample detection limits reported for all analytes not detected?	Χ				
		Were all results for soil and sediment samples reported on a dry weight basis?			Χ		
		Were % moisture (or solids) reported for all soil and sediment samples?			Χ		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			Χ		
		If required for the project, are TICs reported?			Χ		
4	0	Surrogate recovery data					
		Were surrogates added prior to extraction?			Χ		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?			Χ		
5	OI	Test reports/summary forms for blank samples					
		Were appropriate type(s) of blanks analyzed?	Χ				
		Were blanks analyzed at the appropriate frequency?	Х				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup					
		procedures?	Χ				
		Were blank concentrations < MQL?	Х				
6	_	Laboratory control samples (LCS):					
		Were all COCs included in the LCS?	Х				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	Х				
		Were LCSs analyzed at the required frequency?	Х				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	Х				
		Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used					
		to calculate the SDLs?	Х				
		Was the LCSD RPD within QC limits?			Х		
7		Matrix spike (MS) and matrix spike duplicate (MSD) data					
<u> </u>		Were the project/method specified analytes included in the MS and MSD?	Х				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS/MSD analyzed at the appropriate frequency? Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	X				
		Were MS/MSD RPDs within laboratory QC limits?	X				
8		Analytical duplicate data	_^				
U		Were appropriate analytical duplicates analyzed for each matrix?			Х		
		Were appropriate analytical duplicates analyzed for each matrix? Were analytical duplicates analyzed at the appropriate frequency?					
		Were RPDs or relative standard deviations within the laboratory QC limits?			X		
9		Method quantitation limits (MQLs):			^		
J			V				
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
40 T	-	Are unadjusted MQLs and DCSs included in the laboratory data package?	Х				
10		Other problems/anomalies	L.,				
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	Х				
		Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the					
		sample results?	Х				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and	ı				
		methods associated with this laboratory data package?	X				

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items
identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

- 2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
- 3. NA = Not applicable;
- 4. NR = Not reviewed;
- 5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

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Laboratory Review checklist: Supporting Data - Page 3 of 4

Laboratory Name:	TestAmerica Houston	LRC Date:	2/25/2014
Project Name:	Exide Recycling Center, Frisco TX Projec	Laboratory Job Number:	600-87304-1
Reviewer Name:	Cathy Unton		

#1	A ²	Description	Yes	No	NA ³	NP ⁴	ER#
# S1		Description Initial calibration (ICAL)	res	INO	IVA	IALZ	ER#
<u> </u>	Oi	Were response factors and/or relative response factors for each analyte within QC limits?	Х				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X	-			
				-			
		Are ICAL data available for all instruments used?	X				
	1	Has the initial calibration curve been verified using an appropriate second source standard?	Х	-			
•		1000					
S2	OI	Initial and continuing calibration verification (ICV and CCV) and continuing calibration blank (CCB):	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \				
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	Х				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	Х				
33	0	Mass spectral tuning					
		Was the appropriate compound for the method used for tuning?			Χ		
		Were ion abundance data within the method-required QC limits?			Х		
S4	0	Internal standards (IS)					
		Were IS area counts and retention times within the method-required QC limits?			Χ		
S5	OI	Raw data (NELAC Section 5.5.10)					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	Х				
		Were data associated with manual integrations flagged on the raw data?	Х				
S6	0	Dual column confirmation					
		Did dual column confirmation results meet the method-required QC?			Х		
S7	0	Tentatively identified compounds (TICs)					
	1	If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			Х		
S8	l	Interference Check Sample (ICS) results					
	1	Were percent recoveries within method QC limits?	Х				
S9	Ti	Serial dilutions, post digestion spikes, and method of standard additions	 ^				
	1	Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
S10	ΟΙ	Method detection limit (MDL) studies					
510	Oi	Was a MDL study performed for each reported analyte?	Х				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
211		Proficiency test reports	_ ^				
311	Oi		X				
242	loi	Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	^				
312	OI	Standards documentation	- V	-			
240	Ioi	Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	Х				
513	OI	Compound/analyte identification procedures	- V				
	101	Are the procedures for compound/analyte identification documented?	Х				
514	OI	Demonstration of analyst competency (DOC)					
		Was DOC conducted consistent with NELAC Chapter 5?	X				
		Is documentation of the analyst's competency up-to-date and on file?	Х				
S15	OI	Verification/validation documentation for methods (NELAC Chapter 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	Х				
S16	OI	Laboratory standard operating procedures (SOPs)					
		Are laboratory SOPs current and on file for each method performed?	Х				
	1.	Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required re	port(s).	Items	;		
		identified by the letter "S" should be retained and made available upon request for the appropriate retention period.					
	2.	O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);					
	3.	NA = Not applicable;					
	4.	NR = Not reviewed;					
	5.	ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No"	is checl	ked)			

Page 5 of 22 2/28/2014

Laboratory Review Checklist: Exception Reports - Page 4 of 4

Laboratory Name:	TestAmerica Houston	LRC Date:	2/25/2014
Project Name:	Exide Recycling Center, Frisco TX Projec	Laboratory Job Number:	600-87304-1
Reviewer Name:	Cathy Upton		

ER # ¹	Description
1.	Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items
	identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2.	O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
3.	NA = Not applicable;
4.	NR = Not reviewed;
5.	ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

O

Analysis	Batch	680-298498	680-298498	680-298498	680-298498	680-298498	680-298498	680-298498	680-298498	680-298498	680-298498	680-298498	680-298498	680-298498	680-298498	680-298498	680-298498	680-298498	680-298498	680-298498	680-298498	680-298498	680-298498	680-298498	680-298498	680-298498	680-298498	680-298498	680-298498
	Prep Batch	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813
	CAS	7429-90-5	7440-36-0	7440-38-2	7440-39-3	7440-41-7	7440-42-8	7440-43-9	7440-70-2	7440-47-3	7440-48-4	7440-50-8	7439-89-6	7439-92-1	7439-95-4	7439-96-5	7439-97-6	7439-98-7	7440-02-0	9/7/7440	7782-49-2	7440-22-4	7440-23-5	7440-24-6	7440-28-0	7440-31-5	7440-32-6	7440-62-2	7440-66-6
Instrument	ID	ICPMSC																											
Analysis	Method	6020A																											
	Prep Method	3005A																											
Percent	Recovery	113	115	119	86	104	102	86	118	110	105	101	108	118	86	86	125	110	122	110	93	109	114	96	86	124	127	111	101
	RL	20	2	2.5	2	0.5	100	0.5	250	2	0.5	2	100	1.5	250	2	8.0	2	2	200	2.5	1	200	1	-	2	2	10	20
	MDL	23	2.3	1.3	1.3	0.25	40	0.095	130	2.5	0.15	1.1	33	0.2	43	1	0.4	1.5	2	170	1	0.25	250	9.0	9.0	1.3	1.3	3.8	8.3
Spike	Amount	20	2.5	2	2	9.0	20	0.2	250	2	0.2	2	20	0.3	80	2	0.5	2	4	200	2	0.4	400	1	1	2	2.5	2	10
	Unit	ng/L																											
	Result	56.4	2.875	2.375	1.965	0.52	51.24	0.195	294.73	5.49	0.21	2.02	54.13	0.355	78.42	1.955	0.625	2.205	4.86	219.45	1.855	0.435	457.985	0.945	0.98	2.47	3.17	5.55	10.095
	Analyte	Aluminum	Antimony	Arsenic	Barinm	Beryllium	Boron	Cadmium	Calcinm	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Molybdenum	Nickel	Potassium	Selenium	Silver	Sodium	Strontium	Thallium	Tin	Titanium	Vanadium	Zinc
	Client Sample ID	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC
	Matrix	Water Q.																											
	Dept	ME																											

Case Narrative

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-87304-1

Job ID: 600-87304-1

Laboratory: TestAmerica Houston

Narrative

Job Narrative 600-87304-1

Comments

No additional comments.

Receipt

The samples were received on 2/18/2014 10:09 AM; the samples arrived in good condition, properly preserved and, where required, on ice.

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Method Summary

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-87304-1

Method	Method Description	Protocol	Laboratory
6020A	Metals (ICP/MS)	SW846	TAL SAV

Protocol References:

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

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

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Sample Summary

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-87304-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
600-87304-1	MW-14	Water	02/17/14 11:10	02/18/14 10:09
600-87304-2	MW-27	Water	02/17/14 12:55	02/18/14 10:09
600-87304-3	MW-26	Water	02/17/14 14:15	02/18/14 10:09
600-87304-4	MW-29	Water	02/17/14 13:35	02/18/14 10:09
600-87304-5	MW-17	Water	02/17/14 15:05	02/18/14 10:09

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Client Sample ID: MW-14

Date Collected: 02/17/14 11:10

Date Received: 02/18/14 10:09

Lab Sample ID: 600-87304-1

Matrix: Water

Matrix: Water

 Method: 6020A - Metals (ICP/MS) -	· Total Recove	erable							
Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.0000950	U	0.000500	0.0000950	mg/L		02/19/14 14:36	02/24/14 22:58	1
Lead	0.000302	J	0.00150	0.000200	mg/L		02/19/14 14:36	02/24/14 22:58	1

 Method: 6020A - Metals (ICP/MS) -	Dissolved								
Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.000120	J	0.000500	0.0000950	mg/L		02/19/14 14:36	02/24/14 23:31	1
Lead	0.00433		0.00150	0.000200	mg/L		02/19/14 14:36	02/24/14 23:31	1

Client Sample ID: MW-27 Lab Sample ID: 600-87304-2

Date Collected: 02/17/14 12:55 **Matrix: Water**

Date Received: 02/18/14 10:09

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.000354	J	0.000500	0.0000950	mg/L		02/19/14 14:36	02/24/14 23:38	1
Lead	0.000718	J	0.00150	0.000200	mg/L		02/19/14 14:36	02/24/14 23:38	1
	OD/MOV Discolated								
Method: 6020A - Metals (IC Analyte	•	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
· · · · · · · · · · · · · · · · · · ·	•		MQL (Adj) 0.000500	SDL 0.0000950		D	Prepared 02/19/14 14:36	Analyzed 02/24/14 23:59	Dil Fac

Client Sample ID: MW-26 Lab Sample ID: 600-87304-3 Date Collected: 02/17/14 14:15

Date Received: 02/18/14 10:09

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.000311	J	0.000500	0.0000950	mg/L		02/19/14 14:36	02/25/14 00:06	1
Lead	0.000287	J	0.00150	0.000200	mg/L		02/19/14 14:36	02/25/14 00:06	1
	N. Blackbard								
Method: 6020A - Metals (ICP/MS Analyte	•	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
· · · · · · · · · · · · · · · · · · ·	•		MQL (Adj)	SDL 0.0000950	Unit mg/L	<u>D</u>	Prepared 02/19/14 14:36	Analyzed 02/25/14 00:12	Dil Fac

Client Sample ID: MW-29 Lab Sample ID: 600-87304-4

Date Collected: 02/17/14 13:35	Matrix: Water
Date Received: 02/18/14 10:09	

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.000765		0.000500	0.0000950	mg/L		02/19/14 14:36	02/25/14 00:53	
Lead	0.000433	J	0.00150	0.000200	mg/L		02/19/14 14:36	02/25/14 00:53	,
- Method: 6020A - Metal	s (ICP/MS) - Dissolved								
Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Analyte Cadmium	Result 0.000865	Qualifier	MQL (Adj) 0.000500			D	Prepared 02/19/14 14:36	Analyzed 02/25/14 01:00	Dil Fac

TestAmerica Houston

Client Sample Results

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-87304-1

Client Sample ID: MW-17

Date Collected: 02/17/14 15:05 Date Received: 02/18/14 10:09 Lab Sample ID: 600-87304-5

Matrix: Water

Method: 6020A - Metals (ICP/MS) -	Total Recove	erable							
Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	0	Prepared	Analyzed	Dil Fac
Cadmium	0.000182	J	0.000500	0.0000950	mg/L		02/19/14 14:36	02/25/14 00:19	1
Lead	0.000200	U	0.00150	0.000200	mg/L		02/19/14 14:36	02/25/14 00:19	1

Method: 6020A - Metals (ICP/MS) -	Dissolved								
Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.000130	J	0.000500	0.0000950	mg/L		02/19/14 14:36	02/25/14 00:26	1
Lead	0.000200	U	0.00150	0.000200	ma/L		02/19/14 14:36	02/25/14 00:26	1

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Definitions/Glossary

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-87304-1

Qualifiers

Metals

Qualifier	Qualifier Description
U	Analyte was not detected at or above the SDL.
J	Result is less than the MQL but greater than or equal to the SDL and the concentration is an estimated value.

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
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)

TestAmerica Houston

QC Sample Results

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-87304-1

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 680-316319/1-A

Matrix: Water

Analysis Batch: 317159

Client Sample ID: Method Blank **Prep Type: Total Recoverable**

Prep Batch: 316319

MB MB

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.0000950	U	0.000500	0.0000950	mg/L		02/19/14 14:36	02/24/14 18:18	1
Lead	0.000200	U	0.00150	0.000200	mg/L		02/19/14 14:36	02/24/14 18:18	1

Lab Sample ID: LCS 680-316319/2-A Client Sample ID: Lab Control Sample **Matrix: Water Prep Type: Total Recoverable** Analysis Batch: 317159 **Prep Batch: 316319**

LCS LCS Spike %Rec. Analyte Added Result Qualifier Unit %Rec Limits Cadmium 0.0500 0.05090 102 75 - 125 mg/L Lead 0.0500 0.05215 mg/L 104 75 - 125

Lab Sample ID: 600-87304-1 MS Client Sample ID: MW-14 **Matrix: Water Prep Type: Total Recoverable** Analysis Batch: 317159 **Prep Batch: 316319**

Sample Sample Spike MS MS %Rec. Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits Cadmium 0.0000950 0.0500 0.05035 mg/L 101 75 - 125 0.0500 0.000302 J 0.04958 75 - 125 Lead mg/L 99

Lab Sample ID: 600-87304-1 MSD Client Sample ID: MW-14 **Prep Type: Total Recoverable**

Matrix: Water

Analysis Batch: 317159

Prep Batch: 316319 Sample Sample Spike MSD MSD %Rec. Result Qualifier Added RPD Limit Analyte Result Qualifier Unit %Rec Limits 0.0500 2 Cadmium 0.0000950 U 0.05150 mg/L 103 75 - 125 20 0.000302 J 0.0500 0.05005 Lead mg/L 99 75 - 125 20

Unadjusted Detection Limits

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-87304-1

Analyte	MQL	MDL	Units	Method	
Cadmium	0.000500	0.0000950	mg/L	6020A	
Lead	0.00150	0.000200	mg/L	6020A	

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	MQL	MDL	Units	Method
Cadmium	0.000500	0.0000950	mg/L	6020A
Lead	0.00150	0.000200	mg/L	6020A

QC Association Summary

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-87304-1

Metals

Prep Batch: 316319

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-87304-1	MW-14	Dissolved	Water	3005A	
600-87304-1	MW-14	Total Recoverable	Water	3005A	
600-87304-1 MS	MW-14	Total Recoverable	Water	3005A	
600-87304-1 MSD	MW-14	Total Recoverable	Water	3005A	
600-87304-2	MW-27	Dissolved	Water	3005A	
600-87304-2	MW-27	Total Recoverable	Water	3005A	
600-87304-3	MW-26	Dissolved	Water	3005A	
600-87304-3	MW-26	Total Recoverable	Water	3005A	
600-87304-4	MW-29	Dissolved	Water	3005A	
600-87304-4	MW-29	Total Recoverable	Water	3005A	
600-87304-5	MW-17	Dissolved	Water	3005A	
600-87304-5	MW-17	Total Recoverable	Water	3005A	
LCS 680-316319/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
MB 680-316319/1-A	Method Blank	Total Recoverable	Water	3005A	

Analysis Batch: 317159

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-87304-1	MW-14	Dissolved	Water	6020A	316319
600-87304-1	MW-14	Total Recoverable	Water	6020A	316319
600-87304-1 MS	MW-14	Total Recoverable	Water	6020A	316319
600-87304-1 MSD	MW-14	Total Recoverable	Water	6020A	316319
600-87304-2	MW-27	Dissolved	Water	6020A	316319
600-87304-2	MW-27	Total Recoverable	Water	6020A	316319
600-87304-3	MW-26	Dissolved	Water	6020A	316319
600-87304-3	MW-26	Total Recoverable	Water	6020A	316319
600-87304-4	MW-29	Dissolved	Water	6020A	316319
600-87304-4	MW-29	Total Recoverable	Water	6020A	316319
600-87304-5	MW-17	Dissolved	Water	6020A	316319
600-87304-5	MW-17	Total Recoverable	Water	6020A	316319
LCS 680-316319/2-A	Lab Control Sample	Total Recoverable	Water	6020A	316319
MB 680-316319/1-A	Method Blank	Total Recoverable	Water	6020A	316319

TestAmerica Houston

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Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

Lab Sample ID: 600-87304-1

Matrix: Water

Client Sample ID: MW-14
Date Collected: 02/17/14 11:10
Date Received: 02/18/14 10:09

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	250 mL	316319	02/19/14 14:36	BJB	TAL SAV
Total Recoverable	Analysis	6020A		1	50 mL	250 mL	317159	02/24/14 22:58	CME	TAL SAV
Dissolved	Prep	3005A			50 mL	250 mL	316319	02/19/14 14:36	BJB	TAL SAV
Dissolved	Analysis	6020A		1	50 mL	250 mL	317159	02/24/14 23:31	CME	TAL SAV

Client Sample ID: MW-27 Lab Sample ID: 600-87304-2

Date Collected: 02/17/14 12:55

Date Received: 02/18/14 10:09

Matrix: Water

Batch Batch Dil Initial Final Batch Prepared Prep Type Туре Method Run Factor Amount Amount Number or Analyzed Analyst Lab 3005A 316319 Total Recoverable Prep 50 mL 250 mL 02/19/14 14:36 BJB TAL SAV Total Recoverable Analysis 6020A 1 50 mL 250 mL 317159 02/24/14 23:38 CME TAL SAV 50 mL 250 mL 316319 02/19/14 14:36 TAL SAV Dissolved Prep 3005A BJB 317159 02/24/14 23:59 CME TAL SAV Dissolved Analysis 6020A 1 50 mL 250 mL

Client Sample ID: MW-26 Lab Sample ID: 600-87304-3

Date Collected: 02/17/14 14:15 Matrix: Water

Date Received: 02/18/14 10:09

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	250 mL	316319	02/19/14 14:36	BJB	TAL SAV
Total Recoverable	Analysis	6020A		1	50 mL	250 mL	317159	02/25/14 00:06	CME	TAL SAV
Dissolved	Prep	3005A			50 mL	250 mL	316319	02/19/14 14:36	BJB	TAL SAV
Dissolved	Analysis	6020A		1	50 mL	250 mL	317159	02/25/14 00:12	CME	TAL SAV

Client Sample ID: MW-29 Lab Sample ID: 600-87304-4

Date Collected: 02/17/14 13:35

Date Received: 02/18/14 10:09

Matrix: Water

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	250 mL	316319	02/19/14 14:36	BJB	TAL SAV
Total Recoverable	Analysis	6020A		1	50 mL	250 mL	317159	02/25/14 00:53	CME	TAL SAV
Dissolved	Prep	3005A			50 mL	250 mL	316319	02/19/14 14:36	BJB	TAL SAV
Dissolved	Analysis	6020A		1	50 mL	250 mL	317159	02/25/14 01:00	CME	TAL SAV

Client Sample ID: MW-17 Lab Sample ID: 600-87304-5

Date Collected: 02/17/14 15:05
Date Received: 02/18/14 10:09
Matrix: Water

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	250 mL	316319	02/19/14 14:36	BJB	TAL SAV
Total Recoverable	Analysis	6020A		1	50 mL	250 mL	317159	02/25/14 00:19	CME	TAL SAV
Dissolved	Prep	3005A			50 mL	250 mL	316319	02/19/14 14:36	BJB	TAL SAV

TestAmerica Houston

Lab Chronicle

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-87304-1

Lab Sample ID: 600-87304-5

Matrix: Water

Date Collected: 02/17/14 15:05 Date Received: 02/18/14 10:09

Client Sample ID: MW-17

Dil Batch Batch Initial Final Batch Prepared Prep Type Type Method Run Factor Amount Amount Number or Analyzed Analyst Lab Dissolved Analysis 6020A 50 mL 250 mL 317159 02/25/14 00:26 CME TAL SAV

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

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Certification Summary

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-87304-1

Laboratory: TestAmerica Houston

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Texas	NELAP	6	T104704223	10-31-14

Laboratory: TestAmerica Savannah

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

Authority	Program	EPA Region	Certification ID	Expiration Date
	AFCEE		SAVLAB	_
A2LA	DoD ELAP		399.01	02-28-15
A2LA	ISO/IEC 17025		399.01	02-28-15
Alabama	State Program	4	41450	06-30-14
Arkansas DEQ	State Program	6	88-0692	01-31-15
California	NELAP	9	3217CA	07-31-14
Colorado	State Program	8	N/A	12-31-14
Connecticut	State Program	1	PH-0161	03-31-15
Florida	NELAP	4	E87052	06-30-14
GA Dept. of Agriculture	State Program	4	N/A	06-30-14
Georgia	State Program	4	N/A	06-30-14
Georgia	State Program	4	803	06-30-14
Guam	State Program	9	09-005r	04-17-14
Hawaii	State Program	9	N/A	06-30-14
Illinois	NELAP	5	200022	11-30-14
Indiana	State Program	5	N/A	06-30-14
lowa	State Program	7	353	07-01-15
Kentucky (DW)	State Program	4	90084	12-31-14
Kentucky (UST)	State Program	4	18	06-30-14
Louisiana	NELAP	6	LA100015	12-31-14
Maine	State Program	1	GA00006	08-16-14
Maryland	State Program	3	250	12-31-14
Massachusetts	State Program	1	M-GA006	06-30-14
Michigan	State Program	5	9925	06-30-14
Mississippi	State Program	4	N/A	06-30-14
Montana	State Program	8	CERT0081	01-01-15
Nebraska	State Program	7	TestAmerica-Savannah	06-30-14
New Jersey	NELAP	2	GA769	06-30-14
New Mexico	State Program	6	N/A	06-30-14
New York	NELAP	2	10842	03-31-14
North Carolina DENR	State Program	4	269	12-31-14
North Carolina DHHS	State Program	4	13701	07-31-14
Oklahoma	State Program	6	9984	08-31-14
Pennsylvania	NELAP	3	68-00474	06-30-14
Puerto Rico	State Program	2	GA00006	12-31-14
South Carolina	State Program	4	98001	06-30-14
Tennessee	State Program	4	TN02961	06-30-14
Texas	NELAP	6	T104704185-08-TX	11-30-14
JSDA	Federal	-	SAV 3-04	04-07-14
Virginia	NELAP	3	460161	06-14-14
Washington	State Program	10	C1794	06-10-14
West Virginia DEP	State Program	3	94	06-30-14
West Virginia DHHR	State Program	3	9950C	12-31-14
Wisconsin	State Program	5	999819810	08-31-14

TestAmerica Houston

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Certification Summary

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-87304-1

Laboratory: TestAmerica Savannah (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Wyoming	State Program	8	8TMS-L	06-30-14

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87304

Chain of Custody Record

TestAmerica Savarnah

5102 LaRoche Avenue

TesiAmerica Laboratories, Inc.	COC No:	1 of (COCs	Sampler:	For Lab Use Only:	Walk-in Clent:	Lab Sampling:		Job / SDG No.:		Sample Specific Notes:									600-87307	Constant of Custody		6800434		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	Archive for Worths	Contact Christina Higginbotham with questions for	,°,0	Therm ID No.:	Date/Time:	Date/Time:
	Pate: 3-(で-14	Carrier: Follow	2005) 1 ⁸²⁹ 1 ⁹² 1	rift Ma	79 1 9	7 19	1/1/2 1/2/2 1/2/2	.,	25-21/17 25-21/17 20-20/1	XXX	× × × ×	X X X X	ベベン	X X X		7	\$2000 B	7					e assessed if samples				os'd: Carr'd:	Company:	Company:
☐ RC3A ☑ Other:	Site Contact: RMS/CT	Lab Contact: Dean Joiner			(a)	(p;	p' C p' C p' C p' C p' C p' C	(9) (19) (19) (19) (19) (19) (19) (19) ((dq) (dq) (dq) (dq)	M mroined 88 Monton M more for the force	×	× ×	X X	X X X X X X X X X X	XX							No.		Sample Disposal (A fee may b	 Refurn to Client	orting Required, Equis EDD Forn	C00 7	(Cooler Temp. (*C): Obs'd	Received by:	Received by:
ram: 🗆 bw 🗖 NPD55	Christina Higginhotham		Analysis Turnaround Tune	WORKING DAYS	TAT if different from Below: 5-day	2 weeks			ative to make	Sample Type (C-Comp, G-Grab) Matrix Cont	G (face) 2	7	C Sarrey	C 650 0	M-L	***					 			Codes for the sample in the	Unknown	r notice. Texas TRRP Rep Recrirements.			Date/Time:	Date/Time:
Regulatory Program:	Project Manager: Ch	Tel/Fax: (281) 821-6868	Analysis Tu	CALENDAR DAYS	TAT if offferent					Sample Sample Date Time	2-17-W	217-12 [255		2-17-14 1335	2-17-14 1505								The sold set of the sold set o	Please List any EPA Waste Coo	Potson B	all samples until further		Custory Seal No.:	Company:	Company:
Savannah, GA 31404 phone 912.354.7858 fax	Client Confact	Golder Associates Inc.	500 Century Plaza Drive, Suite 190	Houston, Texas, USA 77073	(281) 821-5868 Phone	(281) 821-6870 FAX	Project Name: Exide Frisco	Site: Exide Frisco	P O # 1302086	Sample Identification	h - MW	MW-27	96- MW	MW-29	M10-17									Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please	Non-Hazard Tammable Skin Infant	Special Instructions/GC Requirements & Comments: Keep all samples until further notice. Texas TRRP Reporting Required, Equis EDD Format Required.		Contact Handy Schmitz of Chris Trevino for field sample questions - (8) / (281-0519) Out-ofy Seals Intert		Relinquished by:

Form No. CA-C-WI-002, Rev. 4.3, dated 12/05/2013

Relinquished by:

Client: Golder Associates Inc.

Job Number: 600-87304-1

Login Number: 87304 List Source: TestAmerica Houston

List Number: 1 Creator: Allen, Jodi L

Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td>Lab does not accept radioactive samples.</td>	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	0.6
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level as required.

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THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Houston 6310 Rothway Street Houston, TX 77040 Tel: (713)690-4444

TestAmerica Job ID: 600-87306-1

Client Project/Site: Exide Recycling Center, Frisco TX Projec

For:

Golder Associates Inc. 500 Century Plaza Drive Suite 190 Houston, Texas 77073

Attn: Christina Higginbotham

Authorized for release by:

2/28/2014 2:54:37 PM

Cathy Upton, Project Management Assistant II

(713)690-4444

cathy.upton@testamericainc.com

Designee for

Dean Joiner, Project Manager II (713)690-4444

dean.joiner@testamericainc.com

····· Links ·····

Review your project results through

Total Access

Have a Question?



Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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.

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Appendix A Laboratory Data Package Cover Page - Page 1 of 4

This data package is for TestAmerica Houston job number 600-87306-1 and consists of:

☑ R1 - Field chain-of-custody of the control o	documentation
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- ☑ R2 Sample identification cross-reference;
- ☑ R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - a. Items consistent with NELAC Chapter 5,
 - b. dilution factors,
 - c. preparation methods,
 - d. cleanup methods, and
 - e. if required for the project, tentatively identified compounds (TICs).
- ☐ R4 Surrogate recovery data including:
 - a. Calculated recovery (%R), and
 - b. The laboratory's surrogate QC limits.
- ☑ R5 Test reports/summary forms for blank samples;
- ☑ R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - a. LCS spiking amounts,
 - b. Calculated %R for each analyte, and
 - c. The laboratory's LCS QC limits.
- ☐ R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - Samples associated with the MS/MSD clearly identified,
 - b. MS/MSD spiking amounts,
 - c. Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d. Calculated %Rs and relative percent differences (RPDs), and
 - e. The laboratory's MS/MSD QC limits
- ☐ R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - a. The amount of analyte measured in the duplicate,
 - b. The calculated RPD, and
 - c. The laboratory's QC limits for analytical duplicates.
- R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
- ☑ R10 Other problems or anomalies.

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Cathy Upton2/21/2014Name (printed)SignatureDate

Project Management Asst II

Official Title (printed)

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Laboratory Review Checklist: Reportable Data - Page 2 of 4

Laboratory Name:	TestAmerica Houston	LRC Date:	2/21/2014
Project Name:	Exide Recycling Center, Frisco TX Projec	Laboratory Job Number:	600-87306-1
Reviewer Name:	Cathy Linton		

# ¹ A ²	Description	Yes	No	NA^3	NR ⁴	ER#
R1 OI	Chain-of-custody (C-O-C)					
	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	Х				
	Were all departures from standard conditions described in an exception report?	Х				
2 OI	Sample and quality control (QC) identification					
	Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	Х				
	Are all laboratory ID numbers cross-referenced to the corresponding QC data?	Х				
OI	Test reports					
	Were all samples prepared and analyzed within holding times?	Х				
	Other than those results < MQL, were all other raw values bracketed by calibration standards?	Х				
	Were calculations checked by a peer or supervisor?	Х				
	Were all analyte identifications checked by a peer or supervisor?	Х				
	Were sample detection limits reported for all analytes not detected?	Х				
	Were all results for soil and sediment samples reported on a dry weight basis?			Χ		
	Were % moisture (or solids) reported for all soil and sediment samples?			Χ		
	Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			Χ		
	If required for the project, are TICs reported?			Χ		
4 0	Surrogate recovery data					
	Were surrogates added prior to extraction?			Χ		
	Were surrogate percent recoveries in all samples within the laboratory QC limits?			Χ		
5 OI	Test reports/summary forms for blank samples					
	Were appropriate type(s) of blanks analyzed?	Х				
	Were blanks analyzed at the appropriate frequency?	Х				
	Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup					
	procedures?	Х				
	Were blank concentrations < MQL?	X				
6 OI	Laboratory control samples (LCS):					
. .	Were all COCs included in the LCS?	Х				
	Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
	Were LCSs analyzed at the required frequency?	X				
	Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
	Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used					
	to calculate the SDLs?	Х				
	Was the LCSD RPD within QC limits?	<u> </u>		Х		
7 OI	Matrix spike (MS) and matrix spike duplicate (MSD) data	-		^		
<i>i</i> 01				Х		
	Were the project/method specified analytes included in the MS and MSD? Were MS/MSD analyzed at the appropriate frequency?	<u> </u>				
		<u> </u>		X		
	Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	<u> </u>		X		
<u> </u>	Were MS/MSD RPDs within laboratory QC limits?			Χ		
8 OI	Analytical duplicate data					
	Were appropriate analytical duplicates analyzed for each matrix?			X		
	Were analytical duplicates analyzed at the appropriate frequency?	<u> </u>		Х		
<u>. la:</u>	Were RPDs or relative standard deviations within the laboratory QC limits?	<u> </u>		Χ		
9 OI	Method quantitation limits (MQLs):	<u> </u>				
	Are the MQLs for each method analyte included in the laboratory data package?	Х				
	Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	Х				
	Are unadjusted MQLs and DCSs included in the laboratory data package?	Х				
10 OI	Other problems/anomalies					
	Are all known problems/anomalies/special conditions noted in this LRC and ER?	Х				
	Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the					
	sample results?	Χ				
	Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and					
	methods associated with this laboratory data package?	Х				
1.	Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required repo	ort(s). I	tems			

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items
identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

- 2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
- 3. NA = Not applicable;
- 4. NR = Not reviewed;
- 5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

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Laboratory Review checklist: Supporting Data - Page 3 of 4

Laboratory Name:	TestAmerica Houston	LRC Date:	2/21/2014
Project Name:	Exide Recycling Center, Frisco TX Projec	Laboratory Job Number:	600-87306-1
Reviewer Name:	Cathy Upton		

$\#^1 \mid A^2 \mid$	Description	Yes	No	NA^3	NR^4	ER# ⁵
1 OI	Initial calibration (ICAL)					
	Were response factors and/or relative response factors for each analyte within QC limits?	Х				
	Were percent RSDs or correlation coefficient criteria met?	Х				
	Was the number of standards recommended in the method used for all analytes?	X				
	Were all points generated between the lowest and highest standard used to calculate the curve?	X				
	Are ICAL data available for all instruments used?	X				
	Has the initial calibration curve been verified using an appropriate second source standard?	X				
	has the fillinar calibration curve been verified using an appropriate second source standard:	^				
2 OI	Initial and continuing calibration verification (ICV and CCV) and continuing calibration blank (CCB):					
	Was the CCV analyzed at the method-required frequency?	X				
		X				
	Were percent differences for each analyte within the method-required QC limits?					
	Was the ICAL curve verified for each analyte?	X				
	Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	Х				
	Mass spectral tuning					
	Was the appropriate compound for the method used for tuning?			Χ		
	Were ion abundance data within the method-required QC limits?			Χ		
	Internal standards (IS)					
	Were IS area counts and retention times within the method-required QC limits?			Χ		
	Raw data (NELAC Section 5.5.10)					
	Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	Х				
ľ	Were data associated with manual integrations flagged on the raw data?	Х				
6 0	Dual column confirmation					
	Did dual column confirmation results meet the method-required QC?			Χ		
	Tentatively identified compounds (TICs)					
	If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			Х		
	Interference Check Sample (ICS) results					
	Were percent recoveries within method QC limits?	Х				
	Serial dilutions, post digestion spikes, and method of standard additions					
	Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			Х		
	Method detection limit (MDL) studies			, ,		
	Was a MDL study performed for each reported analyte?	Х				
	Is the MDL either adjusted or supported by the analysis of DCSs?	X				
	Proficiency test reports	^				
	·	X				
	Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	^				
	Standards documentation					
	Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
	Compound/analyte identification procedures	.,				
	Are the procedures for compound/analyte identification documented?	Х				
	Demonstration of analyst competency (DOC)					
-	Was DOC conducted consistent with NELAC Chapter 5?	X				
	Is documentation of the analyst's competency up-to-date and on file?	Х				
15 OI	Verification/validation documentation for methods (NELAC Chapter 5)					
T						
	Are all the methods used to generate the data documented, verified, and validated, where applicable?	Х				
16 OI	Laboratory standard operating procedures (SOPs)					
	Are laboratory SOPs current and on file for each method performed?	Х				
	Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required	report(s). I	tems			
	identified by the letter "S" should be retained and made available upon request for the appropriate retention perio					
	O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);					
	NA = Not applicable;					
3.						

^{5.} ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Page 5 of 20 2/28/2014

Laboratory Review Checklist: Exception Reports - Page 4 of 4

Laboratory Name:	TestAmerica Houston	LRC Date:	2/21/2014
Project Name:	Exide Recycling Center, Frisco TX Projec	Laboratory Job Number:	600-87306-1
Reviewer Name:	Cathy Upton		

ER # ¹	Description
1.	Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items
	identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2.	O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
3.	NA = Not applicable;
4.	NR = Not reviewed;
5.	ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

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Analysis	Batch	680-298498	680-298498	680-298498	680-298498	680-298498	680-298498	680-298498	680-298498	680-298498	680-298498	680-298498	680-298498	680-298498	680-298498	680-298498	680-298498	680-298498	680-298498	680-298498	680-298498	680-298498	680-298498	680-298498	680-298498	680-298498	680-298498	680-298498	680-298498
	Prep Batch	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813
	CAS	7429-90-5	7440-36-0	7440-38-2	7440-39-3	7440-41-7	7440-42-8	7440-43-9	7440-70-2	7440-47-3	7440-48-4	7440-50-8	7439-89-6	7439-92-1	7439-95-4	7439-96-5	7439-97-6	7439-98-7	7440-02-0	9/7/7440	7782-49-2	7440-22-4	7440-23-5	7440-24-6	7440-28-0	7440-31-5	7440-32-6	7440-62-2	7440-66-6
Instrument	ID	ICPMSC																											
Analysis	Method	6020A																											
	Prep Method	3005A																											
Percent	Recovery	113	115	119	86	104	102	86	118	110	105	101	108	118	86	86	125	110	122	110	93	109	114	96	86	124	127	111	101
	RL	20	2	2.5	2	9.0	100	9.0	250	2	9.0	2	100	1.5	250	2	8.0	2	2	200	2.5	1	200	1	1	2	2	10	20
	MDL	23	2.3	1.3	1.3	0.25	40	0.095	130	2.5	0.15	1.1	33	0.2	43	1	0.4	1.5	2	170	1	0.25	250	0.5	0.5	1.3	1.3	3.8	8.3
Spike	Amount	20	2.5	2	2	9.0	20	0.2	250	2	0.2	2	20	0.3	80	2	0.5	2	4	200	2	0.4	400	-	-	2	2.5	2	10
	Unit	ng/L	na/L																										
	Result	56.4	2.875	2.375	1.965	0.52	51.24	0.195	294.73	5.49	0.21	2.02	54.13	0.355	78.42	1.955	0.625	2.205	4.86	219.45	1.855	0.435	457.985	0.945	0.98	2.47	3.17	5.55	10.095
	Analyte	Aluminum	Antimony	Arsenic	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Molybdenum	Nickel	Potassium	Selenium	Silver	Sodium	Strontium	Thallium	Tin	Titanium	Vanadium	Zinc
	Client Sample ID	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC
	Matrix	Water																											
	Dept	ME																											

Case Narrative

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-87306-1

Job ID: 600-87306-1

Laboratory: TestAmerica Houston

Narrative

Job Narrative 600-87306-1

Comments

No additional comments.

Receipt

The samples were received on 2/18/2014 10:18 AM; the samples arrived in good condition, properly preserved and, where required, on ice.

Metals

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

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Method Summary

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-87306-1

Method	Method Description	Protocol	Laboratory
6020A	Metals (ICP/MS)	SW846	TAL SAV

Protocol References:

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

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

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Sample Summary

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-87306-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
600-87306-1	MW-44	Water	02/17/14 11:55	02/18/14 10:18
600-87306-2	MW-46	Water	02/17/14 09:40	02/18/14 10:18

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Client Sample Results

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-87306-1

Lab Sample ID: 600-87306-1

Matrix: Water

Date Collected: 02/17/14 11:55 Date Received: 02/18/14 10:18

Lead

Client Sample ID: MW-44

Method: 6020A - Metals (ICP/MS)	- Total Recove	erable							
Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.000109	J	0.000500	0.0000950	mg/L		02/20/14 09:01	02/20/14 21:15	1
Lead	0.00611		0.00150	0.000200	mg/L		02/20/14 09:01	02/20/14 21:15	1

					J				
Method: 6020A - Metals (ICP/MS) -	Dissolved								
Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.000131	J	0.000500	0.0000950	mg/L		02/20/14 09:01	02/20/14 21:22	1
Lead	0.00192		0.00150	0.000200	mg/L		02/20/14 09:01	02/20/14 21:22	1

Client Sample ID: MW-46 Lab Sample ID: 600-87306-2 **Matrix: Water**

Date Collected: 02/17/14 09:40 Date Received: 02/18/14 10:18

0.00488

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.000812		0.000500	0.0000950	mg/L		02/20/14 09:01	02/20/14 21:29	
Lead -	0.00185		0.00150	0.000200	mg/L		02/20/14 09:01	02/20/14 21:29	,
- Method: 6020A - Metals	(ICP/MS) - Dissolved								
Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.000834	-	0.000500	0.0000950	ma/L		02/20/14 09:01	02/20/14 21:37	

0.00150

0.000200 mg/L

02/20/14 09:01

02/20/14 21:37

Definitions/Glossary

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

Toxicity Equivalent Quotient (Dioxin)

TestAmerica Job ID: 600-87306-1

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the MQL but greater than or equal to the SDL and the concentration is an estimated value.
U	Analyte was not detected at or above the SDL.

Glossary

TEQ

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
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)

QC Sample Results

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-87306-1

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 680-316408/1-A

Matrix: Water

Analysis Batch: 316657

Client Sample ID: Method Blank **Prep Type: Total Recoverable**

Prep Batch: 316408

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D)	Prepared	Analyzed	Dil Fac
Cadmium	0.0000950	U	0.000500	0.0000950	mg/L			02/20/14 09:01	02/20/14 19:46	1
Lead	0.000200	U	0.00150	0.000200	mg/L			02/20/14 09:01	02/20/14 19:46	1

MB MB

Lab Sample ID: LCS 680-316408/2-A **Client Sample ID: Lab Control Sample Matrix: Water Prep Type: Total Recoverable**

Analysis Batch: 316657 **Prep Batch: 316408**

Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit %Rec Limits Cadmium 0.0500 0.05320 106 75 - 125 mg/L 0.0500 Lead 0.05255 mg/L 105 75 - 125

Unadjusted Detection Limits

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-87306-1

Analyte	MQL	MDL	Units	Method	
Cadmium	0.000500	0.0000950	mg/L	6020A	
Lead	0.00150	0.000200	mg/L	6020A	

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	MQL	MDL	Units	Method
Cadmium	0.000500	0.0000950	mg/L	6020A
Lead	0.00150	0.000200	mg/L	6020A

QC Association Summary

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-87306-1

Metals

Prep Batch: 316408

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-87306-1	MW-44	Dissolved	Water	3005A	
600-87306-1	MW-44	Total Recoverable	Water	3005A	
600-87306-2	MW-46	Dissolved	Water	3005A	
600-87306-2	MW-46	Total Recoverable	Water	3005A	
LCS 680-316408/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
MB 680-316408/1-A	Method Blank	Total Recoverable	Water	3005A	

Analysis Batch: 316657

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-87306-1	MW-44	Dissolved	Water	6020A	316408
600-87306-1	MW-44	Total Recoverable	Water	6020A	316408
600-87306-2	MW-46	Dissolved	Water	6020A	316408
600-87306-2	MW-46	Total Recoverable	Water	6020A	316408
LCS 680-316408/2-A	Lab Control Sample	Total Recoverable	Water	6020A	316408
MB 680-316408/1-A	Method Blank	Total Recoverable	Water	6020A	316408

Lab Chronicle

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-87306-1

Client Sample ID: MW-44 Lab Sample ID: 600-87306-1

Date Collected: 02/17/14 11:55

Date Received: 02/18/14 10:18

Matrix: Water

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	250 mL	316408	02/20/14 09:01	BJB	TAL SAV
Total Recoverable	Analysis	6020A		1	50 mL	250 mL	316657	02/20/14 21:15	BWR	TAL SAV
Dissolved	Prep	3005A			50 mL	250 mL	316408	02/20/14 09:01	BJB	TAL SAV
Dissolved	Analysis	6020A		1	50 mL	250 mL	316657	02/20/14 21:22	BWR	TAL SAV

Client Sample ID: MW-46 Lab Sample ID: 600-87306-2

Date Collected: 02/17/14 09:40 Matrix: Water

Date Received: 02/18/14 10:18

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	250 mL	316408	02/20/14 09:01	BJB	TAL SAV
Total Recoverable	Analysis	6020A		1	50 mL	250 mL	316657	02/20/14 21:29	BWR	TAL SAV
Dissolved	Prep	3005A			50 mL	250 mL	316408	02/20/14 09:01	BJB	TAL SAV
Dissolved	Analysis	6020A		1	50 mL	250 mL	316657	02/20/14 21:37	BWR	TAL SAV

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

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Certification Summary

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-87306-1

Laboratory: TestAmerica Houston

The certifications listed below are applicable to this report.

Auth	hority	Program	EPA Region	Certification ID	Expiration Date
Texa	as	NELAP	6	T104704223	10-31-14

Laboratory: TestAmerica Savannah

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

Authority	Program	EPA Region	Certification ID	Expiration Date
	AFCEE		SAVLAB	
A2LA	DoD ELAP		399.01	02-28-15
A2LA	ISO/IEC 17025		399.01	02-28-15
Alabama	State Program	4	41450	06-30-14
Arkansas DEQ	State Program	6	88-0692	01-31-15
California	NELAP	9	3217CA	07-31-14
Colorado	State Program	8	N/A	12-31-14
Connecticut	State Program	1	PH-0161	03-31-15
Florida	NELAP	4	E87052	06-30-14
GA Dept. of Agriculture	State Program	4	N/A	06-30-14
Georgia	State Program	4	N/A	06-30-14
Georgia	State Program	4	803	06-30-14
Guam	State Program	9	09-005r	04-17-14
Hawaii	State Program	9	N/A	06-30-14
Illinois	NELAP	5	200022	11-30-14
Indiana	State Program	5	N/A	06-30-14
lowa	State Program	7	353	07-01-15
Kentucky (DW)	State Program	4	90084	12-31-14
Kentucky (UST)	State Program	4	18	06-30-14
Louisiana	NELAP	6	LA100015	12-31-14
Maine	State Program	1	GA00006	08-16-14
Maryland	State Program	3	250	12-31-14
Massachusetts	State Program	1	M-GA006	06-30-14
Michigan	State Program	5	9925	06-30-14
Mississippi	State Program	4	N/A	06-30-14
Montana	State Program	8	CERT0081	01-01-15
Nebraska	State Program	7	TestAmerica-Savannah	06-30-14
New Jersey	NELAP	2	GA769	06-30-14
New Mexico	State Program	6	N/A	06-30-14
New York	NELAP	2	10842	03-31-14
North Carolina DENR	State Program	4	269	12-31-14
North Carolina DHHS	State Program	4	13701	07-31-14
Oklahoma	State Program	6	9984	08-31-14
Pennsylvania	NELAP	3	68-00474	06-30-14
Puerto Rico	State Program	2	GA00006	01-01-14 *
South Carolina	State Program	4	98001	06-30-14
Tennessee	State Program		TN02961	06-30-14
Texas	NELAP	6	T104704185-08-TX	11-30-14
USDA	Federal	-	SAV 3-04	04-07-14
Virginia	NELAP	3	460161	06-14-14
Washington	State Program	10	C1794	06-10-14
West Virginia DEP	State Program	3	94	06-30-14
West Virginia DHHR	State Program	3	9950C	12-31-13 *
Wisconsin	State Program	5	999819810	08-31-14

 $[\]ensuremath{^{\star}}$ Expired certification is currently pending renewal and is considered valid.

TestAmerica Houston

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Certification Summary

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-87306-1

Laboratory: TestAmerica Savannah (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Wyoming	State Program	8	8TMS-L	06-30-14

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Savannah, GA 31404 phone 912,354,7658 fax	Regulatory Program:	□ DW 🖂 NPDES	C ROPA [2] Other:		TestAmerica Laboratories, Inc.
Client Contact	Project Manager, Christina Higginbotham		Site Contact: RMS/CT	Date: 3-4-5	COC No:
Golder Associates Inc.	Tel/Fax: (281) 821-6868		Lab Confact: Dean Joiner	Carries Feature	S303) jo]
500 Century Plaza Drive, Suite 190	Analysis Ternaround Time	Time		-	Sampler
Houston, Texas, USA 77073	T CALENDAR DAYS TY WC	WORKING DAYS		γ Im	For Lab Use Oniv:
(281) 821-8368 Phone	in the first	1. A. A. S.	9, 6	194	Walk-in Cleni:
(281) 921-5870 FAX			es'(p	<u>"J.</u> "	Lab Samoling:
Project Name: Exide Frisco			(Y) (As (As (As (As (As (As (As) (As (As) (As)	(4)	
Site: Exide Frisos			09 (b) (b) (b) (b)	Y	Job / SDG No.:
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600-87306 Chain of Custody					
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		000000000000000000000000000000000000000	が変えている。		
			Semple Disposed (A from may be	Sample Disposed (A fee may be assessed it samples are retained londer than 1 month)	d longer than 1 month)
A Hazardou dispose of t	List any EPA Waste Codes for the sample in the	s sample in the			7
Non-Hazard Hammable Sklr. Instant	D Poison B	rowi)	Return to Client	Disposal by Lab S. Archive for	Months
Special Instructions/QC Requirements & Comments: Keep all samples until further notice. Toxas TRRP Reporting Required, Equis EDD Format Required. Contact Christina Higginbotham with questions for	il samples until further notice.	Fexas TRRP Rep	orting Required, Equis EDD Form	at Required. Contact Christina l	ligginbotham with questions for
reporting requirements. Contact Dean Joiner from Test America for Project Setup Requirements.	stica for Project Setup Requiren	nents.	•		7.0.0
Contact Randy Schnitz or Chris Trevino for field sample questions - (817)	estions - (817) 281-0510		0	D	
Custody Seals Intact: Tyes The			Cooler Temp. (°C): Obs'd		Therm ID No.:
Relipedushed and	Company:		Received by:	Company:	Date/Time:
1645	(20 Mer	278/121-EL-6			
Relinquicted by	Company:	Date/Ime:	Hecelved by:	-Augusti	
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date-Time:
				Form No. CA-	Form No. CA-C-WI-002, Rev. 4.3, dated 12/05/2013

Chain of Custody Record $8730\,\mathrm{L}$

TestAmerica Savannah

5102 LaRache Avenue

Login Sample Receipt Checklist

Client: Golder Associates Inc. Job Number: 600-87306-1

Login Number: 87306 List Source: TestAmerica Houston

List Number: 1 Creator: Allen, Jodi L

uestion	Answer	Comment
adioactivity wasn't checked or is = background as measured by a survey neter.</td <td>N/A</td> <td>Lab does not accept radioactive samples.</td>	N/A	Lab does not accept radioactive samples.
he cooler's custody seal, if present, is intact.	True	
ample custody seals, if present, are intact.	True	
he cooler or samples do not appear to have been compromised or ampered with.	True	
amples were received on ice.	True	
ooler Temperature is acceptable.	True	
ooler Temperature is recorded.	True	0.6
OC is present.	True	
OC is filled out in ink and legible.	True	
OC is filled out with all pertinent information.	True	
the Field Sampler's name present on COC?	True	
here are no discrepancies between the containers received and the COC.	True	
amples are received within Holding Time.	True	
ample containers have legible labels.	True	
ontainers are not broken or leaking.	True	
ample collection date/times are provided.	True	
ppropriate sample containers are used.	True	
ample bottles are completely filled.	True	
ample Preservation Verified.	True	
here is sufficient vol. for all requested analyses, incl. any requested IS/MSDs	True	
ontainers requiring zero headspace have no headspace or bubble is 6mm (1/4").	True	
Iultiphasic samples are not present.	True	
amples do not require splitting or compositing.	True	
esidual Chlorine Checked.	N/A	Check done at department level as required.

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TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Houston 6310 Rothway Street Houston, TX 77040 Tel: (713)690-4444

TestAmerica Job ID: 600-87311-1

Client Project/Site: Exide Recycling Center, Frisco TX Projec

For:

Golder Associates Inc. 500 Century Plaza Drive Suite 190 Houston, Texas 77073

Attn: Christina Higginbotham

Authorized for release by:

3/9/2014 9:16:06 PM

Cathy Upton, Project Management Assistant II (713)690-4444

cathy.upton@testamericainc.com

Designee for

Dean Joiner, Project Manager II (713)690-4444

dean.joiner@testamericainc.com

·····LINKS ·······

Review your project results through **Total Access**

Have a Question?



Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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.

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Appendix A Laboratory Data Package Cover Page - Page 1 of 4

This data package is for TestAmerica Houston job number 600-87311-1 and consists of:

✓	R1	-	Field	chain-o	f-cust	ody c	locum	enta	tion	,
---	----	---	-------	---------	--------	-------	-------	------	------	---

- ☑ R2 Sample identification cross-reference;
- ☑ R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - a. Items consistent with NELAC Chapter 5,
 - b. dilution factors,
 - c. preparation methods,
 - d. cleanup methods, and
 - e. if required for the project, tentatively identified compounds (TICs).
- ☐ R4 Surrogate recovery data including:
 - a. Calculated recovery (%R), and
 - b. The laboratory's surrogate QC limits.
- ☑ R5 Test reports/summary forms for blank samples;
- ☑ R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - a. LCS spiking amounts,
 - b. Calculated %R for each analyte, and
 - c. The laboratory's LCS QC limits.
- ☐ R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - Samples associated with the MS/MSD clearly identified,
 - b. MS/MSD spiking amounts,
 - c. Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d. Calculated %Rs and relative percent differences (RPDs), and
 - e. The laboratory's MS/MSD QC limits
- ☐ R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - a. The amount of analyte measured in the duplicate,
 - b. The calculated RPD, and
 - c. The laboratory's QC limits for analytical duplicates.
- R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
- ☑ R10 Other problems or anomalies.

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Cathy Upton	CM	2/25/2014
Name (printed)	Signature	Date

Project Management Asst II

Official Title (printed)

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Laboratory Review Checklist: Reportable Data - Page 2 of 4

Laboratory Name:	TestAmerica Houston	LRC Date:	2/23/2014
Project Name:	Exide Recycling Center, Frisco TX Projec	Laboratory Job Number:	600-87311-1
Paviower Name:	Cathy Linton		

# ¹ A	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
R1 0	Chain-of-custody (C-O-C)					
	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	Х				
	Were all departures from standard conditions described in an exception report?	Χ				
R 2 O	Sample and quality control (QC) identification					
	Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	Χ				
	Are all laboratory ID numbers cross-referenced to the corresponding QC data?	Χ				
3 0	Test reports					
	Were all samples prepared and analyzed within holding times?	Χ				
	Other than those results < MQL, were all other raw values bracketed by calibration standards?	Χ				
	Were calculations checked by a peer or supervisor?	Χ				
	Were all analyte identifications checked by a peer or supervisor?	Х				
	Were sample detection limits reported for all analytes not detected?	Х				
	Were all results for soil and sediment samples reported on a dry weight basis?			Х		
	Were % moisture (or solids) reported for all soil and sediment samples?			X		
	Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
	If required for the project, are TICs reported?			X		
4 0				^		
, 10	Were surrogates added prior to extraction?		-	Х	\vdash	
	Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
. Io	· · ·			^		
5 0	Test reports/summary forms for blank samples	V				
	Were appropriate type(s) of blanks analyzed?	X				
	Were blanks analyzed at the appropriate frequency?	Х				
	Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup					
	procedures?	Х				
	Were blank concentrations < MQL?	Х				
6 0	Laboratory control samples (LCS):					
	Were all COCs included in the LCS?	Χ				
	Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	Χ				
	Were LCSs analyzed at the required frequency?	Χ				
	Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	Χ				
	Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used					
	to calculate the SDLs?	Χ				
	Was the LCSD RPD within QC limits?			Χ		
7 0	Matrix spike (MS) and matrix spike duplicate (MSD) data					
	Were the project/method specified analytes included in the MS and MSD?			Χ		
	Were MS/MSD analyzed at the appropriate frequency?			Х		
	Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			Х		
	Were MS/MSD RPDs within laboratory QC limits?			Х		
8 0	Analytical duplicate data					
0 0	Were appropriate analytical duplicates analyzed for each matrix?			Х		
	Were analytical duplicates analyzed at the appropriate frequency?			X		
	Were RPDs or relative standard deviations within the laboratory QC limits?			X		
9 0	,					
9 0		V				
	Are the MQLs for each method analyte included in the laboratory data package?	X	-			
	Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X	<u> </u>			
10 10	Are unadjusted MQLs and DCSs included in the laboratory data package?	Х			\sqcup	
10 O	·	<u> </u>				
	Are all known problems/anomalies/special conditions noted in this LRC and ER?	Χ				
	Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the					
	sample results?	Χ				
	Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and					
	methods associated with this laboratory data package?	Х				
	Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required repo		4			

items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

- 2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
- 3. NA = Not applicable;
- 4. NR = Not reviewed;
- 5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

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Laboratory Review checklist: Supporting Data - Page 3 of 4

Laboratory Name:	TestAmerica Houston	LRC Date:	2/23/2014
Project Name:	Exide Recycling Center, Frisco TX Projec	Laboratory Job Number:	600-87311-1
Reviewer Name:	Cathy Upton		

# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER#
1	OI	Initial calibration (ICAL)					
		Were response factors and/or relative response factors for each analyte within QC limits?	Х				
		Were percent RSDs or correlation coefficient criteria met?	Х				
		Was the number of standards recommended in the method used for all analytes?	Х				
		Were all points generated between the lowest and highest standard used to calculate the curve?	Х				
		Are ICAL data available for all instruments used?	Х				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
		0 11 1					
2	OI	Initial and continuing calibration verification (ICV and CCV) and continuing calibration blank (CCB):					
		Was the CCV analyzed at the method-required frequency?	Х				
		Were percent differences for each analyte within the method-required QC limits?	Х				
		Was the ICAL curve verified for each analyte?	Х				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	Х				
3	Ο	Mass spectral tuning					
_		Was the appropriate compound for the method used for tuning?			Х		
		Were ion abundance data within the method-required QC limits?			X		
4	0	Internal standards (IS)			<u> </u>		
_	1-	Were IS area counts and retention times within the method-required QC limits?			Х	1	
35	ΟI	Raw data (NELAC Section 5.5.10)			– `		
	, J.	Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	Х	 		\vdash	
		Were data associated with manual integrations flagged on the raw data?	X				
66	О	Dual column confirmation					
,,,	U	Did dual column confirmation results meet the method-required QC?			Х	H	
67	0	Tentatively identified compounds (TICs)				H	
) <i>(</i>	U	If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			Х		
88	li	Interference Check Sample (ICS) results			^		
90	ļ'	Were percent recoveries within method QC limits?	X				
S9	Ti	Serial dilutions, post digestion spikes, and method of standard additions	^				
9	<u> </u>	Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			Х		
110					^		
טוט	Oi	Method detection limit (MDL) studies	V				
		Was a MDL study performed for each reported analyte?	X				
	Ioi	Is the MDL either adjusted or supported by the analysis of DCSs?	Х				
11	OI	Proficiency test reports					
140		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	Х	-		┝	
12	UI	Standards documentation		-		┝	
242		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	Х	-		┝	
13	UI	Compound/analyte identification procedures		<u> </u>		 	
14.4	Io:	Are the procedures for compound/analyte identification documented?	X	<u> </u>		 	
14	UI	Demonstration of analyst competency (DOC)		<u> </u>		 	
		Was DOC conducted consistent with NELAC Chapter 5?	X				
	101	Is documentation of the analyst's competency up-to-date and on file?	Х			$\vdash \vdash$	
315	OI	Verification/validation documentation for methods (NELAC Chapter 5)					
	1	Are all the methods used to generate the data documented, verified, and validated, where applicable?	Х				
316	OI	Laboratory standard operating procedures (SOPs)					
		Are laboratory SOPs current and on file for each method performed?	Х				
_	1.	Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required		tems			
		identified by the letter "S" should be retained and made available upon request for the appropriate retention period	d.				
	2.	O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);					
	3.	NA = Not applicable;					
	4.	NR = Not reviewed;					
	_						

5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Page 5 of 19 3/9/2014

Laboratory Review Checklist: Exception Reports - Page 4 of 4

Laboratory Name:	TestAmerica Houston	LRC Date:	2/23/2014
Project Name:	Exide Recycling Center, Frisco TX Projec	Laboratory Job Number:	600-87311-1
Reviewer Name:	Cathy Upton		

ER # ¹	Description
1.	Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items
	identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2.	O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
3.	NA = Not applicable;
4.	NR = Not reviewed;
5.	ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

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Detection Check Standard

Matrix: Water Method: 200.7/6010 Preparation: 200.7P/3010 Date Analyzed: 12/31/2013 Date Prepared: 12/27/2013 Instrument: Spectro01 . 124030, 123788p TALs Batches: Units: mg/L

Analyte	MDL	DCS Spike	Measured Result	MQL
Aluminum	0.006	0.02	0.028176	0.5
Antimony	0.0063	0.01	0.010016	0.05
Arsenic	0.0033	0.01	0.008253	0.01
Barium	0.0022	0.005	0.004098	0.02
Beryllium	0.00134	0.002	0.004019	0.005
Boron	0.0077	0.02	0.019829	0.2
Cadmium	0.00073	0.001	0.001	0.005
Calcium	0.022	0.05	0.060829	1
Chromium	0.0016	0.002	0.003835	0.01
Cobalt	0.00063	0.001	0.000965	0.01
Copper	0.0014	0.002	0.002451	0.01
Iron	0.087	0.1	0.002258	0.4
Lithium	0.0024	0.005	0.006107	0.2
Lead	0.0029	0.005	0.005478	0.01
Selenium	0.0042	0.01	0.009953	0.04
Manganese	0.00084	0.002	0.001988	0.01
Molybdenum	0.0027	0.005	0.005867	0.01
Nickel	0.00179	0.005	0.005669	0.01
Silver	0.0012	0.0025	0.001901	0.01
Sodium	0.02	0.05	0.088115	1
Strontium	0.0005	0.001	0.000897	0.005
Thallium	0.0078	0.02	0.021503	0.03
Tin	0.0028	0.005	0.005708	0.01
Titanium	0.0011	0.002	0.001905	0.01
Vanadium	0.0017	0.002	0.003578	0.01
Zinc	0.0022	0.005	0.004189	0.01

Case Narrative

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-87311-1

Job ID: 600-87311-1

Laboratory: TestAmerica Houston

Narrative

Job Narrative 600-87311-1

Comments

No additional comments.

Receipt

The sample was received on 2/18/2014 9:50 AM; the sample arrived in good condition, properly preserved and, where required, on ice.

The temperature of the cooler at receipt was 3.1° C.

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Method Summary

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-87311-1

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL HOU

Protocol References:

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

Laboratory References:

TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

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Sample Summary

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-87311-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
600-87311-1	MW-33	Water	02/17/14 10:25	02/18/14 09:50

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Client Sample Results

Client: Golder Associates Inc.

Client Sample ID: MW-33

Date Collected: 02/17/14 10:25

Date Received: 02/18/14 09:50

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-87311-1

Lab Sample ID: 600-87311-1

Matrix: Water

Mothod: 6010B Motale (ICB)	

Welliou. 60 100 - Welais (ICF)									
Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.00715		0.00500	0.000350	mg/L		02/20/14 13:37	02/21/14 13:01	1
Lead	0.694		0.0100	0.00290	mg/L		02/20/14 13:37	02/21/14 13:01	1

Method: 6010B - Metals (ICP)	- Dissolved							
Analyte	Result Qual	lifier MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium, Dissolved	0.00414 J	0.00500	0.000350	mg/L		02/20/14 13:37	02/21/14 13:03	1
Cadmium, Dissolved	0.00414 J	0.00500	0.000350	mg/L		02/20/14 13:37	02/21/14 13:03	1
Lead, Dissolved	0.101	0.0100	0.00290	mg/L		02/20/14 13:37	02/21/14 13:03	1
Lead. Dissolved	0.101	0.0100	0.00290	mg/L		02/20/14 13:37	02/21/14 13:03	1

Definitions/Glossary

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-87311-1

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the MQL but greater than or equal to the SDL and the concentration is an estimated value.
U	Analyte was not detected at or above the SDL.

Glossary

Listed under the "D" column to designate that the result is reported on a dry weight basis Repercent Recovery 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 Method Detection Limit ML Minimum Level (Dioxin) NC Not Calculated	
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)	
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)	
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)	
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)	
DLC Decision level concentration MDA Minimum detectable activity EDL Estimated Detection Limit MDC Minimum detectable concentration MDL Method Detection Limit ML Minimum Level (Dioxin)	
MDA Minimum detectable activity EDL Estimated Detection Limit MDC Minimum detectable concentration MDL Method Detection Limit ML Minimum Level (Dioxin)	
EDL Estimated Detection Limit MDC Minimum detectable concentration MDL Method Detection Limit ML Minimum Level (Dioxin)	
MDC Minimum detectable concentration MDL Method Detection Limit ML Minimum Level (Dioxin)	
MDL Method Detection Limit ML Minimum Level (Dioxin)	
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)	

TestAmerica Houston

QC Sample Results

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-87311-1

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 600-127792/1-A

Matrix: Water

Analysis Batch: 127896

Analysis Batch: 127896

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

Prep Batch: 127792

	MB	MR							
Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.000350	U	0.00500	0.000350	mg/L		02/20/14 13:37	02/21/14 12:57	1
Cadmium, Dissolved	0.000350	U	0.00500	0.000350	mg/L		02/20/14 13:37	02/21/14 12:57	1
Lead	0.00290	U	0.0100	0.00290	mg/L		02/20/14 13:37	02/21/14 12:57	1
Lead, Dissolved	0.00290	U	0.0100	0.00290	mg/L		02/20/14 13:37	02/21/14 12:57	1

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 600-127792/2-A **Matrix: Water Prep Type: Total/NA**

Prep Batch: 127792

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Cadmium	0.500	0.5072		mg/L		101	80 - 120	
Cadmium, Dissolved	0.500	0.5072		mg/L		101	80 - 120	
Lead	1.00	1.024		mg/L		102	80 - 120	
Lead, Dissolved	1.00	1.024		mg/L		102	80 - 120	

Unadjusted Detection Limits

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-87311-1

Method: 6010B - Metals (ICP)

Analyte	MQL	MDL	Units	Method
Cadmium	0.00500	0.000350	mg/L	6010B
Lead	0.0100	0.00290	mg/L	6010B

Method: 6010B - Metals (ICP) - Dissolved

Analyte		MQL	MDL	Units	Method
Cadmium, Dis	solved	0.00500	0.000350	mg/L	6010B
Lead, Dissolve	d	0.0100	0.00290	mg/L	6010B

QC Association Summary

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-87311-1

Metals

Prep Batch: 127792

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method Prep Batc	h
600-87311-1	MW-33	Dissolved	Water	3010A	_
600-87311-1	MW-33	Total/NA	Water	3010A	
LCS 600-127792/2-A	Lab Control Sample	Total/NA	Water	3010A	
MB 600-127792/1-A	Method Blank	Total/NA	Water	3010A	

Analysis Batch: 127896

	Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
	600-87311-1	MW-33	Dissolved	Water	6010B	127792
	600-87311-1	MW-33	Total/NA	Water	6010B	127792
	LCS 600-127792/2-A	Lab Control Sample	Total/NA	Water	6010B	127792
L	MB 600-127792/1-A	Method Blank	Total/NA	Water	6010B	127792

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Lab Chronicle

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-87311-1

Lab Sample ID: 600-87311-1

Matrix: Water

Client Sample ID: MW-33 Date Collected: 02/17/14 10:25 Date Received: 02/18/14 09:50

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	127792	02/20/14 13:37	NER	TAL HOU
Total/NA	Analysis	6010B		1	50 mL	50 mL	127896	02/21/14 13:01	DCL	TAL HOU
Dissolved	Analysis	6010B		1	50 mL	50 mL	127896	02/21/14 13:03	DCL	TAL HOU
Dissolved	Prep	3010A			50 mL	50 mL	127792	02/20/14 13:37	NER	TAL HOU

Laboratory References:

TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

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Certification Summary

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-87311-1

Laboratory: TestAmerica Houston

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Texas	NELAP	6	T104704223	10-31-14

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Custody Recora Chain of Dillikiliy vvaler: 68

Drinking Water? Vest Note	Temperature on Receipt		
THE LEADER IN ENVIRONMENTAL TESTING		-() () () () () () () () () () () () () (

☐ 24 Hours ☐ Non-Hazard Chem Golder Associates Relinquished By 500 Century Possible Hazard Identification Comments Turn Around Time Required Sample I.D. No. and Description
(Containers for each sample may be combined on one line) Project Name and Location (State) MW-33 Exide Houston 30-2086 Purchase Ordei/Quote No. ☐ 48 Hours ☐ Flammable 7 Days Skin Irritant Texas レゼレ 840tt 9000 942 061 95 14 Days ☐ Poison B 7-17-14 21 Days Date 🛛 Ипклочт 1025 Time 2-17-14 Date Other_ Date Christian Higginbothum
Telephone Number (Area Code) Abd Number
381-831-688 Project Manager Carrier/Waybill Number Site Contact Air ☐ Return To Client Sample Disposal × Aqueous Matrix days Sed. 1845 Time Time Soil Lab Contact Unpres Disposal By Lab 3. Received By Received By QC Requirements (Specify, H2SO4 Containers & Preservatives HNO3 HCI Lab Number.

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Lab N ☐ Archive For Months (A fee may be assessed if samples are retained longer than 1 month) 600-87311 Chain of Custody Page Chain of Custody Number 255253 Date Date Date Filtered for sussoled Special Instructions/ Conditions of Receipt Time 9

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

Login Sample Receipt Checklist

Client: Golder Associates Inc. Job Number: 600-87311-1

Login Number: 87311 List Source: TestAmerica Houston

List Number: 1

Creator: Lopez, Sandro R

uestion	Answer	Comment
adioactivity wasn't checked or is = background as measured by a survey eter.</td <td>N/A</td> <td>Lab does not accept radioactive samples.</td>	N/A	Lab does not accept radioactive samples.
ne cooler's custody seal, if present, is intact.	True	
ample custody seals, if present, are intact.	True	
ne cooler or samples do not appear to have been compromised or mpered with.	True	
amples were received on ice.	True	
poler Temperature is acceptable.	True	
poler Temperature is recorded.	True	3.1
OC is present.	True	
OC is filled out in ink and legible.	True	
OC is filled out with all pertinent information.	True	
the Field Sampler's name present on COC?	True	
nere are no discrepancies between the containers received and the COC.	True	
amples are received within Holding Time.	True	
ample containers have legible labels.	True	
ontainers are not broken or leaking.	True	
ample collection date/times are provided.	True	
opropriate sample containers are used.	True	
ample bottles are completely filled.	True	
ample Preservation Verified.	True	
nere is sufficient vol. for all requested analyses, incl. any requested S/MSDs	True	
ontainers requiring zero headspace have no headspace or bubble is 6mm (1/4").	True	
ultiphasic samples are not present.	True	
amples do not require splitting or compositing.	True	
esidual Chlorine Checked.	N/A	Check done at department level as required.

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THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Houston 6310 Rothway Street Houston, TX 77040 Tel: (713)690-4444

TestAmerica Job ID: 600-87313-1

Client Project/Site: Exide Recycling Center, Frisco TX Projec

For:

Golder Associates Inc. 500 Century Plaza Drive Suite 190 Houston, Texas 77073

Attn: Christina Higginbotham

Authorized for release by:

2/28/2014 3:11:46 PM

Cathy Upton, Project Management Assistant II

(713)690-4444

cathy.upton@testamericainc.com

Designee for

Dean Joiner, Project Manager II (713)690-4444

dean.joiner@testamericainc.com

LINKS

results through
Total Access

Review your project

Have a Question?



Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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.

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Appendix A Laboratory Data Package Cover Page - Page 1 of 4

This data package is for TestAmerica Houston job number 600-87313-1 and consists of

- ☑ R2 Sample identification cross-reference;
- ☑ R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - a. Items consistent with NELAC Chapter 5,
 - b. dilution factors,
 - c. preparation methods,
 - d. cleanup methods, and
 - e. if required for the project, tentatively identified compounds (TICs).
- ☐ R4 Surrogate recovery data including:
 - a. Calculated recovery (%R), and
 - b. The laboratory's surrogate QC limits.
- ☑ R5 Test reports/summary forms for blank samples;
- ☑ R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - a. LCS spiking amounts,
 - b. Calculated %R for each analyte, and
 - c. The laboratory's LCS QC limits.
- ☐ R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a. Samples associated with the MS/MSD clearly identified,
 - b. MS/MSD spiking amounts,
 - c. Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d. Calculated %Rs and relative percent differences (RPDs), and
 - e. The laboratory's MS/MSD QC limits
- ☐ R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - a. The amount of analyte measured in the duplicate,
 - b. The calculated RPD, and
 - c. The laboratory's QC limits for analytical duplicates.
- R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
- ☑ R10 Other problems or anomalies.

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Cathy Upton	CM	2/25/2014
Name (printed)	Signature	Date

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Project Management Asst II

Official Title (printed)

Page 3 of 19

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Laboratory Review Checklist: Reportable Data - Page 2 of 4

Laboratory Name:	TestAmerica Houston	LRC Date:	2/23/2014
Project Name:	Exide Recycling Center, Frisco TX Projec	Laboratory Job Number:	600-87313-1
Reviewer Name:	Cathy Linton		

# ¹ A ²	Description	Yes	No	NA^3	NR ⁴	ER#
R1 OI	Chain-of-custody (C-O-C)					
	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	Х				
	Were all departures from standard conditions described in an exception report?	Х				
2 OI	Sample and quality control (QC) identification					
	Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	Х				
	Are all laboratory ID numbers cross-referenced to the corresponding QC data?	Х				
OI	Test reports					
	Were all samples prepared and analyzed within holding times?	Х				
	Other than those results < MQL, were all other raw values bracketed by calibration standards?	Х				
	Were calculations checked by a peer or supervisor?	Х				
	Were all analyte identifications checked by a peer or supervisor?	Х				
	Were sample detection limits reported for all analytes not detected?	Х				
	Were all results for soil and sediment samples reported on a dry weight basis?			Χ		
	Were % moisture (or solids) reported for all soil and sediment samples?			Χ		
	Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			Χ		
	If required for the project, are TICs reported?			Χ		
4 0	Surrogate recovery data					
	Were surrogates added prior to extraction?			Χ		
	Were surrogate percent recoveries in all samples within the laboratory QC limits?			Χ		
5 OI	Test reports/summary forms for blank samples					
-	Were appropriate type(s) of blanks analyzed?	Х				
	Were blanks analyzed at the appropriate frequency?	Х				
	Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup					
	procedures?	Х				
	Were blank concentrations < MQL?	X				
6 OI	Laboratory control samples (LCS):					
<u> </u>	Were all COCs included in the LCS?	Х				
	Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
	Were LCSs analyzed at the required frequency?	X				
	Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
	Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used					
	to calculate the SDLs?	Х				
	Was the LCSD RPD within QC limits?	<u> </u>		Х		
7 OI	Matrix spike (MS) and matrix spike duplicate (MSD) data	-		^		
<i>i</i> 01				~		
	Were the project/method specified analytes included in the MS and MSD? Were MS/MSD analyzed at the appropriate frequency?		-	X		
		<u> </u>	-	X		
	Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	<u> </u>	-	X		
<u>. I</u>	Were MS/MSD RPDs within laboratory QC limits?	<u> </u>	-	Х		
8 OI	Analytical duplicate data					
	Were appropriate analytical duplicates analyzed for each matrix?			X		
	Were analytical duplicates analyzed at the appropriate frequency?	<u> </u>		Х		
<u>. la-</u>	Were RPDs or relative standard deviations within the laboratory QC limits?			Х		
9 OI	Method quantitation limits (MQLs):	<u> </u>				
	Are the MQLs for each method analyte included in the laboratory data package?	Х				
	Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	Х				
	Are unadjusted MQLs and DCSs included in the laboratory data package?	Х				
10 OI	Other problems/anomalies					
	Are all known problems/anomalies/special conditions noted in this LRC and ER?	Х				
	Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the					
	sample results?	Χ				
	Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and					
	methods associated with this laboratory data package?	Х				
1.	Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required repo	ort(s). I	tems			

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items
identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

- 2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
- 3. NA = Not applicable;
- 4. NR = Not reviewed;
- 5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

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Laboratory Review checklist: Supporting Data - Page 3 of 4

Laboratory Name:	TestAmerica Houston	LRC Date:	2/23/2014
Project Name:	Exide Recycling Center, Frisco TX Projec	Laboratory Job Number:	600-87313-1
Reviewer Name:	Cathy Upton		

# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER#
1	OI	Initial calibration (ICAL)					
		Were response factors and/or relative response factors for each analyte within QC limits?	Х				
		Were percent RSDs or correlation coefficient criteria met?	Х				
		Was the number of standards recommended in the method used for all analytes?	Х				
		Were all points generated between the lowest and highest standard used to calculate the curve?	Х				
		Are ICAL data available for all instruments used?	Х				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
		0 11 1					
2	OI	Initial and continuing calibration verification (ICV and CCV) and continuing calibration blank (CCB):					
		Was the CCV analyzed at the method-required frequency?	Х				
		Were percent differences for each analyte within the method-required QC limits?	Х				
		Was the ICAL curve verified for each analyte?	Х				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	Х				
3	Ο	Mass spectral tuning					
_		Was the appropriate compound for the method used for tuning?			Х		
		Were ion abundance data within the method-required QC limits?			X		
4	0	Internal standards (IS)			<u> </u>		
_	1-	Were IS area counts and retention times within the method-required QC limits?			Х	1	
35	ΟI	Raw data (NELAC Section 5.5.10)			- ``		
	, J.	Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	Х	 		\vdash	
		Were data associated with manual integrations flagged on the raw data?	X				
66	0	Dual column confirmation					
,,,	U	Did dual column confirmation results meet the method-required QC?			Х	\vdash	
67	0	Tentatively identified compounds (TICs)				H	
) <i>(</i>	U	If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			Х		
88	li	Interference Check Sample (ICS) results			^		
90	ļ'	Were percent recoveries within method QC limits?	X				
S9	Ti	Serial dilutions, post digestion spikes, and method of standard additions	^				
9	<u> </u>	Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			Х		
110					^		
טוט	Oi	Method detection limit (MDL) studies	V				
		Was a MDL study performed for each reported analyte?	X				
	Io.	Is the MDL either adjusted or supported by the analysis of DCSs?	Х				
11	OI	Proficiency test reports					
140		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	Х	-		┝	
12	UI	Standards documentation		-		┝	
242		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	Х	-		┝	
13	UI	Compound/analyte identification procedures		<u> </u>		 	
14.4	Io:	Are the procedures for compound/analyte identification documented?	Х	<u> </u>		 	
14	UI	Demonstration of analyst competency (DOC)		<u> </u>		 	
		Was DOC conducted consistent with NELAC Chapter 5?	X				
	101	Is documentation of the analyst's competency up-to-date and on file?	Х			$\vdash \vdash$	
315	OI	Verification/validation documentation for methods (NELAC Chapter 5)					
	1	Are all the methods used to generate the data documented, verified, and validated, where applicable?	Х				
316	OI	Laboratory standard operating procedures (SOPs)					
		Are laboratory SOPs current and on file for each method performed?	Х				
_	1.	Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required		tems			
		identified by the letter "S" should be retained and made available upon request for the appropriate retention period	d.				
	2.	O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);					
	3.	NA = Not applicable;					
	4.	NR = Not reviewed;					
	_						

5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Page 5 of 19 2/28/2014

Laboratory Review Checklist: Exception Reports - Page 4 of 4

Laboratory Name:	TestAmerica Houston	LRC Date:	2/23/2014
Project Name:	Exide Recycling Center, Frisco TX Projec	Laboratory Job Number:	600-87313-1
Reviewer Name:	Cathy Upton		

ER # ¹	Description
1.	Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items
	identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2.	O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
3.	NA = Not applicable;
4.	NR = Not reviewed;
5.	ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

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Detection Check Standard

Matrix: Water 200.7/6010 Method: Preparation: 200.7P/3010 Date Analyzed: 12/31/2013 Date Prepared: 12/27/2013 Instrument: Spectro01 . 124030, 123788p TALs Batches: Units: mg/L

Analyte	MDL	DCS Spike	Measured Result	MQL
Aluminum	0.006	0.02	0.028176	0.5
Antimony	0.0063	0.01	0.010016	0.05
Arsenic	0.0033	0.01	0.008253	0.01
Barium	0.0022	0.005	0.004098	0.02
Beryllium	0.00134	0.002	0.004019	0.005
Boron	0.0077	0.02	0.019829	0.2
Cadmium	0.00073	0.001	0.001	0.005
Calcium	0.022	0.05	0.060829	1
Chromium	0.0016	0.002	0.003835	0.01
Cobalt	0.00063	0.001	0.000965	0.01
Copper	0.0014	0.002	0.002451	0.01
Iron	0.087	0.1	0.002258	0.4
Lithium	0.0024	0.005	0.006107	0.2
Lead	0.0029	0.005	0.005478	0.01
Selenium	0.0042	0.01	0.009953	0.04
Manganese	0.00084	0.002	0.001988	0.01
Molybdenum	0.0027	0.005	0.005867	0.01
Nickel	0.00179	0.005	0.005669	0.01
Silver	0.0012	0.0025	0.001901	0.01
Sodium	0.02	0.05	0.088115	1
Strontium	0.0005	0.001	0.000897	0.005
Thallium	0.0078	0.02	0.021503	0.03
Tin	0.0028	0.005	0.005708	0.01
Titanium	0.0011	0.002	0.001905	0.01
Vanadium	0.0017	0.002	0.003578	0.01
Zinc	0.0022	0.005	0.004189	0.01

Case Narrative

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-87313-1

Job ID: 600-87313-1

Laboratory: TestAmerica Houston

Narrative

Job Narrative 600-87313-1

Comments

No additional comments.

Receipt

The sample was received on 2/18/2014 9:50 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.1° C.

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Method Summary

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-87313-1

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL HOU

Protocol References:

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

Laboratory References:

TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

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Sample Summary

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-87313-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
600-87313-1	MW-34	Water	02/17/14 17:10	02/18/14 09:50

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Client Sample Results

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-87313-1

Client Sample ID: MW-34 Lab Sample ID: 600-87313-1

Date Collected: 02/17/14 17:10

Date Received: 02/18/14 09:50

Matrix: Water

Method: 6010B - Metals (ICP) - Diss	solved							
Analyte	Result Qualifie	er MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium, Dissolved	0.0386	0.00500	0.000350	mg/L		02/20/14 13:37	02/21/14 13:11	1
Lead, Dissolved	0.0575	0.0100	0.00290	mg/L		02/20/14 13:37	02/21/14 13:11	1

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Definitions/Glossary

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

Reporting Limit or Requested Limit (Radiochemistry)

Toxicity Equivalent Factor (Dioxin)
Toxicity Equivalent Quotient (Dioxin)

Relative Percent Difference, a measure of the relative difference between two points

TestAmerica Job ID: 600-87313-1

Qualifiers

Metals

Qualifier	Qualifier Description
U	Analyte was not detected at or above the SDL.

Glossary

RL

RPD

TEF

TEQ

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
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

TestAmerica Houston

QC Sample Results

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-87313-1

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 600-127792/1-A

Matrix: Water

Analysis Batch: 127896

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

Prep Batch: 127792

MB MB

D Dil Fac Analyte Result Qualifier MQL (Adj) SDL Unit Prepared Analyzed 02/20/14 13:37 Cadmium, Dissolved 0.000350 U 0.00500 0.000350 mg/L 02/21/14 12:57 Lead, Dissolved 0.00290 U 0.0100 0.00290 mg/L 02/20/14 13:37 02/21/14 12:57

Lab Sample ID: LCS 600-127792/2-A **Client Sample ID: Lab Control Sample**

Matrix: Water Prep Type: Total/NA Analysis Batch: 127896 **Prep Batch: 127792**

LCS LCS Spike %Rec. Analyte Added Result Qualifier Unit %Rec Limits Cadmium, Dissolved 0.500 0.5072 101 80 - 120 mg/L Lead, Dissolved 1.00 1.024 mg/L 102 80 - 120

Unadjusted Detection Limits

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-87313-1

Method: 6010B - Metals (ICP) - Dissolved

Analyte	MQL	MDL	Units	Method
Cadmium, Dissolved	0.00500	0.000350	mg/L	6010B
Lead, Dissolved	0.0100	0.00290	mg/L	6010B

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QC Association Summary

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-87313-1

Metals

Prep Batch: 127792

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-87313-1	MW-34	Dissolved	Water	3010A	
LCS 600-127792/2-A	Lab Control Sample	Total/NA	Water	3010A	
MB 600-127792/1-A	Method Blank	Total/NA	Water	3010A	

Analysis Batch: 127896

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-87313-1	MW-34	Dissolved	Water	6010B	127792
LCS 600-127792/2-A	Lab Control Sample	Total/NA	Water	6010B	127792
MB 600-127792/1-A	Method Blank	Total/NA	Water	6010B	127792

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Lab Chronicle

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-87313-1

Lab Sample ID: 600-87313-1

Matrix: Water

Client Sample ID: MW-34

Date Collected: 02/17/14 17:10

Date Received: 02/18/14 09:50

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			50 mL	50 mL	127792	02/20/14 13:37	NER	TAL HOU
Dissolved	Analysis	6010B		1	50 mL	50 mL	127896	02/21/14 13:11	DCL	TAL HOU

Laboratory References:

TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

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Certification Summary

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-87313-1

Laboratory: TestAmerica Houston

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Arkansas DEQ	State Program	6	88-0759	08-04-14
Louisiana	NELAP	6	30643	06-30-14
Oklahoma	State Program	6	1309	08-31-14
Texas	NELAP	6	T104704223	10-31-14
USDA	Federal		P330-08-00217	04-01-14
Utah	NELAP	8	TX00083	10-31-14

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Chain of Custody Record

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	Temperature on Receipt	

TAI _410A (1007)	Drinking Wate	Drinking Water? Yes□ No 🗷	`	E LEADER IN ENV	THE LEADER IN ENVIRONMENTAL TESTING	
Coldy Associates Inc	Project Manager		i ca nochan	3	11-11-6 and	Chain of Custody Number 255252
	Telephone Number (Area Code)	- N	de)FaxXumber	ı	Lab Number	Page of
(Site Contact	Lab	Contact	A.	Analysis (Attach list if more space is needed)	
(Texas	Carrier/Waybill Number	umber		etals , C.S lered		Special Instructions/
ContractiPurchase Order/Quote No.	W	Matrix	Containers & Preservatives	olved fr		Conditions of Receipt
Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Time Air Aqueous	Sed. Soil Unpres.	H2SO4 HNO3 HCI NaOH ZnAc/ NaOH	Diss Fiel		
M1-7-1-6	XOL		×	XΥ		filtered for dissolved
					Some)	
				1000	N. K.	
						Craza Chain of Custody
					600-87373	
Possible Hazard Identification Non-Hazard	Sample Sample Sample Rea	Sample Disposal Return To Client [☐ Disposal By Lab	Archive For	(A fee may be assess Months longer than 1 month)	(A fee may be assessed if samples are retained fonger than 1 month)
Time Required	l		QC Requirements (Specify)	есііу)		
24 Hours 48 Hours 7 Days 14 Days 21 Days	S Other 5	5-auy				
1. Relinquished By	Date	Time 848	1. Received By			Date Time
2. Relinquished B	Date	Time	2. Received By			918/14 19956
3. Relinquished By	Date	Time	3. Received By	a		Date Time
Comments						

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

Login Sample Receipt Checklist

Client: Golder Associates Inc. Job Number: 600-87313-1

Login Number: 87313 List Source: TestAmerica Houston

List Number: 1

Creator: Lopez, Sandro R

Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td>Lab does not accept radioactive samples.</td>	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.1
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level as required.

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THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Houston 6310 Rothway Street Houston, TX 77040 Tel: (713)690-4444

TestAmerica Job ID: 600-87356-1

Client Project/Site: Exide Recycling Center, Frisco TX Projec

For:

Golder Associates Inc. 500 Century Plaza Drive Suite 190 Houston, Texas 77073

Attn: Christina Higginbotham

Authorized for release by: 3/9/2014 9:10:27 PM

Cathy Upton, Project Management Assistant II (713)690-4444

cathy.upton@testamericainc.com

Designee for

Dean Joiner, Project Manager II (713)690-4444

dean.joiner@testamericainc.com

.....LINKS

Review your project results through

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Have a Question?



Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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.

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Appendix A Laboratory Data Package Cover Page - Page 1 of 4

This data package is for TestAmerica Houston job number 600-87356-1 and consists of:

$ \sqrt{} $	R1 -	Field	chain-of-custo	ody documentation
---------------	------	-------	----------------	-------------------

- ☑ R2 Sample identification cross-reference;
- ☑ R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - a. Items consistent with NELAC Chapter 5,
 - b. dilution factors,
 - c. preparation methods,
 - d. cleanup methods, and
 - e. if required for the project, tentatively identified compounds (TICs).
- ☐ R4 Surrogate recovery data including:
 - a. Calculated recovery (%R), and
 - b. The laboratory's surrogate QC limits.
- ☑ R5 Test reports/summary forms for blank samples;
- ☑ R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - a. LCS spiking amounts,
 - b. Calculated %R for each analyte, and
 - c. The laboratory's LCS QC limits.
- ☑ R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a. Samples associated with the MS/MSD clearly identified,
 - b. MS/MSD spiking amounts,
 - c. Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d. Calculated %Rs and relative percent differences (RPDs), and
 - e. The laboratory's MS/MSD QC limits
- ☐ R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - a. The amount of analyte measured in the duplicate,
 - b. The calculated RPD, and
 - c. The laboratory's QC limits for analytical duplicates.
- R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
- ☑ R10 Other problems or anomalies.

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Cathy Upton 3/9/2014
Name (printed) Signature Date

Project Management Asst II

Official Title (printed)

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Laboratory Review Checklist: Reportable Data - Page 2 of 4

Laboratory Name:	TestAmerica Houston	LRC Date:	3/4/2014
Project Name:	Exide Recycling Center, Frisco TX Projec	Laboratory Job Number:	600-87356-1
Reviewer Name:	Dean A Joiner		

# ¹ A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
R1 OI	Chain-of-custody (C-O-C)					
	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	Χ				
	Were all departures from standard conditions described in an exception report?	Χ				
R2 OI	Sample and quality control (QC) identification					
	Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	Χ				
	Are all laboratory ID numbers cross-referenced to the corresponding QC data?	Χ				
R3 OI	Test reports					
	Were all samples prepared and analyzed within holding times?	Χ				
	Other than those results < MQL, were all other raw values bracketed by calibration standards?	Χ				
	Were calculations checked by a peer or supervisor?	Χ				
	Were all analyte identifications checked by a peer or supervisor?	Χ				
	Were sample detection limits reported for all analytes not detected?	Χ				
	Were all results for soil and sediment samples reported on a dry weight basis?			Χ		
	Were % moisture (or solids) reported for all soil and sediment samples?			Χ		
	Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			Χ		
	If required for the project, are TICs reported?			Χ		
4 O	Surrogate recovery data					
	Were surrogates added prior to extraction?			Χ		
	Were surrogate percent recoveries in all samples within the laboratory QC limits?			Χ		
5 OI	Test reports/summary forms for blank samples					
•	Were appropriate type(s) of blanks analyzed?	Χ				
	Were blanks analyzed at the appropriate frequency?	Χ				
	Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup					
	procedures?	Χ				
	Were blank concentrations < MQL?	Х				
6 OI	Laboratory control samples (LCS):					
	Were all COCs included in the LCS?	Х				
	Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	Х				
	Were LCSs analyzed at the required frequency?	Х				
	Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	Х				
	Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used					
	to calculate the SDLs?	Х				
	Was the LCSD RPD within QC limits?			Х		
7 OI	Matrix spike (MS) and matrix spike duplicate (MSD) data			,,		
	Were the project/method specified analytes included in the MS and MSD?	Х				
	Were MS/MSD analyzed at the appropriate frequency?	X				
	Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	X			\vdash	
	Were MS/MSD RPDs within laboratory QC limits?	X			\vdash	
8 OI	Analytical duplicate data					
	Were appropriate analytical duplicates analyzed for each matrix?			Х		
	Were analytical duplicates analyzed at the appropriate frequency?			X		
	Were RPDs or relative standard deviations within the laboratory QC limits?	1	\vdash	X		
9 OI	Method quantitation limits (MQLs):			^		
<u> </u>	Are the MQLs for each method analyte included in the laboratory data package?	Х	\vdash			
	Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X			\vdash	
	Are unadjusted MQLs and DCSs included in the laboratory data package?	X			\vdash	
10 OI	Other problems/anomalies	_^			\vdash	
	Are all known problems/anomalies/special conditions noted in this LRC and ER?	Х	-		\vdash	
		^				
	Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the	v				
	sample results?	Х	-			
	Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and					
	methods associated with this laboratory data package? Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required repr	Χ				

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items
identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

- 2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
- 3. NA = Not applicable;
- 4. NR = Not reviewed;
- 5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

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Laboratory Review checklist: Supporting Data - Page 3 of 4

Laboratory Name:	TestAmerica Houston	LRC Date:	3/4/2014
Project Name:	Exide Recycling Center, Frisco TX Projec	Laboratory Job Number:	600-87356-1
Reviewer Name:	Dean A Joiner		

# ¹	A ²	Description	Yes	No	NA ³	NR^4	ER#
1	OI	Initial calibration (ICAL)					
		Were response factors and/or relative response factors for each analyte within QC limits?	Х				
		Were percent RSDs or correlation coefficient criteria met?	Х				
		Was the number of standards recommended in the method used for all analytes?	Х				
		Were all points generated between the lowest and highest standard used to calculate the curve?	Х				
		Are ICAL data available for all instruments used?	Х				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
		<u> </u>					
2	OI	Initial and continuing calibration verification (ICV and CCV) and continuing calibration blank (CCB):					
		Was the CCV analyzed at the method-required frequency?	Х				
		Were percent differences for each analyte within the method-required QC limits?	Х				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
3	\cap	Mass spectral tuning					
		Was the appropriate compound for the method used for tuning?			Х		
		Were ion abundance data within the method-required QC limits?		1	X	1	
4	0	Internal standards (IS)			<u> </u>		
-	1	Were IS area counts and retention times within the method-required QC limits?			Х		
35	ΟI	Raw data (NELAC Section 5.5.10)		1	<u> </u>		
	101	Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	Х	1		 	
		Were data associated with manual integrations flagged on the raw data?	X				
66	0	Dual column confirmation	^				
,,,	U				Х		
`7		Did dual column confirmation results meet the method-required QC? Tentatively identified compounds (TICs)			^		
S7	0	If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			Х		
S8	Īi .	Interference Check Sample (ICS) results			^		
90	Į!	Were percent recoveries within method QC limits?	X				
S9	Ti	Serial dilutions, post digestion spikes, and method of standard additions	^				
9	Į I	Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
140			^				
טוט	Oi	Method detection limit (MDL) studies					
		Was a MDL study performed for each reported analyte?	X				
	101	Is the MDL either adjusted or supported by the analysis of DCSs?	Х				
511	OI	Proficiency test reports					
	101	Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	Х				
512	OI	Standards documentation					
	I 6 ·	Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	Х			ļļ	
13	OI	Compound/analyte identification procedures	.,				
	Io:	Are the procedures for compound/analyte identification documented?	Х				
514	OI	Demonstration of analyst competency (DOC)					
		Was DOC conducted consistent with NELAC Chapter 5?	Х				
	1	Is documentation of the analyst's competency up-to-date and on file?	Х				
15	OI	Verification/validation documentation for methods (NELAC Chapter 5)					
	Ia:	Are all the methods used to generate the data documented, verified, and validated, where applicable?	Х				
316	OI	Laboratory standard operating procedures (SOPs)					
		Are laboratory SOPs current and on file for each method performed?	Х				
	1.	Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required		tems			
		identified by the letter "S" should be retained and made available upon request for the appropriate retention period	d.				
	2.	O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);					
	3.	NA = Not applicable;					
	4.	NR = Not reviewed;					
	_						

5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Page 5 of 24 3/9/2014

Laboratory Review Checklist: Exception Reports - Page 4 of 4

Laboratory Name:	TestAmerica Houston	LRC Date:	3/4/2014
Project Name:	Exide Recycling Center, Frisco TX Projec	Laboratory Job Number:	600-87356-1
Reviewer Name:	Dean A Joiner		

ER # ¹	Description
1.	Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items
	identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2.	O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
3.	NA = Not applicable;
4.	NR = Not reviewed;
5.	ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

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TestAmerica - Corpus Christi

TRRP DCS EVALUATION SPREADSHEET - WATER MATRIX

MDLV STUDY INFO						
DATE COMPLETED:	10/01/2013 - 3Q13					
METHOD NUMBER:	6020/200.8					
METHOD DESCRIPTION:	ICPMS					
PREP METHOD:	3010A					
INSTRUMENT:	Agilent ICPMS					

SPIKE	RANGE

	SPIKE	RANGE				
ANALYTE	CURRENT MDL (ug/L)	MINIMUM (ug/L)	MAXIMUM (ug/L)	SPIKE (ug/L)	MEAS VALUE (ug/L)	ANALYTE IS DETECTED
Aluminum	22.5	22.5	67.5	100	52.2	yes
Antimony	1.61	1.61	4.83	4	1.98	yes
Arsenic	1.09	1.09	3.27	4	1.63	yes
Barium	0.81	0.81	2.43	4	3.19	yes
Beryllium	1.24	1.24	3.72	5	2.17	yes
Boron	70	70	210	100	109	yes
Cadmium	0.854	0.854	2.562	4	1.36	yes
Calcium	198	198	594	400	265	yes
Chromium	1.4	1.4	4.2	5	2.52	yes
Cobalt	1.36	1.36	4.08	4	1.62	yes
Copper	2	2	6	4	37.5	yes
Iron	101	101	303	200	169	yes
Lead	0.733	0.733	2.199	4	1.66	yes
Lithium	2.26	2.26	6.78	5	2.48	yes
Magnesium	113	113	339	200	142	yes
Manganese	11.6	11.6	34.8	40	25.4	yes
Molybdenum	1.4	1.4	4.2	4	1.75	yes
Nickel	2.17	2.17	6.51	4	7.11	yes
Phosphorus	18.1	18.1	54.3	40	35.2	yes
Potassium	407	407	1221	1000	632	yes
Selenium	1.08	1.08	3.24	2	1.61	yes
Silicon	62.8	62.8	188.4	200	2070	yes
Silver	0.941	0.941	2.823	4	1.9	yes
Sodium	727	727	2181	2000	1730	yes
Strontium	0.768	0.768	2.304	4	1.84	yes
Thallium	0.693	0.693	2.079	2	1.51	yes
Tin	5.08	5.08	15.24	10	6.42	yes
Titanium	1.53	1.53	4.59	4	1.68	yes
Vanadium	1.44	1.44	4.32	4	3.67	yes
Zinc	3.55	3.55	10.65	4	8.92	yes

Case Narrative

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-87356-1

Job ID: 600-87356-1

Laboratory: TestAmerica Houston

Narrative

Job Narrative 600-87356-1

Comments

No additional comments.

Receipt

The samples were received on 2/15/2014 9:28 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.4° C.

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Method Summary

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-87356-1

Method	Method Description	Protocol	Laboratory
6020A	Metals (ICP/MS)	SW846	TAL SAV

Protocol References:

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

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

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Sample Summary

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-87356-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
600-87356-1	MW-32	Water	02/14/14 17:00	02/15/14 09:28
600-87356-2	MW-37	Water	02/13/14 15:50	02/15/14 09:28
600-87356-3	MW-16	Water	02/14/14 11:25	02/15/14 09:28
600-87356-4	MW-16S	Water	02/14/14 12:05	02/15/14 09:28
600-87356-5	DUP-1	Water	02/14/14 00:00	02/15/14 09:28

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Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

Lab Sample ID: 600-87356-1

Matrix: Water

Date Collected: 02/14/14 17:00 Date Received: 02/15/14 09:28

Client Sample ID: MW-32

Method: 6020A - Metals (ICP/MS) -	Dissolved								
Analyte	Result C	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.00639		0.000500	0.0000950	mg/L		02/24/14 11:13	02/24/14 18:29	1
Lead	0.0164		0.00150	0.000200	mg/L		02/24/14 11:13	02/24/14 18:29	1

Client Sample ID: MW-37

Date Collected: 02/13/14 15:50

Lab Sample ID: 600-87356-2

Matrix: Water

Date Received: 02/15/14 09:28

Method: 6020A - Metals (ICP/MS	S) - Total Recov	erable							
Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00130	U	0.00250	0.00130	mg/L		02/24/14 11:13	02/24/14 18:39	1
Cadmium	0.000375	J	0.000500	0.0000950	mg/L		02/24/14 11:13	02/24/14 18:39	1
Lead	0.00173		0.00150	0.000200	mg/L		02/24/14 11:13	02/24/14 18:39	1
Selenium	0.00100	U	0.00250	0.00100	mg/L		02/24/14 11:13	02/24/14 18:39	1

Method: 6020A - Metals (ICP)	/MS) - Dissolved								
Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00132	J	0.00250	0.00130	mg/L		02/24/14 11:13	02/24/14 18:34	1
Cadmium	0.000350	J	0.000500	0.0000950	mg/L		02/24/14 11:13	02/24/14 18:34	1
Lead	0.00132	J	0.00150	0.000200	mg/L		02/24/14 11:13	02/24/14 18:34	1
Selenium	0.00193	J	0.00250	0.00100	mg/L		02/24/14 11:13	02/24/14 18:34	1

Client Sample ID: MW-16 Lab Sample ID: 600-87356-3

Date Collected: 02/14/14 11:25

Date Received: 02/15/14 09:28

Matrix: Water

Wethod: 6020A - Wetals (ICP/WS) -	Total Recov	erable							
Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.0000950	U	0.000500	0.0000950	mg/L		02/24/14 11:13	02/24/14 18:45	1
Lead	0.00409		0.00150	0.000200	mg/L		02/24/14 11:13	02/24/14 18:45	1
Method: 6020A - Metals (ICP/MS) -	Dissolved								

motification of the first time,	2.0000								
Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.0000950	U	0.000500	0.0000950	mg/L		02/24/14 11:13	02/24/14 19:22	1
Lead	0.00220		0.00150	0.000200	mg/L		02/24/14 11:13	02/24/14 19:22	1

Client Sample ID: MW-16S

Date Collected: 02/14/14 12:05

Lab Sample ID: 600-87356-4

Matrix: Water

Date Received: 02/15/14 09:28

Method: 6020A - Metals (ICP/MS) - Analyte	Result Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.00240	0.000500	0.0000950	mg/L		02/24/14 11:13	02/24/14 19:53	1
Lead	0.00602	0.00150	0.000200	mg/L		02/24/14 11:13	02/24/14 19:53	1

metriod. 0020A - metals (101 /mo) -	Dissolved								
Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.0000950	U	0.000500	0.0000950	mg/L		02/24/14 11:13	02/24/14 19:48	1
Lead	0.000430	J	0.00150	0.000200	mg/L		02/24/14 11:13	02/24/14 19:48	1

Client Sample Results

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-87356-1

Client Sample ID: DUP-1

Date Collected: 02/14/14 00:00 Date Received: 02/15/14 09:28 Lab Sample ID: 600-87356-5

Matrix: Water

Method: 6020A - Metals (ICP/MS) -	Total Recove	erable							
Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.0000950	J	0.000500	0.0000950	mg/L		02/24/14 11:13	02/24/14 19:43	1
Lead	0.00463		0.00150	0.000200	mg/L		02/24/14 11:13	02/24/14 19:43	1
-									

Method: 6020A - Metals (ICP/MS) -	Dissolved								
Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.0000950	U	0.000500	0.0000950	mg/L		02/24/14 11:13	02/24/14 19:37	1
Lead	0.000360	J	0.00150	0.000200	mg/L		02/24/14 11:13	02/24/14 19:37	1

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Definitions/Glossary

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-87356-1

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the MQL but greater than or equal to the SDL and the concentration is an estimated value.
U	Analyte was not detected at or above the SDL.

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
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)

TestAmerica Houston

Project/Site: Exide Recycling Center, Frisco TX Projec

Client: Golder Associates Inc. TestAmerica Job ID: 600-87356-1

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 680-316930/1-A

Matrix: Water

Analysis Batch: 317160

Client Sample ID: Method Blank **Prep Type: Total Recoverable**

Prep Batch: 316930

Prep Batch: 316930

	MB	MB							
Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00130	U	0.00250	0.00130	mg/L		02/24/14 11:13	02/24/14 18:18	1
Cadmium 0.0	0000950	U	0.000500	0.0000950	mg/L		02/24/14 11:13	02/24/14 18:18	1
Lead 0	.000200	U	0.00150	0.000200	mg/L		02/24/14 11:13	02/24/14 18:18	1
Selenium	0.00100	U	0.00250	0.00100	mg/L		02/24/14 11:13	02/24/14 18:18	1

Lab Sample ID: LCS 680-316930/2-A **Client Sample ID: Lab Control Sample Prep Type: Total Recoverable**

Matrix: Water

Analysis Batch: 317160

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Antimony	0.0500	0.05428		mg/L		109	75 - 125	
Arsenic	0.100	0.1053		mg/L		105	75 - 125	
Cadmium	0.0500	0.05202		mg/L		104	75 - 125	
Lead	0.0500	0.05191		mg/L		104	75 - 125	
Selenium	0.100	0.1093		mg/L		109	75 ₋ 125	

Lab Sample ID: 600-87356-3 MS

Matrix: Water

Client Sample ID: MW-16 MS **Prep Type: Total Recoverable** Analysis Batch: 317160 **Prep Batch: 316930**

	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Antimony	0.00230		0.0500	0.05534		mg/L		111	75 - 125	
Arsenic	0.00188		0.100	0.1028		mg/L		101	75 - 125	
Cadmium	0.0000950	U	0.0500	0.05109		mg/L		102	75 - 125	
Lead	0.00409		0.0500	0.05473		mg/L		101	75 - 125	
Selenium	0.0309		0.100	0.1284		mg/L		97	75 - 125	

Lab Sample ID: 600-87356-3 MSD

Matrix: Water

Analysis Batch: 317160

Client Sample ID: MW-16 MSD **Prep Type: Total Recoverable Prep Batch: 316930**

	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Antimony	0.00230		0.0500	0.05566	-	mg/L		111	75 - 125	1	20
Arsenic	0.00188		0.100	0.1046		mg/L		103	75 - 125	2	20
Cadmium	0.0000950	U	0.0500	0.05135		mg/L		103	75 - 125	0	20
Lead	0.00409		0.0500	0.05436		mg/L		101	75 - 125	1	20
Selenium	0.0309		0.100	0.1356		ma/l		105	75 - 125	5	20

Lab Sample ID: 600-87356-3 MS

Matrix: Water

Analysis Batch: 317160

Client Sample ID: MW-16 MS **Prep Type: Dissolved Prep Batch: 316930**

-	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Antimony	0.00230		0.0500	0.05472		mg/L		109	75 - 125	
Arsenic	0.00188		0.100	0.1039		mg/L		102	75 - 125	
Cadmium	0.0000950	U	0.0500	0.05178		mg/L		104	75 - 125	
Lead	0.00220		0.0500	0.05069		mg/L		97	75 - 125	
Selenium	0.0323		0.100	0.1367		mg/L		104	75 - 125	

TestAmerica Houston

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QC Sample Results

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-87356-1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 600-87356-3 MSD

Matrix: Water

Analysis Batch: 317160

Client Sample ID: MW-16 MSD
Prep Type: Dissolved
Drop Botoby 246020

Prep Batch: 316930

	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Antimony	0.00230		0.0500	0.06174		mg/L		123	75 - 125	12	20
Arsenic	0.00188		0.100	0.1180		mg/L		116	75 - 125	13	20
Cadmium	0.0000950	U	0.0500	0.05740		mg/L		115	75 - 125	10	20
Lead	0.00220		0.0500	0.05687		mg/L		109	75 - 125	11	20
Selenium	0.0323		0.100	0.1496		mg/L		117	75 - 125	9	20

Unadjusted Detection Limits

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-87356-1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	MQL	MDL	Units	Method
Arsenic	0.00250	0.00130	mg/L	6020A
Cadmium	0.000500	0.0000950	mg/L	6020A
Lead	0.00150	0.000200	mg/L	6020A
Selenium	0.00250	0.00100	mg/L	6020A

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	MQL	MDL	Units	Method
Arsenic	0.00250	0.00130	mg/L	6020A
Cadmium	0.000500	0.0000950	mg/L	6020A
Lead	0.00150	0.000200	mg/L	6020A
Selenium	0.00250	0.00100	mg/L	6020A

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QC Association Summary

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-87356-1

Metals

Prep Batch: 316930

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-87356-1	MW-32	Dissolved	Water	3005A	
600-87356-2	MW-37	Dissolved	Water	3005A	
600-87356-2	MW-37	Total Recoverable	Water	3005A	
600-87356-3	MW-16	Dissolved	Water	3005A	
600-87356-3	MW-16	Total Recoverable	Water	3005A	
600-87356-3 MS	MW-16 MS	Dissolved	Water	3005A	
600-87356-3 MS	MW-16 MS	Total Recoverable	Water	3005A	
600-87356-3 MSD	MW-16 MSD	Dissolved	Water	3005A	
600-87356-3 MSD	MW-16 MSD	Total Recoverable	Water	3005A	
600-87356-4	MW-16S	Dissolved	Water	3005A	
600-87356-4	MW-16S	Total Recoverable	Water	3005A	
600-87356-5	DUP-1	Dissolved	Water	3005A	
600-87356-5	DUP-1	Total Recoverable	Water	3005A	
LCS 680-316930/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
MB 680-316930/1-A	Method Blank	Total Recoverable	Water	3005A	

Analysis Batch: 317160

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-87356-1	MW-32	Dissolved	Water	6020A	316930
600-87356-2	MW-37	Dissolved	Water	6020A	316930
600-87356-2	MW-37	Total Recoverable	Water	6020A	316930
600-87356-3	MW-16	Dissolved	Water	6020A	316930
600-87356-3	MW-16	Total Recoverable	Water	6020A	316930
600-87356-3 MS	MW-16 MS	Dissolved	Water	6020A	316930
600-87356-3 MS	MW-16 MS	Total Recoverable	Water	6020A	316930
600-87356-3 MSD	MW-16 MSD	Dissolved	Water	6020A	316930
600-87356-3 MSD	MW-16 MSD	Total Recoverable	Water	6020A	316930
600-87356-4	MW-16S	Dissolved	Water	6020A	316930
600-87356-4	MW-16S	Total Recoverable	Water	6020A	316930
600-87356-5	DUP-1	Dissolved	Water	6020A	316930
600-87356-5	DUP-1	Total Recoverable	Water	6020A	316930
LCS 680-316930/2-A	Lab Control Sample	Total Recoverable	Water	6020A	316930
MB 680-316930/1-A	Method Blank	Total Recoverable	Water	6020A	316930

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Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

Client Sample ID: MW-32

Date Collected: 02/14/14 17:00 Date Received: 02/15/14 09:28 Lab Sample ID: 600-87356-1

Matrix: Water

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	250 mL	316930	02/24/14 11:13	BJB	TAL SAV
Dissolved	Analysis	6020A		1	50 mL	250 mL	317160	02/24/14 18:29	BWR	TAL SAV

Client Sample ID: MW-37 Lab Sample ID: 600-87356-2 Matrix: Water

Date Collected: 02/13/14 15:50

Date Received: 02/15/14 09:28

_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	250 mL	316930	02/24/14 11:13	BJB	TAL SAV
Dissolved	Analysis	6020A		1	50 mL	250 mL	317160	02/24/14 18:34	BWR	TAL SAV
Total Recoverable	Prep	3005A			50 mL	250 mL	316930	02/24/14 11:13	BJB	TAL SAV
Total Recoverable	Analysis	6020A		1	50 mL	250 mL	317160	02/24/14 18:39	BWR	TAL SAV

Client Sample ID: MW-16 Lab Sample ID: 600-87356-3

Date Collected: 02/14/14 11:25 Matrix: Water

Date Received: 02/15/14 09:28

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	250 mL	316930	02/24/14 11:13	BJB	TAL SAV
Total Recoverable	Analysis	6020A		1	50 mL	250 mL	317160	02/24/14 18:45	BWR	TAL SAV
Dissolved	Prep	3005A			50 mL	250 mL	316930	02/24/14 11:13	BJB	TAL SAV
Dissolved	Analysis	6020A		1	50 mL	250 mL	317160	02/24/14 19:22	BWR	TAL SAV

Client Sample ID: MW-16S Lab Sample ID: 600-87356-4 **Matrix: Water**

Date Collected: 02/14/14 12:05

Date Received: 02/15/14 09:28

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	250 mL	316930	02/24/14 11:13	BJB	TAL SAV
Dissolved	Analysis	6020A		1	50 mL	250 mL	317160	02/24/14 19:48	BWR	TAL SAV
Total Recoverable	Prep	3005A			50 mL	250 mL	316930	02/24/14 11:13	BJB	TAL SAV
Total Recoverable	Analysis	6020A		1	50 mL	250 mL	317160	02/24/14 19:53	BWR	TAL SAV

Client Sample ID: DUP-1 Lab Sample ID: 600-87356-5

Date Collected: 02/14/14 00:00 **Matrix: Water** Date Received: 02/15/14 09:28

_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	250 mL	316930	02/24/14 11:13	BJB	TAL SAV
Dissolved	Analysis	6020A		1	50 mL	250 mL	317160	02/24/14 19:37	BWR	TAL SAV
Total Recoverable	Prep	3005A			50 mL	250 mL	316930	02/24/14 11:13	BJB	TAL SAV
Total Recoverable	Analysis	6020A		1	50 mL	250 mL	317160	02/24/14 19:43	BWR	TAL SAV

TestAmerica Houston

Lab Chronicle

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-87356-1

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

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Certification Summary

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-87356-1

Laboratory: TestAmerica Houston

The certifications listed below are applicable to this report.

Texas NELAP 6 T104704223 10-31-14	Authority	Program	EPA Region	Certification ID	Expiration Date
		NELAP	6	T104704222	10-31-14

Laboratory: TestAmerica Savannah

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

Authority	Program	EPA Region	Certification ID	Expiration Date
	AFCEE		SAVLAB	
A2LA	DoD ELAP		399.01	02-28-15
A2LA	ISO/IEC 17025		399.01	02-28-15
Alabama	State Program	4	41450	06-30-14
Arkansas DEQ	State Program	6	88-0692	01-31-15
California	NELAP	9	3217CA	07-31-14
Colorado	State Program	8	N/A	12-31-14
Connecticut	State Program	1	PH-0161	03-31-15
Florida	NELAP	4	E87052	06-30-14
GA Dept. of Agriculture	State Program	4	N/A	06-30-14
Georgia	State Program	4	N/A	06-30-14
Georgia	State Program	4	803	06-30-14
Guam	State Program	9	09-005r	04-17-14 *
Hawaii	State Program	9	N/A	06-30-14
Illinois	NELAP	5	200022	11-30-14
Indiana	State Program	5	N/A	06-30-14
lowa	State Program	7	353	07-01-15
Kentucky (DW)	State Program	4	90084	12-31-14
Kentucky (UST)	State Program	4	18	06-30-14
Louisiana	NELAP	6	LA100015	12-31-14
Maine	State Program	1	GA00006	08-16-14
Maryland	State Program	3	250	12-31-14
Massachusetts	State Program	1	M-GA006	06-30-14
Michigan	State Program	5	9925	06-30-14
Mississippi	State Program	4	N/A	06-30-14
Montana	State Program	8	CERT0081	01-01-15
Nebraska	State Program	7	TestAmerica-Savannah	06-30-14
New Jersey	NELAP	2	GA769	06-30-14
New Mexico	State Program	6	N/A	06-30-14
New York	NELAP	2	10842	03-31-14 *
North Carolina DENR	State Program	4	269	12-31-14
North Carolina DHHS	State Program	4	13701	07-31-14
Oklahoma	State Program	6	9984	08-31-14
Pennsylvania	NELAP	3	68-00474	06-30-14
Puerto Rico	State Program	2	GA00006	12-31-14
South Carolina	State Program	4	98001	06-30-14
Tennessee	State Program	4	TN02961	06-30-14
Texas	NELAP	6	T104704185-08-TX	11-30-14
USDA	Federal		SAV 3-04	04-07-14 *
Virginia	NELAP	3	460161	06-14-14
Washington	State Program	10	C1794	06-10-14
West Virginia DEP	State Program	3	94	06-30-14
West Virginia DHHR	State Program	3	9950C	12-31-14
Wisconsin	State Program	5	999819810	08-31-14

 $[\]ensuremath{^{\star}}$ Expired certification is currently pending renewal and is considered valid.

TestAmerica Houston

3/9/2014

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Certification Summary

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-87356-1

Laboratory: TestAmerica Savannah (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Wyoming	State Program	8	8TMS-L	06-30-14

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Temperature on Receipt

□ Q

Drinking Water? Yes□

Chain of Custody Record

TAL-4124 (1007)

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Client	<u> </u>	Froject Manager			1	Chain of Custody Number	
Golder Associales Inc.		/Aush/	/ hasting Highin by than	102/14/14	ナニア	755750	
Address		lephone Number (Area Cod	e)/Fax Number				
Soo Centra Plaza	200	(281) &	8989-178			Page of	
State			itaci	Analysis (Attach list if	i list if		
₹				(10) 2 (10) 2 (10) (10) (10) (10) (10) (10) (10) (10)	Janeary)		
Project Name and Location (State)	<u>"</u>	Carrier/Waybill Number		100 5 100 5			
Exide Frisco				51 SIM		Special Instructions/	ions/
Contract/Purchase Order/Ouche No. 30 - 30 8/e		Matrix	Containers & Preservatives	12.50 12.00 12.00 13		Conditions of Ru	eceipt
Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date Time	TIA suoeuph he2 io2	NBOH HCI HAO3 HSO¢	12401 1200			
MW-32	02/14/14 1700	X C	X	<u>></u>		filtered for dissolved	besch
Mw -37	02/13/14 1550	0 X O	X	XX		Filtrak Cor dissolve	1.solve
ig / /hw -16	2211 PIL MIZO	X		XX		fillend for dissola	dissola
a mw-16 MS	2211 HI 1125	X	X			fillered for Axsolved	XSO Med
5 MW - 16 MSD	2211 41/11/20	X	X	A A X X		F. Kood for dix solved	17 solve
\$91 - MW of 24	5021 41/41/20	۶ X	Х	λ Χ Χ		不是不不不不	18/87
	02/H/IU			XX		Filter for a	devestions.
	•						
				Barrell			•
			7	I Wales		49440009	
		-		4		-00%	
			1			1.4°C	
Identification	M George)	İ	'A fee may be asse	(A fee may be assessed if samples are retained	
		own neum 10 cuent	Of Beautiements (Soc	Accilive For Months	onger than 1 mont	<i>n</i>	
24 Hours 14 Days 14 Days 14 Days	🗌 21 Days	ther S					
1. Rejricish da 1947	Date Date	4~14	1. Received By			Date Time	
2. Reinguished By		Date Time	2. Received By	-		Date	
3. Relinquished By	Date	Тіте	3. Received By	July 1		Date Time	18
Comments	-	-					2

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

Login Sample Receipt Checklist

Client: Golder Associates Inc. Job Number: 600-87356-1

Login Number: 87356 List Source: TestAmerica Houston

List Number: 1 Creator: Allen, Jodi L

Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey neter.</td <td>N/A</td> <td>Lab does not accept radioactive samples.</td>	N/A	Lab does not accept radioactive samples.
he cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
he cooler or samples do not appear to have been compromised or ampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.4
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
s the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
here is sufficient vol. for all requested analyses, incl. any requested //S/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is 6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level as require

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Login Sample Receipt Checklist

Client: Golder Associates Inc. Job Number: 600-87356-1

Login Number: 87356
List Source: TestAmerica Savannah
List Number: 1
List Creation: 02/24/14 09:21 AM

Creator: Banda, Christy S

oreator. Danua, Omisty 3		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
s the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	Received only 1 sample for -1 (MW-32)
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6 mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Houston 6310 Rothway Street Houston, TX 77040 Tel: (713)690-4444

TestAmerica Job ID: 600-89514-1

Client Project/Site: Exide Recycling Center, Frisco TX

For:

Golder Associates Inc. 500 Century Plaza Drive Suite 190 Houston, Texas 77073

Attn: Christina Higginbotham

Authorized for release by: 4/2/2014 5:32:38 PM

Cathy Upton, Project Management Assistant II

(713)690-4444

cathy.upton@testamericainc.com

Designee for

Dean Joiner, Project Manager II (713)690-4444

dean.joiner@testamericainc.com

····· Links ·····

Review your project results through

Total Access

Have a Question?



Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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.

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Appendix A Laboratory Data Package Cover Page - Page 1 of 4

This data package is for TestAmerica Houston job number 600-89514-1 and consists of:

$ \sqrt{} $	R1 -	Field	chain-of-custo	ody documentation
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- ☑ R2 Sample identification cross-reference;
- ☑ R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - a. Items consistent with NELAC Chapter 5,
 - b. dilution factors,
 - c. preparation methods,
 - d. cleanup methods, and
 - e. if required for the project, tentatively identified compounds (TICs).
- ☐ R4 Surrogate recovery data including:
 - a. Calculated recovery (%R), and
 - b. The laboratory's surrogate QC limits.
- ☑ R5 Test reports/summary forms for blank samples;
- ☑ R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - a. LCS spiking amounts,
 - b. Calculated %R for each analyte, and
 - c. The laboratory's LCS QC limits.
- ☐ R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a. Samples associated with the MS/MSD clearly identified,
 - b. MS/MSD spiking amounts,
 - c. Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d. Calculated %Rs and relative percent differences (RPDs), and
 - e. The laboratory's MS/MSD QC limits
- ☐ R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - a. The amount of analyte measured in the duplicate,
 - b. The calculated RPD, and
 - c. The laboratory's QC limits for analytical duplicates.
- R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
- ☑ R10 Other problems or anomalies.

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

 Cathy L Upton
 4/2/2014

 Name (printed)
 Signature
 Date

Project Management Assistant II

Official Title (printed)

Page 3 of 19

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Laboratory Review Checklist: Reportable Data - Page 2 of 4

Laboratory Name:	TestAmerica Houston	LRC Date:	4/2/2014
Project Name:	Exide Recycling Center, Frisco TX	Laboratory Job Number:	600-89514-1
Reviewer Name:	Dean A Joiner		

# ¹ A ²	Description	Yes	No	NA^3	NR ⁴	ER#
R1 OI	Chain-of-custody (C-O-C)					
	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	Х				
	Were all departures from standard conditions described in an exception report?	Х				
R2 OI	Sample and quality control (QC) identification					
	Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	Х				
	Are all laboratory ID numbers cross-referenced to the corresponding QC data?	Х				
R3 OI	Test reports					
	Were all samples prepared and analyzed within holding times?	Х				
	Other than those results < MQL, were all other raw values bracketed by calibration standards?	Х				
	Were calculations checked by a peer or supervisor?	Х				
	Were all analyte identifications checked by a peer or supervisor?	Х				
	Were sample detection limits reported for all analytes not detected?	Х				
	Were all results for soil and sediment samples reported on a dry weight basis?			Χ		
	Were % moisture (or solids) reported for all soil and sediment samples?			Χ		
	Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			Χ		
	If required for the project, are TICs reported?			Χ		
4 0	Surrogate recovery data					
-	Were surrogates added prior to extraction?			Χ		
	Were surrogate percent recoveries in all samples within the laboratory QC limits?			Χ		
5 OI	Test reports/summary forms for blank samples					
	Were appropriate type(s) of blanks analyzed?	Х				
	Were blanks analyzed at the appropriate frequency?	Х				
	Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup					
	procedures?	Х				
	Were blank concentrations < MQL?	Х				
6 OI	Laboratory control samples (LCS):					
• 0.	Were all COCs included in the LCS?	Х				
	Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
	Were LCSs analyzed at the required frequency?	X				
	Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
	Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used					
	to calculate the SDLs?	Х				
	Was the LCSD RPD within QC limits?	<u> </u>		Х		
7 OI		<u> </u>		^		
<i>i</i> 01	Matrix spike (MS) and matrix spike duplicate (MSD) data			Х		
	Were the project/method specified analytes included in the MS and MSD? Were MS/MSD analyzed at the appropriate frequency?	<u> </u>				
		<u> </u>		X		
	Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	<u> </u>		X		
<u>, I</u>	Were MS/MSD RPDs within laboratory QC limits?	<u> </u>	-	Х		
8 OI	Analytical duplicate data					
	Were appropriate analytical duplicates analyzed for each matrix?			X		
	Were analytical duplicates analyzed at the appropriate frequency?	<u> </u>		Х		
<u>. I.a.</u>	Were RPDs or relative standard deviations within the laboratory QC limits?	<u> </u>		Χ		
9 OI	Method quantitation limits (MQLs):	<u> </u>				
	Are the MQLs for each method analyte included in the laboratory data package?	Х				
	Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	Х				
	Are unadjusted MQLs and DCSs included in the laboratory data package?	Х				
10 OI	Other problems/anomalies					
	Are all known problems/anomalies/special conditions noted in this LRC and ER?	Х				
	Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the					
	sample results?	Х				
	Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and					
	methods associated with this laboratory data package?	Х				
1.	Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required repo	ort(s). I	tems			

- Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items
 identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
- 2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
- 3. NA = Not applicable;
- 4. NR = Not reviewed;
- 5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

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Laboratory Review checklist: Supporting Data - Page 3 of 4

Laboratory Name:	TestAmerica Houston	LRC Date:	4/2/2014
Project Name:	Exide Recycling Center, Frisco TX	Laboratory Job Number:	600-89514-1
Reviewer Name:	Dean A Joiner		

# ¹	A^2	Description	Yes	No	NA ³	NR⁴	ER#
1	OI	Initial calibration (ICAL)					
		Were response factors and/or relative response factors for each analyte within QC limits?	Х				
		Were percent RSDs or correlation coefficient criteria met?	Х				
		Was the number of standards recommended in the method used for all analytes?	Х				
		Were all points generated between the lowest and highest standard used to calculate the curve?	Х				
		Are ICAL data available for all instruments used?	Х				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
		3					
2	OI	Initial and continuing calibration verification (ICV and CCV) and continuing calibration blank (CCB):					
		Was the CCV analyzed at the method-required frequency?	Х				
		Were percent differences for each analyte within the method-required QC limits?	Х				
		Was the ICAL curve verified for each analyte?	Х				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	Х				
3	O	Mass spectral tuning					
_		Was the appropriate compound for the method used for tuning?			Х		
		Were ion abundance data within the method-required QC limits?			X		
4	0	Internal standards (IS)					
		Were IS area counts and retention times within the method-required QC limits?			Х		
5		Raw data (NELAC Section 5.5.10)					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	Х				
		Were data associated with manual integrations flagged on the raw data?	X				
6	0	Dual column confirmation					
,,,	_	Did dual column confirmation results meet the method-required QC?			Х		
37	0	Tentatively identified compounds (TICs)					
,,	0	If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			Х		
88	ı	Interference Check Sample (ICS) results					
	_	Were percent recoveries within method QC limits?	Х				
S 9	П	Serial dilutions, post digestion spikes, and method of standard additions					
,,,		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			Х		
10		Method detection limit (MDL) studies					
,,,,		Was a MDL study performed for each reported analyte?	Х				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
244	\bigcirc I	Proficiency test reports	^				
)	Oi	Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
242	\bigcirc I	Standards documentation	^				
) I Z	5	Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
112	Οı	Compound/analyte identification procedures	^	-		\vdash	
113	O	Are the procedures for compound/analyte identification documented?	X				
14	\circ		Λ				
14	J	Demonstration of analyst competency (DOC)					
		Was DOC conducted consistent with NELAC Chapter 5?	X				
145	O.	Is documentation of the analyst's competency up-to-date and on file?	X				
15	UI	Verification/validation documentation for methods (NELAC Chapter 5)					
14.0	O.	Are all the methods used to generate the data documented, verified, and validated, where applicable?	Х				
16	UI	Laboratory standard operating procedures (SOPs)		—			
	_	Are laboratory SOPs current and on file for each method performed?	X				
	1.	Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required		tems			
	_	identified by the letter "S" should be retained and made available upon request for the appropriate retention period	d.				
		O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);					
		NA = Not applicable;					
	4.	NR = Not reviewed;					
	_						

5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

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4/2/2014

Laboratory Review Checklist: Exception Reports - Page 4 of 4

Laboratory Name:	TestAmerica Houston	LRC Date:	4/2/2014
Project Name:	Exide Recycling Center, Frisco TX	Laboratory Job Number:	600-89514-1
Reviewer Name:	Dean A Joiner		

ER # ¹	Description
1.	Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items
	identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2.	O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
3.	NA = Not applicable;
4.	NR = Not reviewed;
5.	ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

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Detection Check Standard

Matrix: Water Method: 200.7/6010 Preparation: 200.7P/3010 Date Analyzed: 12/31/2013 Date Prepared: 12/27/2013 Instrument: Spectro01 . 124030, 123788p TALs Batches: Units: mg/L

Analyte	MDL	DCS Spike	Measured Result	MQL
Aluminum	0.006	0.02	0.028176	0.5
Antimony	0.0063	0.01	0.010016	0.05
Arsenic	0.0033	0.01	0.008253	0.01
Barium	0.0022	0.005	0.004098	0.02
Beryllium	0.00134	0.002	0.004019	0.005
Boron	0.0077	0.02	0.019829	0.2
Cadmium	0.00073	0.001	0.001	0.005
Calcium	0.022	0.05	0.060829	1
Chromium	0.0016	0.002	0.003835	0.01
Cobalt	0.00063	0.001	0.000965	0.01
Copper	0.0014	0.002	0.002451	0.01
Iron	0.087	0.1	0.002258	0.4
Lithium	0.0024	0.005	0.006107	0.2
Lead	0.0029	0.005	0.005478	0.01
Selenium	0.0042	0.01	0.009953	0.04
Manganese	0.00084	0.002	0.001988	0.01
Molybdenum	0.0027	0.005	0.005867	0.01
Nickel	0.00179	0.005	0.005669	0.01
Silver	0.0012	0.0025	0.001901	0.01
Sodium	0.02	0.05	0.088115	1
Strontium	0.0005	0.001	0.000897	0.005
Thallium	0.0078	0.02	0.021503	0.03
Tin	0.0028	0.005	0.005708	0.01
Titanium	0.0011	0.002	0.001905	0.01
Vanadium	0.0017	0.002	0.003578	0.01
Zinc	0.0022	0.005	0.004189	0.01

Case Narrative

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX

TestAmerica Job ID: 600-89514-1

Job ID: 600-89514-1

Laboratory: TestAmerica Houston

Narrative

Job Narrative 600-89514-1

Comments

No additional comments.

Receipt

 $The sample was received on 3/28/2014\ 11:50\ AM; the sample arrived in good condition, properly preserved and, where required, on ice.$

The temperature of the cooler at receipt was 3.5° C.

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Method Summary

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX

TestAmerica Job ID: 600-89514-1

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL HOU

Protocol References:

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

Laboratory References:

TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

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Sample Summary

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX

TestAmerica Job ID: 600-89514-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
600-89514-1	MW-45	Water	03/27/14 11:50	03/28/14 11:50

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Client Sample Results

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX

TestAmerica Job ID: 600-89514-1

Client Sample ID: MW-45

Lab Sample ID: 600-89514-1

Date Collected: 03/27/14 11:50

Matrix: Water

Date Received: 03/28/14 11:50

Method: 6010B - Metals (ICP) - Dissolved								
Analyte	Result C	Qualifier MQL (Adj) SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic, Dissolved	0.00328 U	J 0.010	0.00328	mg/L		03/30/14 09:45	03/31/14 11:55	1
Cadmium, Dissolved	0.000350 U	J 0.0050	0.000350	mg/L		03/30/14 09:45	03/31/14 11:55	1
Lead, Dissolved	0.00290 U	J 0.010	0.00290	mg/L		03/30/14 09:45	03/31/14 11:55	1
Selenium, Dissolved	0.00417 U	J 0.040	0.00417	mg/L		03/30/14 09:45	03/31/14 11:55	1

Definitions/Glossary

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX

Reporting Limit or Requested Limit (Radiochemistry)

Toxicity Equivalent Factor (Dioxin)
Toxicity Equivalent Quotient (Dioxin)

Relative Percent Difference, a measure of the relative difference between two points

TestAmerica Job ID: 600-89514-1

Qualifiers

Metals

Qualifier	Qualifier Description
U	Analyte was not detected at or above the SDL.

Glossary

RL

RPD

TEF

TEQ

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
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

TestAmerica Houston

QC Sample Results

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX

TestAmerica Job ID: 600-89514-1

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 600-130744/1-A

Lab Sample ID: LCS 600-130744/2-A

Matrix: Water

Analysis Batch: 130786

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

Prep Batch: 130744

	IVID	IVID							
Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic, Dissolved	0.00328	U	0.0100	0.00328	mg/L		03/30/14 09:45	03/31/14 11:03	1
Cadmium, Dissolved	0.000350	U	0.00500	0.000350	mg/L		03/30/14 09:45	03/31/14 11:03	1
Lead, Dissolved	0.00290	U	0.0100	0.00290	mg/L		03/30/14 09:45	03/31/14 11:03	1
Selenium, Dissolved	0.00417	U	0.0400	0.00417	mg/L		03/30/14 09:45	03/31/14 11:03	1

Client Sample ID: Lab Control Sample

Matrix: Water

Analysis Batch: 130786

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Arsenic, Dissolved	1.00	0.9903		mg/L		99	80 - 120	
Cadmium, Dissolved	0.500	0.5156		mg/L		103	80 - 120	
Lead, Dissolved	1.00	0.9718		mg/L		97	80 - 120	
Selenium, Dissolved	1.00	1.004		mg/L		100	80 - 120	

Prep Type: Total/NA

Prep Batch: 130744

Unadjusted Detection Limits

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX

TestAmerica Job ID: 600-89514-1

Method: 6010B - Metals (ICP) - Dissolved

Analyte	MQL	MDL	Units	Method	
Arsenic, Dissolved	0.0100	0.00328	mg/L	6010B	
Cadmium, Dissolved	0.00500	0.000350	mg/L	6010B	
Lead, Dissolved	0.0100	0.00290	mg/L	6010B	
Selenium, Dissolved	0.0400	0.00417	mg/L	6010B	

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QC Association Summary

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX

TestAmerica Job ID: 600-89514-1

Metals

Prep Batch: 130744

o Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
0-89514-1	MW-45	Dissolved	Water	3010A	
S 600-130744/2-A	Lab Control Sample	Total/NA	Water	3010A	
3 600-130744/1-A	Method Blank	Total/NA	Water	3010A	

Analysis Batch: 130786

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-89514-1	MW-45	Dissolved	Water	6010B	130744
LCS 600-130744/2-A	Lab Control Sample	Total/NA	Water	6010B	130744
MB 600-130744/1-A	Method Blank	Total/NA	Water	6010B	130744

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Lab Chronicle

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX

TestAmerica Job ID: 600-89514-1

Lab Sample ID: 600-89514-1

Matrix: Water

Client Sample ID: MW-45 Date Collected: 03/27/14 11:50 Date Received: 03/28/14 11:50

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			50 mL	50 mL	130744	03/30/14 09:45	DCL	TAL HOU
Dissolved	Analysis	6010B		1	50 mL	50 mL	130786	03/31/14 11:55	DCL	TAL HOU

Laboratory References:

TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

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Certification Summary

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX

TestAmerica Job ID: 600-89514-1

Laboratory: TestAmerica Houston

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Texas	NELAP	6	T104704223	10-31-14

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Chain of Custody Record

TestAmerica Houston														プチン	});.)	
6310 Rothway Street Houston TX 77040			C C	Chain of Custody Record	Custo	ody R	ecor	Ċ								14
	2								<u> </u>	 - - -	Ė			THE LEADER IN CASE	RONMENIAL TESTING	/20
Client Information	Sampler Chris Trevino	no		Joiner	Joiner, Dean A				Carner	Camer (racking No(s)	No(s)			600-27110-9386.5		4/2
Clent Contact Christina Higginbotham	Phone: 817-281-0510	0		E-Mai [,] dean j	E-Mail [.] dean.joiner@testamericair	americain	ic.com							Page: of		
Company Golder Associates Inc.						!	Analysis		Requested	ğ.				Job#. 13	302086	
Address 500 Century Plaza Drive Suite 190	Due Date Requested:	#								\dashv		\dashv		Preservation Codes:	es: M - Hexane	
	TAT Requested (days):	/s): 5 davs			Self 1			•	•				, ,	cetate Cetate	N - None O - AsNaO2	
Starte, Zp TX, 77073		•		ni.t.				· · · · · · ·		<u> </u>			, ,,		P - Na2O4S Q - Na2SO3	
Phone. 281-821-6868(Tel) 281-821-6870(Fax)	PO# Purchase Order Requested	Requested		161 -								—		<u>.</u>	X - Nazyzyco S - H2SO4 T - TSP Dodecahydrate	
- \$	WO#			A Are	No)E			<u>.</u>					řs		U - Acetone V - MCAA	
Project Name: Exide Recycling Center, Frisco TX	Project #: 60004831			lá TVá	(), Boi								ntain		W - ph 4-5 Z - other (specify)	
Site: Exide Frisco	#WOSS			Sam	(S)oB(-							of c	Other:		
			Sample Type	(Wi-water, etc.) S=solid, etc. C=waste/oil, Fill.	oimel/IS/I - Dissolve					· ·			il Naithei			
Sample Identification	Sample Date	Time	G=grab)	ā			-			-		-	To	Special Inst	pecial Instructions/Note:	19
		/:	Ficschalami Couc	S. Code			- 1		-			+10	١		-	of
MW-45	03-27-14	1150	<u>ه</u>	Water X	×	Fela	Feld filtred -	_	O.H.S.Um	ti Itor			-			18
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			G	Water												
600-89514 Chain of Custod			G	Water												
County			6	Water									-			
			G	Water												
			G	Water												
Possible Hazard Identification Non-Hazard Flammable Skin Irritant Poison	on B 🖾 Unknown		Radiological		Sample Disposal		(A fee may be assessed if samples lient Disposal By Lab	ay be i □	assessed if san Disposal By Lab	e d if s : :l By La	ample. ล่ว		etain Ho	are retained longer than 1 month) Hold Until Client Approves Disposal	month) roves Disposal	
Deliverable Requested: I, II, III, IV, Other (specify) TRRP)				Special Instructions/QC	structions	/QC Rec	Requirements:	nts:							
Empty Kit Relinquished by:	ш	Date:		Т	Time:				M	Method of Shipment	Shipmer	# 				
Relinquished by. Chris Truling S	Date/Time: 03・37-/4 /	1600	60	Company Company	Received by:	ed by:					Date/Time	ne.			Company	
Keinquished by,	Date/Time:		Co	mpany	Received by:	ы ву: Д	•	7	•		Date/Time	ne			Company	
Reinquished by:	Date/Time:		Co	Company	Receive	ad by		X.			Dayed D	3/28/	7	5014	Company	
Custody Seal No.:					Cooler	Tetaperature	perature(s) °C and Other Remarks:	Other Re	marks:							

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Login Sample Receipt Checklist

Client: Golder Associates Inc. Job Number: 600-89514-1

Login Number: 89514 List Source: TestAmerica Houston

List Number: 1

Creator: Lockett, DuJuan D

Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td>Lab does not accept radioactive samples.</td>	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.5
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level as required.

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THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Houston 6310 Rothway Street Houston, TX 77040 Tel: (713)690-4444

TestAmerica Job ID: 600-89523-1

Client Project/Site: Exide Recycling Center, Frisco TX Projec

For:

Golder Associates Inc. 500 Century Plaza Drive Suite 190 Houston, Texas 77073

Attn: Christina Higginbotham

Authorized for release by:

4/1/2014 3:59:55 PM

Cathy Upton, Project Management Assistant II

(713)690-4444

cathy.upton@testamericainc.com

Designee for

Dean Joiner, Project Manager II (713)690-4444

dean.joiner@testamericainc.com

----- LINKS ------

Review your project results through **Total Access**

Have a Question?



Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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.

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Appendix A Laboratory Data Package Cover Page - Page 1 of 4

This data package is for TestAmerica Houston job number 600-89523-1 and consists of:

$ \sqrt{} $	R1 -	Field	chain-of-custo	ody documentation
---------------	------	-------	----------------	-------------------

- ☑ R2 Sample identification cross-reference;
- ☑ R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - a. Items consistent with NELAC Chapter 5,
 - b. dilution factors,
 - c. preparation methods,
 - d. cleanup methods, and
 - e. if required for the project, tentatively identified compounds (TICs).
- ☐ R4 Surrogate recovery data including:
 - a. Calculated recovery (%R), and
 - b. The laboratory's surrogate QC limits.
- ☑ R5 Test reports/summary forms for blank samples;
- ☑ R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - a. LCS spiking amounts,
 - b. Calculated %R for each analyte, and
 - c. The laboratory's LCS QC limits.
- ☑ R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a. Samples associated with the MS/MSD clearly identified,
 - b. MS/MSD spiking amounts,
 - c. Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d. Calculated %Rs and relative percent differences (RPDs), and
 - e. The laboratory's MS/MSD QC limits
- ☐ R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - a. The amount of analyte measured in the duplicate,
 - b. The calculated RPD, and
 - c. The laboratory's QC limits for analytical duplicates.
- R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
- ☑ R10 Other problems or anomalies.

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Cathy Upton4/1/2014Name (printed)SignatureDate

Project Management Asst II

Official Title (printed)

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Laboratory Review Checklist: Reportable Data - Page 2 of 4

Laboratory Name:	TestAmerica Houston	LRC Date:	4/1/2014
Project Name:	Exide Recycling Center, Frisco TX Projec	Laboratory Job Number:	600-89523-1
Reviewer Name:	Dean A Joiner		

# ¹ A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
R1 OI Ch	nain-of-custody (C-O-C)					
	d samples meet the laboratory's standard conditions of sample acceptability upon receipt?	Χ				
We	ere all departures from standard conditions described in an exception report?	Χ				
R2 OI Sa	ample and quality control (QC) identification					
Are	e all field sample ID numbers cross-referenced to the laboratory ID numbers?	Χ				
Are	e all laboratory ID numbers cross-referenced to the corresponding QC data?	Χ				
3 OI Te	est reports					
We	ere all samples prepared and analyzed within holding times?	Χ				
Otl	her than those results < MQL, were all other raw values bracketed by calibration standards?	Χ				
We	ere calculations checked by a peer or supervisor?	Χ				
We	ere all analyte identifications checked by a peer or supervisor?	Χ				
We	ere sample detection limits reported for all analytes not detected?	Χ				
	ere all results for soil and sediment samples reported on a dry weight basis?			Χ		
	ere % moisture (or solids) reported for all soil and sediment samples?			Χ		
	ere bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			Χ		
	required for the project, are TICs reported?			Х		
	irrogate recovery data					
	ere surrogates added prior to extraction?			Χ		
	ere surrogate percent recoveries in all samples within the laboratory QC limits?			Х		
	est reports/summary forms for blank samples					
	ere appropriate type(s) of blanks analyzed?	Х				
	ere blanks analyzed at the appropriate frequency?	X				
	ere method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup					
	ocedures?	Х				
	ere blank concentrations < MQL?	X				
	boratory control samples (LCS):					
	ere all COCs included in the LCS?	Х				
	as each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
	ere LCSs analyzed at the required frequency?	X				
	ere LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
	bes the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used	^				
	calculate the SDLs?	Х				
	as the LCSD RPD within QC limits?	X				
		^				
	atrix spike (MS) and matrix spike duplicate (MSD) data	V				
	ere the project/method specified analytes included in the MS and MSD?	X	-			
	ere MS/MSD analyzed at the appropriate frequency?	X	-			
	ere MS (and MSD, if applicable) %Rs within the laboratory QC limits?	X	-			
	ere MS/MSD RPDs within laboratory QC limits?	Х	-			
	nalytical duplicate data					
	ere appropriate analytical duplicates analyzed for each matrix?			X		
	ere analytical duplicates analyzed at the appropriate frequency?			X		
	ere RPDs or relative standard deviations within the laboratory QC limits?			Χ		
	ethod quantitation limits (MQLs):					
	e the MQLs for each method analyte included in the laboratory data package?	Х				
	the MQLs correspond to the concentration of the lowest non-zero calibration standard?	Х				
	e unadjusted MQLs and DCSs included in the laboratory data package?	Х				
	her problems/anomalies					
Are	e all known problems/anomalies/special conditions noted in this LRC and ER?	Χ				
Wa	as applicable and available technology used to lower the SDL to minimize the matrix interference effects on the					
saı	mple results?	Χ				
ls t	the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and					
	ethods associated with this laboratory data package?	Χ				
	ms identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required repo	ort(s). I	tems			

- items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
- 2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
- 3. NA = Not applicable;
- 4. NR = Not reviewed;
- 5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

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Laboratory Review checklist: Supporting Data - Page 3 of 4

Laboratory Name:	TestAmerica Houston	LRC Date:	4/1/2014
Project Name:	Exide Recycling Center, Frisco TX Projec	Laboratory Job Number:	600-89523-1
Reviewer Name:	Dean A Joiner		

# ¹	A ²	Description	Voc	Na	NA ³	NP ⁴	ER#⁵
# S1		Description Initial calibration (ICAL)	Yes	ИО	INA	INIX	EK#
31	Oi	` ,	V				
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
	1	Has the initial calibration curve been verified using an appropriate second source standard?	Х				
•							
S2	OI	Initial and continuing calibration verification (ICV and CCV) and continuing calibration blank (CCB):					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	Х				
33		Mass spectral tuning					
		Was the appropriate compound for the method used for tuning?			Χ		
		Were ion abundance data within the method-required QC limits?			Χ		
S 4		Internal standards (IS)					
		Were IS area counts and retention times within the method-required QC limits?			Χ		
S5	OI	Raw data (NELAC Section 5.5.10)					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	Х				
		Were data associated with manual integrations flagged on the raw data?	Х				
S6	0	Dual column confirmation					
	•	Did dual column confirmation results meet the method-required QC?			Χ		
S 7	0	Tentatively identified compounds (TICs)					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			Χ		
S8	I	Interference Check Sample (ICS) results					
		Were percent recoveries within method QC limits?	Х				
S9	l	Serial dilutions, post digestion spikes, and method of standard additions					
	1	Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	Х				
S10		Method detection limit (MDL) studies					
	١٠.	Was a MDL study performed for each reported analyte?	Х				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
211	О	Proficiency test reports					
,,,		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	Х				
212	_	Standards documentation	^				
712	Oi	Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	Х				
242		,	^				
513	Oi	Compound/analyte identification procedures	V				
24.4		Are the procedures for compound/analyte identification documented?	Х				
514	Oi	Demonstration of analyst competency (DOC)					
		Was DOC conducted consistent with NELAC Chapter 5?	X				
	101	Is documentation of the analyst's competency up-to-date and on file?	Х				
S15	OI	Verification/validation documentation for methods (NELAC Chapter 5)					
	T	Are all the methods used to generate the data documented, verified, and validated, where applicable?	Х				
516	Ol	Laboratory standard operating procedures (SOPs)					
		Are laboratory SOPs current and on file for each method performed?	X				
	1.	Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required		Items			
		identified by the letter "S" should be retained and made available upon request for the appropriate retention period	d.				
	2.	O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);					
	3.	NA = Not applicable;					
	4.	NR = Not reviewed;					
	5.	ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "N	o" is checl	ked).			

Page 5 of 23 4/1/2014

Laboratory Review Checklist: Exception Reports - Page 4 of 4

Laboratory Name:	TestAmerica Houston	LRC Date:	4/1/2014
Project Name:	Exide Recycling Center, Frisco TX Projec	Laboratory Job Number:	600-89523-1
Reviewer Name:	Dean A Joiner		

ER # ¹	Description
1.	Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items
	identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2.	O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
3.	NA = Not applicable;
4.	NR = Not reviewed;
5.	ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Dep Water Clear Sample ID Analyze Result Analyze <							Spike			Percent		Analysis	Instrument			Analysis
Water Q 2013 A O MUNIV ICPMSQ Amminium 66.4 ugl. 2.5 113 300SA 6020A ICPMSG 7429-06-0 60229813 Water Q 4 2013 A O MULV ICPMSQ Amminom 5.84 ugl. 2.5 1.3 2.5 119 300SA 6020A ICPMSG 7440-98-0 602297813 Water Q 2013 A O MULV ICPMSQ Benrium 1.965 ugl. 0.5 1.0 1.02 300SA 6020A ICPMSG 7440-439-3 600237813 Water Q 2013 A O MULV ICPMSQ Benrium 0.52 ugl. 0.5 0.5 1.0 300SA 6020A ICPMSG 7440-439-9 6002287813 Water Q 2013 A O MULV ICPMSQ Cachium 0.94 0.2 0.5 1.0 1.0 300SA 6020A ICPMSG 7440-43-9 600237813 Water Q 2013 A O MULV ICPMSQ Cachium 0.94 0.5 0.1 0.5 1.0 1.0 300SA 6020A ICPMSG 7440-43-9 600237813	Dept	Matrix	Client Sample ID	Analyte	Result	Unit	Amount	MDL	RL	Recovery	Prep Method	Method	O	CAS	Prep Batch	Batch
Water Q 2013 AG MOLV ICPANSC Arthrowley 28.75 gg/L 2 115 3006A 6020A ICPANSC 7440-39-3 680-237813 Water Q 2013 AG MOLV ICPANSC Bearine 1.966 gg/L 2 1.3 5 19 3006A 6020A ICPANSC 7440-39-3 660-237813 Water Q 2013 AG MOLV ICPANSC Bearine 1.966 gg/L 2 1.3 5 104 3006A 6020A ICPANSC 7440-39-3 660-237813 Water Q 2013 AG MOLV ICPANSC Calcium 0.15 gg/L 5 5 10 3006A 6020A ICPANSC 7440-47-8 660-237813 Water Q 2013 AG MOLV ICPANSC Calcium 0.15 0.2 0.05 10 10 3006A 6020A ICPANSC 7440-47-8 660-237813 Water Q 2013 AG MOLV ICPANSC Calcium 0.15 0.2 0.5 10 10 10 10 10 10 10 10 10	ME	Water	Q4 2013 AQ MDLV ICPMSC	Aluminum	56.4	T/Bn	20	23	20	113	3005A	6020A	ICPMSC	7429-90-5	680-297813	680-298498
Water Q 2013 AO MUNU CIPMISG Arsenic 2.37 gyL 2 1.3 2.5 119 3005A 6020A ICPMISC 7440-39-3 680-237813 Water Q4 2013 AO MUNU CIPMISG Beryllum 0.52 ug/L 2 1.3 2.5 104 3005A 6020A ICPMISC 7440-417 680-237813 Water Q4 2013 AO MUNU CIPMISG Beryllum 0.52 ug/L 0.5 0.5 104 3005A 6020A ICPMISC 7440-41-9 680-237813 Water Q4 2013 AO MUNU CIPMISG Cachnium 2.94 73 ug/L 2.5 5 110 3005A ICPMISC 7440-41-9 680-237813 Water Q4 2013 AO MUNU CIPMISG Cachnium 2.94 ug/L 2.5 5 110 3005A ICPMISC 7440-41-3 680-237813 Water Q4 2013 AO MUNU CIPMISG Cachnium 0.21 0.1 2.5 5 110 3005A ICPMISC 7440-44-9 680-237813 Water Q4 2	ME	Water	Q4 2013 AQ MDLV ICPMSC	Antimony	2.875	ng/L	2.5	2.3	2	115	3005A	6020A	ICPMSC	7440-36-0	680-297813	680-298498
Water O4 2013 ACM MOLV ICPNISG Benrium 1.985 ugh 2 1.3 5 98 3005A GCDAA ICPMISG 7440-34-7 680-237813 Water O4 2013 ACM MOLV ICPNISG Berylium 6.15 ugh 6.0 10 100 102 3005A 6.02 104-04-17 680-237813 Water O4 2013 ACM MOLV ICPNISG Caemium 6.154 ugh 5.0 10 100 3005A 6020A ICPNISG 7440-42-8 680-237813 Water O4 2013 ACM MOLV ICPNISG Caemium 2.1 2.0 10 2.0 110 3005A 6020A ICPNISG 7440-48-4 680-237813 Water O4 2013 ACM MOLV ICPNISG Caemium 2.1 2.1 5.0 1.1 5.0 1.1 5.0 1.1 5.0 1.1 5.0 1.1 5.0 1.1 5.0 1.1 5.0 1.1 5.0 1.1 5.0 1.1 5.0 1.1 5.0 1.1 2.0	ME	Water	Q4 2013 AQ MDLV ICPMSC	Arsenic	2.375	T/Bn	2	1.3	2.5	119	3005A	6020A	ICPMSC	7440-38-2	680-297813	680-298498
Water OLAZ 013 AO MULVI ICPMSC Benyllium 0.55 ug/L 0.5 ug/L 0.5 ug/L 0.5 ug/L 0.5 ug/L 0.5 ug/L 0.5 ug/L 0.0 100 100 0.00 CORA GCDOA ICPMISC 7440-43-9 680-237813 Water Q4 2013 AO MULVI ICPMSC Cadmium 0.185 ug/L 5.5 110 300SA 6020A ICPMISC 7440-43-9 680-237813 Water Q4 2013 AO MULVI ICPMSC Cablum 0.21 ug/L 5.6 10 10 300SA 6020A ICPMISC 7440-44-3 680-237813 Water Q4 2013 AO MULVI ICPMSC Cablum 0.21 0.1 5.6 10 10 300SA 6020A ICPMISC 7440-44-3 680-237813 Water Q4 2013 AO MULVI ICPMSC Choper 0.2 0.15 0.5 11 5 10 7440-44-3 680-237813 Water Q4 2013 AO MULVI ICPMSC Choper 0.2 0.15	ME	Water	Q4 2013 AQ MDLV ICPMSC	Barium	1.965	7/6n	2	1.3	2	86	3005A	6020A	ICPMSC	7440-39-3	680-297813	680-298498
Water CAZ 2013 AQ MDLV ICPMISC Bronn 61.24 gt/L 60 40 100 102 3005A 6020A ICPMISC 7440-42-9 660-207813 Water Q4 2013 AQ MDLV ICPMISC Cadmium 0.196 ug/L 550 10 550 116 3005A 6020A ICPMISC 7440-47-0 660-287813 Water Q4 2013 AQ MDLV ICPMISC Cadcium 294,73 ug/L 55 10 3005A 6020A ICPMISC 7440-47-0 660-287813 Water Q4 2013 AQ MDLV ICPMISC Cobpet 2.02 u1 5 10 3005A 6020A ICPMISC 7440-47-0 660-287813 Water Q4 2013 AQ MDLV ICPMISC Cobpet 2.02 u1 5 10 3005A 6020A ICPMISC 7440-47-0 660-287813 Water Q4 2013 AQ MDLV ICPMISC Load u2 1.1 5 10 10 10 10 10 10 10 10 10 10 10	ME	Water	Q4 2013 AQ MDLV ICPMSC	Beryllium	0.52	ng/L	0.5	0.25	0.5	104	3005A	6020A	ICPMSC	7440-41-7	680-297813	680-298498
Water O4 2013 AQ MDLV ICPNISC Cadmium 0.195 ug/L 0.05 0.05 0.05 0.05A 0.005A 0.020A ICPNISC 7440-743-9 680-297813 Water O4 2013 AQ MDLV ICPNISC Cacluium 2941 ug/L 5.6 110 3005A 6020A ICPNISC 7440-73-8 680-297813 Water O4 2013 AQ MDLV ICPNISC Cobalt 0.21 ug/L 0.15 0.15 105 3005A 6020A ICPNISC 7440-84-4 680-297813 Water O4 2013 AQ MDLV ICPNISC Cobalt 0.21 ug/L 0.1 1.6 116 3005A 6020A ICPNISC 7440-50-8 680-297813 Water O4 2013 AQ MDLV ICPNISC Lead 0.25 ug/L 0.2 1.5 116 3005A 6020A ICPNISC 7440-50-8 680-297813 Water O4 2013 AQ MDLV ICPNISC Lead 0.35 ug/L 0.2 0.4 0.8 1.5 98 3005A 6020A ICPNISC 7440-5	ME	Water	Q4 2013 AQ MDLV ICPMSC	Boron	51.24	T/Bn	90	40	100	102	3005A	6020A	ICPMSC	7440-42-8	680-297813	680-298498
Water Q4 2013 AQ MDLV ICPMSC Caclum 294,73 ug1 250 130 250 118 300GA 6020A ICPMSC 7440-473 860-297813 Water Q4 2013 AQ MDLV ICPMSG Chornim 5.49 ug1 5.6 115 5.0 105 300GA 6020A ICPMSC 7440-47-9 860-297813 Water Q4 2013 AQ MDLV ICPMSG Copper 2.02 ug1 2.1 5.0 10 300GA 6020A ICPMSC 7440-48-4 860-297813 Water Q4 2013 AQ MDLV ICPMSG Lead 0.35 ug1 2.0 1.6 1.6 10 300GA 6020A ICPMSC 749-95-4 860-297813 Water Q4 2013 AQ MDLV ICPMSG Lead 0.35 ug1 2.0 1.5 1.6 1.8 300GA 6020A ICPMSC 7439-95-4 860-297813 Water Q4 2013 AQ MDLV ICPMSG Magnesium 78.4 ug1 2.0 1.5 1.6 1.8 300GA ICPMSC	ME	Water	Q4 2013 AQ MDLV ICPMSC	Cadmium	0.195	7/6n	0.2	0.095	0.5	86	3005A	6020A	ICPMSC	7440-43-9	680-297813	680-298498
Water Q4 2013 AQ MDLV ICPMSC Chonnium 549 ug/L 5 110 3006A 6020A ICPMSC 7440-48-3 669-297813 Water Q4 2013 AQ MDLV ICPMSC Copbait 0.21 ug/L 2 1.1 5 101 3006A 6020A ICPMSC 7440-48-9 860-297813 Water Q4 2013 AQ MDLV ICPMSC Copbait 2.02 ug/L 5 1.1 5 101 3006A 6020A ICPMSC 7440-56-8 860-297813 Water Q4 2013 AQ MDLV ICPMSC Lead 0.356 ug/L 2 1 5 10 3006A 6020A ICPMSC 7439-86-6 680-297813 Water Q4 2013 AQ MDLV ICPMSC Inead 0.356 ug/L 2 1 5 98 3006A 6020A ICPMSC 7439-86-6 680-297813 Water Q4 2013 AQ MDLV ICPMSC Mercury 0.655 ug/L 2 1 2 1 2 1 2 1 2	ME	Water	Q4 2013 AQ MDLV ICPMSC	Calcinm	294.73	7/6n	250	130	250	118	3005A	6020A	ICPMSC	7440-70-2	680-297813	680-298498
Water Q4 2013 AQ MDLV ICPMSC Cobalt 0.21 ug/L 0.2 0.15 0.5 105 3005A 6020A ICPMSC 7440-68-8 680-297813 Water Q4 2013 AQ MDLV ICPMSC Copper 2.02 ug/L 5 1.1 5 101 3005A 6020A ICPMSC 7440-68-8 680-297813 Water Q4 2013 AQ MDLV ICPMSC Lead 0.355 ug/L 0.3 1.5 1.6 118 3005A 6020A ICPMSC 7439-86-7 680-297813 Water Q4 2013 AQ MDLV ICPMSC Megruny 0.355 ug/L 0.3 1.5 1.6 18 3005A 6020A ICPMSC 7439-96-7 680-297813 Water Q4 2013 AQ MDLV ICPMSC Megruny 0.655 ug/L 2 1.5 5 110 3005A 6020A ICPMSC 7440-66-8 680-297813 Water Q4 2013 AQ MDLV ICPMSC Mercuny 0.655 ug/L 2 1.5 5 110 3005A <	ME	Water	Q4 2013 AQ MDLV ICPMSC	Chromium	5.49	T/Bn	2	2.5	2	110	3005A	6020A	ICPMSC	7440-47-3	680-297813	680-298498
Water Q4 2013 AG MDLV ICPMISC Copper 2.02 ug/L 2 11 5 101 3005A 6020A ICPMISC 7440-50-8 680-297813 Water Q4 2013 AG MDLV ICPMISC Lend 54.13 ug/L 0.2 1.5 118 3005A 6020A ICPMISC 7439-95-4 680-297813 Water Q4 2013 AG MDLV ICPMISC Lend 0.355 ug/L 0.3 0.2 1.5 18 3005A 6020A ICPMISC 7439-95-4 680-297813 Water Q4 2013 AG MDLV ICPMISC Marcuny LoSS ug/L 2 1 5 98 3005A 6020A ICPMISC 7439-95-4 680-297813 Water Q4 2013 AG MDLV ICPMISC Marcuny 2.05 ug/L 2 1.5 5 110 3005A 6020A ICPMISC 7439-95-6 680-297813 Water Q4 2013 AG MDLV ICPMISC Michelenum 2.05 ug/L 2 1.5 5 110 3005A 6020A	ME	Water	Q4 2013 AQ MDLV ICPMSC	Cobalt	0.21	7/6n	0.2	0.15	0.5	105	3005A	6020A	ICPMSC	7440-48-4	680-297813	680-298498
Water CA 2013 AQ MDLV ICPMISC Iron 64.13 ug/L 50 33 100 108 3005A 6020A ICPMISC 7439-89-1 680-297813 Water IQA 2013 AQ MDLV ICPMISC Ball 0.35 ug/L 2 1 5 98 3005A 6020A ICPMISC 7439-96-5 680-297813 Water IQA 2013 AQ MDLV ICPMISC Manganesie 1.955 ug/L 2 1 5 98 3005A 6020A ICPMISC 7439-96-5 680-297813 Water IQA 2013 AQ MDLV ICPMISC Mercury 0.625 ug/L 2 1 5 10 3005A 6020A ICPMISC 7439-96-5 680-297813 Water IQA 2013 AQ MDLV ICPMISC Mercury 0.625 ug/L 2 1 2 125 3005A 6020A ICPMISC 7439-96-5 680-297813 Water IQA 2013 AQ MDLV ICPMISC Mercury 0.625 ug/L 2 1 2 1 2 1	ME	Water	Q4 2013 AQ MDLV ICPMSC	Copper	2.02	7/6n	2	1.1	2	101	3005A	6020A	ICPMSC	7440-50-8	680-297813	680-298498
Water Q4 2013 AQ MDLV ICPMSC Lead 0.356 ug/L 0.3 0.2 1.5 118 3005A 6020A ICPMSC 7439-92-1 680-297813 Water Q4 2013 AQ MDLV ICPMSC Magnessum 754.2 ug/L 80 43 250 98 3005A 6020A ICPMSC 7439-96-6 680-297813 Water Q4 2013 AQ MDLV ICPMSC Mercury 0.625 ug/L 0.5 0.4 0.8 125 3005A 6020A ICPMSC 7439-96-6 680-297813 Water Q4 2013 AQ MDLV ICPMSC Mercury 0.625 ug/L 2 5 12 3005A 6020A ICPMSC 7439-97-6 680-297813 Water Q4 2013 AQ MDLV ICPMSC Mercury 2.26 ug/L 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1<	ME	Water	Q4 2013 AQ MDLV ICPMSC	Iron	54.13	T/Bn	90	33	100	108	3005A	6020A	ICPMSC	7439-89-6	680-297813	680-298498
Water Q4 2013 AQ MDLV ICPMSC Magnesium 78.42 ug/L 80 43 250 98 3005A 6020A ICPMSC 7439-95-5 680-297813 Water Q4 2013 AQ MDLV ICPMSC Manganese 1.955 ug/L 0.5 1 5 98 3005A 6020A ICPMSC 7439-95-5 680-297813 Water Q4 2013 AQ MDLV ICPMSC Mercury 0.655 ug/L 0.5 1.5 5 112 3005A 6020A ICPMSC 7439-96-5 680-297813 Water Q4 2013 AQ MDLV ICPMSC Melvedury 2.656 ug/L 2 5 1 3005A 6020A ICPMSC 740-02-0 680-297813 Water Q4 2013 AQ MDLV ICPMSC Neikel ug/L 2 1 2.5 93 3005A 6020A ICPMSC 740-02-0 680-297813 Water Q4 2013 AQ MDLV ICPMSC Selentium 1.855 ug/L 0.4 0.25 1 109 3005A 6020A ICPMSC	ME	Water	Q4 2013 AQ MDLV ICPMSC	Lead	0.355	T/Bn	6.0	0.2	1.5	118	3005A	6020A	ICPMSC	7439-92-1	680-297813	680-298498
Water Q4 2013 AQ MDLV ICPMSC Manganese 1.955 ug/L 2 1 5 98 3005A 6020A ICPMSC 7439-96-5 680-297813 Water Q4 2013 AQ MDLV ICPMSC Mercury 0.625 ug/L 2 1.5 5 110 3005A 6020A ICPMSC 7439-97-6 680-297813 Water Q4 2013 AQ MDLV ICPMSC Nokelen Land 2.86 ug/L 4 2 5 12 3005A 6020A ICPMSC 7440-02-0 680-297813 Water Q4 2013 AQ MDLV ICPMSC Nickel ug/L 2 1 2.5 93 3005A 6020A ICPMSC 7440-02-0 680-297813 Water Q4 2013 AQ MDLV ICPMSC Selentium 1.855 ug/L 2 1 2.5 93 3005A 6020A ICPMSC 7440-23-5 680-297813 Water Q4 2013 AQ MDLV ICPMSC Selentium 1.855 ug/L 0.4 2.5 1 2 7 4.0 2.2 <td>ME</td> <td>Water</td> <td>Q4 2013 AQ MDLV ICPMSC</td> <td>Magnesium</td> <td>78.42</td> <td>7/6n</td> <td>08</td> <td>43</td> <td>250</td> <td>86</td> <td>3005A</td> <td>6020A</td> <td>ICPMSC</td> <td>7439-95-4</td> <td>680-297813</td> <td>680-298498</td>	ME	Water	Q4 2013 AQ MDLV ICPMSC	Magnesium	78.42	7/6n	08	43	250	86	3005A	6020A	ICPMSC	7439-95-4	680-297813	680-298498
Water Q4 2013 AQ MDLV ICPMSC Mercury 0.625 ug/L 0.5 0.4 0.8 125 3005A 6020A ICPMSC 7439-97-6 680-297813 Water Q4 2013 AQ MDLV ICPMSC Nichbenum 2.205 ug/L 2 5 110 3005A 6020A ICPMSC 7440-02-0 680-297813 Water Q4 2013 AQ MDLV ICPMSC Nichmic ug/L 20 170 500 110 3005A 6020A ICPMSC 7440-02-0 680-297813 Water Q4 2013 AQ MDLV ICPMSC Selenium 1855 ug/L 2 1 2.5 93 3005A 6020A ICPMSC 7440-22-4 680-297813 Water Q4 2013 AQ MDLV ICPMSC Selenium 1.855 ug/L 1 0.25 1 0.05A ICPMSC 7440-22-4 680-297813 Water Q4 2013 AQ MDLV ICPMSC Stelonium 0.98 ug/L 1 0.5 1 0.96 6020A ICPMSC 7440-24-6 680-297813	ME	Water	Q4 2013 AQ MDLV ICPMSC	Manganese	1.955	7/6n	2	1	2	98	3005A	6020A	ICPMSC	7439-96-5	680-297813	680-298498
Water Q4 2013 AQ MDLV ICPMSC Molybdenum 2.205 ug/L 2 15 5 110 3005A 6020A ICPMSC 7439-98-7 680-297813 Water Q4 2013 AQ MDLV ICPMSC Nickel 4.86 ug/L 2 5 122 3005A 6020A ICPMSC 7440-02-0 680-297813 Water Q4 2013 AQ MDLV ICPMSC Selenium 219.45 ug/L 2 1 2.5 93 3005A 6020A ICPMSC 7440-22-9 680-297813 Water Q4 2013 AQ MDLV ICPMSC Selenium 457.985 ug/L 0.25 1 109 3005A 6020A ICPMSC 7440-22-4 680-297813 Water Q4 2013 AQ MDLV ICPMSC Selenium 457.985 ug/L 1 0.5 1 10 3005A 6020A ICPMSC 7440-23-6 680-297813 Water Q4 2013 AQ MDLV ICPMSC Thallium 0.345 ug/L 1 0.5 1 3005A 6020A ICPMSC 7440-28-	ME	Water	Q4 2013 AQ MDLV ICPMSC	Mercury	0.625	T/Bn	9.0	0.4	8.0	125	3005A	6020A	ICPMSC	7439-97-6	680-297813	680-298498
Water Q4 2013 AQ MDLV ICPMSC Nickel 4.86 ug/L 4.8 2 5 122 3005A 6020A ICPMSC 7440-02-0 680-297813 Water Q4 2013 AQ MDLV ICPMSC Potessium 219.45 ug/L 20 1 0 3005A 6020A ICPMSC 7440-22-4 680-297813 Water Q4 2013 AQ MDLV ICPMSC Selenium 45.7385 ug/L 0.4 0.25 1 109 3005A 6020A ICPMSC 7440-22-4 680-297813 Water Q4 2013 AQ MDLV ICPMSC Stentium 457.885 ug/L 1 0.5 1 3005A 6020A ICPMSC 7440-23-4 680-297813 Water Q4 2013 AQ MDLV ICPMSC Stentium 457.885 ug/L 1 0.5 1 3005A 6020A ICPMSC 7440-28-0 680-297813 Water Q4 2013 AQ MDLV ICPMSC Thellium 0.96 ug/L 1 0.5 1 36 0.00A ICPMSC 7440-28-0 680	ME	Water	Q4 2013 AQ MDLV ICPMSC	Molybdenum	2.205	7/6n	2	1.5	2	110	3005A	6020A	ICPMSC	7439-98-7	680-297813	680-298498
Water Q4 2013 AQ MDLV ICPMSC Potessium 219.45 ug/L 200 170 500 110 3005A 6020A ICPMSC 777440 680-297813 Water Q4 2013 AQ MDLV ICPMSC Selentium 1.855 ug/L 0.4 0.25 1 109 3005A 6020A ICPMSC 7740-22-4 680-297813 Water Q4 2013 AQ MDLV ICPMSC Selentium 6.945 ug/L 400 250 1 109 3005A 6020A ICPMSC 7440-22-4 680-297813 Water Q4 2013 AQ MDLV ICPMSC Stontium 6.945 ug/L 40 2.5 1 95 3005A 6020A ICPMSC 7440-23-5 680-297813 Water Q4 2013 AQ MDLV ICPMSC Theilium 0.945 ug/L 1 0.5 1 95 3005A 6020A ICPMSC 7440-23-5 680-297813 Water Q4 2013 AQ MDLV ICPMSC Trianium 0.98 ug/L 1 0.5 1 96 3005A	ME	Water	Q4 2013 AQ MDLV ICPMSC	Nickel	4.86	7/6n	4	2	2	122	3005A	6020A	ICPMSC	7440-02-0	680-297813	680-298498
Water Q4 2013 AQ MDLV ICPMSG Selenium 1885 ug/L 2 1 2.5 93 3005A 6020A ICPMSC 7782-49-2 680-297813 Water Q4 2013 AQ MDLV ICPMSG Silver 0.435 ug/L 0.4 0.25 1 109 3005A 6020A ICPMSC 7440-22-4 680-297813 Water Q4 2013 AQ MDLV ICPMSG Strontium 0.5 1 96 3005A 6020A ICPMSC 7440-23-5 680-297813 Water Q4 2013 AQ MDLV ICPMSG Strontium 0.96 ug/L 1 96 3005A 6020A ICPMSC 7440-24-6 680-297813 Water Q4 2013 AQ MDLV ICPMSG The lilum 0.96 ug/L 1 0.5 1 96 3005A 6020A ICPMSC 7440-24-6 680-297813 Water Q4 2013 AQ MDLV ICPMSG Tranium 0.96 ug/L 2 1/3 5 127 3005A 6020A ICPMSC 7440-31-6 680-297813 <	ME	Water	Q4 2013 AQ MDLV ICPMSC	Potassium	219.45	ng/L	200	170	200	110	3005A	6020A	ICPMSC	9/7/7440	680-297813	680-298498
Water Q4 2013 AQ MDLV ICPMSC Silver 0.435 ug/L 0.4 0.25 1 109 3005A 6020A ICPMSC 7440-22-4 680-297813 Water Q4 2013 AQ MDLV ICPMSC Strontium 0.945 ug/L 1 0.5 1 95 3005A 6020A ICPMSC 7440-24-6 680-297813 Water Q4 2013 AQ MDLV ICPMSC Thallium 0.986 ug/L 1 0.5 1 98 3005A 6020A ICPMSC 7440-24-6 680-297813 Water Q4 2013 AQ MDLV ICPMSC Thallium 0.986 ug/L 2 1.3 5 124 3005A 6020A ICPMSC 7440-28-0 680-297813 Water Q4 2013 AQ MDLV ICPMSC Titanium 3.17 ug/L 2 1.3 5 12 3005A 6020A ICPMSC 7440-32-6 680-297813 Water Q4 2013 AQ MDLV ICPMSC Titanium 5.55 ug/L 5 1.3 5 1.7 3005A <td< td=""><td>ME</td><td>Water</td><td>Q4 2013 AQ MDLV ICPMSC</td><td>Selenium</td><td>1.855</td><td>7/6n</td><td>2</td><td>1</td><td>2.5</td><td>63</td><td>3005A</td><td>6020A</td><td>ICPMSC</td><td>7782-49-2</td><td>680-297813</td><td>680-298498</td></td<>	ME	Water	Q4 2013 AQ MDLV ICPMSC	Selenium	1.855	7/6n	2	1	2.5	63	3005A	6020A	ICPMSC	7782-49-2	680-297813	680-298498
Water Q4 2013 AQ MDLV ICPMSC Sodium 457.385 ug/L 400 250 500 114 3005A 6020A ICPMSC 7440-23-5 680-297813 Water Q4 2013 AQ MDLV ICPMSC Thaillium 0.945 ug/L 1 0.5 1 95 3005A 6020A ICPMSC 7440-24-6 680-297813 Water Q4 2013 AQ MDLV ICPMSC Thaillium 0.945 ug/L 2 1.3 5 124 3005A 6020A ICPMSC 7440-34-6 680-297813 Water Q4 2013 AQ MDLV ICPMSC Titalium 3.47 ug/L 2 1.3 5 127 3005A 6020A ICPMSC 7440-34-5 680-297813 Water Q4 2013 AQ MDLV ICPMSC Titalium 5.55 ug/L 5 1.3 5 17 3005A 6020A ICPMSC 7440-62-2 680-297813 Water Q4 2013 AQ MDLV ICPMSC Zinc u/0.95 u/0.4 1 1 1 101 3005A <t< td=""><td>ME</td><td>Water</td><td>Q4 2013 AQ MDLV ICPMSC</td><td>Silver</td><td>0.435</td><td>7/6n</td><td>0.4</td><td>0.25</td><td>1</td><td>109</td><td>3005A</td><td>6020A</td><td>ICPMSC</td><td>7440-22-4</td><td>680-297813</td><td>680-298498</td></t<>	ME	Water	Q4 2013 AQ MDLV ICPMSC	Silver	0.435	7/6n	0.4	0.25	1	109	3005A	6020A	ICPMSC	7440-22-4	680-297813	680-298498
Water Q4 2013 AQ MDLV ICPMSC Strontium 0.945 ug/L 1 0.5 1 95 3005A 6020A ICPMSC 7440-24-6 680-297813 Water Q4 2013 AQ MDLV ICPMSG Thellium 0.98 ug/L 2 1 0.5 1 98 3005A 6020A ICPMSC 7440-28-0 680-297813 Water Q4 2013 AQ MDLV ICPMSG Trim 2.47 ug/L 2 1.3 5 124 3005A 6020A ICPMSC 7440-38-6 680-297813 Water Q4 2013 AQ MDLV ICPMSG Trianium 5.55 ug/L 5 1.3 5 17 3005A 6020A ICPMSC 7440-32-6 680-297813 Water Q4 2013 AQ MDLV ICPMSG Vanadium 5.55 ug/L 5 3.8 10 111 3005A 6020A ICPMSC 7440-62-2 680-297813 Water Q4 2013 AQ MDLV ICPMSG Zinc 10.095 ug/L 10 8:3 20 101 3005A	ME	Water	Q4 2013 AQ MDLV ICPMSC	Sodium	457.985	ng/L	400	250	200	114	3005A	6020A	ICPMSC	7440-23-5	680-297813	680-298498
Water Q4 2013 AQ MDLV ICPMSC Thellium 0.98 ug/L 1 0.5 1 98 3005A 6020A ICPMSC 7440-28-0 680-297813 Water Q4 2013 AQ MDLV ICPMSC Tin 2.47 ug/L 2.5 1.3 5 124 3005A 6020A ICPMSC 7440-31-6 680-297813 Water Q4 2013 AQ MDLV ICPMSC Titanium 3.17 ug/L 5.5 1.3 5 127 3005A 6020A ICPMSC 7440-32-6 680-297813 Water Q4 2013 AQ MDLV ICPMSC Zinc 10.095 ug/L 6 13 6 101 3005A 6020A ICPMSC 7440-62-2 680-297813 Water Q4 2013 AQ MDLV ICPMSC Zinc 10.095 ug/L 10 8:3 20 101 3005A 6020A ICPMSC 7440-66-6 680-297813	ME	Water	Q4 2013 AQ MDLV ICPMSC	Strontium	0.945	ng/L	1	0.5	1	95	3005A	6020A	ICPMSC	7440-24-6	680-297813	680-298498
Water Q4 2013 AQ MDLV ICPMSC Tin 2.47 ug/L 2 1.3 5 124 3005A 6020A ICPMSC 7440-31-5 680-297813 Water Q4 2013 AQ MDLV ICPMSC Titanium 3.17 ug/L 5.5 ug/L 5 1.3 5 127 3005A 6020A ICPMSC 7440-32-6 680-297813 Water Q4 2013 AQ MDLV ICPMSC Vanadium 5.55 ug/L 10 8.3 10 111 3005A 6020A ICPMSC 7440-62-2 680-297813 Water Q4 2013 AQ MDLV ICPMSC Zinc 10.095 ug/L 10 8.3 20 101 3005A 6020A ICPMSC 7440-66-6 680-297813	ME	Water	Q4 2013 AQ MDLV ICPMSC	Thallium	0.98	ng/L	1	0.5	1	98	3005A	6020A	ICPMSC	7440-28-0	680-297813	680-298498
Water Q4 2013 AQ MDLV ICPMSC Titanium 3.17 ug/L 2.5 1.3 5 127 3005A 6020A ICPMSC 7440-32-6 680-297813 Water Q4 2013 AQ MDLV ICPMSC Vanadium 5.55 ug/L 10 8.3 10 111 3005A 6020A ICPMSC 7440-62-2 680-297813 Water Q4 2013 AQ MDLV ICPMSC Zinc 10.095 ug/L 10 8.3 20 101 3005A 6020A ICPMSC 7440-66-6 680-297813	ME	Water	Q4 2013 AQ MDLV ICPMSC	Tin	2.47	ng/L	2	1.3	2	124	3005A	6020A	ICPMSC	7440-31-5	680-297813	680-298498
Water Q4 2013 AQ MDLV ICPMSC Vanadium 5.55 ug/L 5 3.8 10 111 3005A 6020A ICPMSC 7440-66-2 680-297813 Water Q4 2013 AQ MDLV ICPMSC Zinc 10.095 ug/L 10 8.3 20 101 3005A 6020A ICPMSC 7440-66-6 680-297813	ME	Water	Q4 2013 AQ MDLV ICPMSC	Titanium	3.17	7/6n	2.5	1.3	2	127	3005A	6020A	ICPMSC	7440-32-6	680-297813	680-298498
Water Q4 2013 AQ MDLV ICPMSQ Zinc 10.095 ug/L 10 8.3 20 101 3005A 6020A ICPMSC 7440-66-6 680-297813	ME	Water	Q4 2013 AQ MDLV ICPMSC	Vanadium	5.55	7/6n	9	3.8	10	111	3005A	6020A	ICPMSC	7440-62-2	680-297813	680-298498
	ME	Water	Q4 2013 AQ MDLV ICPMSC	Zinc	10.095	ng/L	10	8.3	20	101	3005A	6020A	ICPMSC	7440-66-6	680-297813	680-298498

Case Narrative

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-89523-1

Job ID: 600-89523-1

Laboratory: TestAmerica Houston

Narrative

Job Narrative 600-89523-1

Comments

No additional comments.

Receipt

The samples were received on $3/28/2014\ 10:15\ AM$; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was $1.0^{\circ}\ C$.

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Method Summary

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-89523-1

Method	Method Description	Protocol	Laboratory
6020A	Metals (ICP/MS)	SW846	TAL SAV

Protocol References:

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

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

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Sample Summary

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-89523-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
600-89523-1	MW-46	Water	03/27/14 13:17	03/28/14 10:15
600-89523-2	DUP-8	Water	03/27/14 00:00	03/28/14 10:15

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Client Sample Results

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-89523-1

Client Sample ID: MW-46 Lab Sample ID: 600-89523-1

Date Collected: 03/27/14 13:17 **Matrix: Water**

Date Received: 03/28/14 10:15

Analyte	Result Qualifie	er MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.000794	0.000500	0.0000950	mg/L		03/28/14 16:22	03/31/14 12:56	1
Lead	0.00546	0.00150	0.000200	mg/L		03/28/14 16:22	03/31/14 12:56	1

Method: 6020A - Metals (ICP/MS) -	Dissolved								
Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.000797		0.000500	0.0000950	mg/L		03/28/14 16:22	03/31/14 12:18	1
Lead	0.00302		0.00150	0.000200	mg/L		03/28/14 16:22	03/31/14 12:18	1

Client Sample ID: DUP-8 Lab Sample ID: 600-89523-2

Date Collected: 03/27/14 00:00 **Matrix: Water**

Date Received: 03/28/14 10:15

Method: 6020A - Metals (ICP/MS) -	Total Recove	erable							
Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.000805		0.000500	0.0000950	mg/L		03/28/14 16:22	03/31/14 13:40	1
Lead	0.00513		0.00150	0.000200	mg/L		03/28/14 16:22	03/31/14 13:40	1

Method: 6020A - Metals (ICP/MS) -	Dissolved									
Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	ļ	D	Prepared	Analyzed	Dil Fac
Cadmium	0.000745		0.000500	0.0000950	mg/L			03/28/14 16:22	03/31/14 13:33	1
Lead	0.00540		0.00150	0.000200	mg/L			03/28/14 16:22	03/31/14 13:33	1

Definitions/Glossary

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

Reporting Limit or Requested Limit (Radiochemistry)

Toxicity Equivalent Factor (Dioxin)
Toxicity Equivalent Quotient (Dioxin)

Relative Percent Difference, a measure of the relative difference between two points

TestAmerica Job ID: 600-89523-1

Qualifiers

Metals

Qualifier	Qualifier Description
U	Analyte was not detected at or above the SDL.

Glossary

RL

RPD

TEF

TEQ

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
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

TestAmerica Houston

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-89523-1

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 680-321870/1-A

Matrix: Water

Analysis Batch: 322175

Client Sample ID: Method Blank **Prep Type: Total Recoverable**

Client Sample ID: MW-46 MS

Client Sample ID: MW-46 MSD

Prep Type: Total Recoverable

Client Sample ID: MW-46 MSD

Prep Batch: 321870

мв мв

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.0000950	U	0.000500	0.0000950	mg/L	 _	03/28/14 16:22	03/31/14 11:56	1
Lead	0.000200	U	0.00150	0.000200	mg/L		03/28/14 16:22	03/31/14 11:56	1

Lab Sample ID: LCS 680-321870/2-A Client Sample ID: Lab Control Sample **Matrix: Water Prep Type: Total Recoverable** Analysis Batch: 322175 **Prep Batch: 321870** LCS LCS Spike %Rec. Result Qualifier Analyte Added Unit %Rec Limits Cadmium 0.0500 0.05195 104 mg/L 75 - 125 Lead 0.0500 0.05465 mg/L 109 75 - 125

Lab Sample ID: LCSD 680-321870/14-A Client Sample ID: Lab Control Sample Dup **Matrix: Water Prep Type: Total Recoverable** Analysis Batch: 322175 **Prep Batch: 321870** Spike LCSD LCSD RPD %Rec.

Analyte Added Result Qualifier Unit %Rec Limits **RPD** Limit Cadmium 0.0500 0.05170 mg/L 75 - 125 103 0 20 0.0500 Lead 0.05305 75 - 125 20 mg/L 106 3

Lab Sample ID: 600-89523-1 MS

Matrix: Water Prep Type: Total Recoverable Analysis Batch: 322175 Prep Batch: 321870

	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Cadmium	0.000794		0.0500	0.05300		mg/L		104	75 - 125	
Lead	0.00546		0.0500	0.05815		mg/L		105	75 - 125	

Lab Sample ID: 600-89523-1 MSD

Matrix: Water

Analysis Batch: 322175								_	Prep		
	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Cadmium	0.000794		0.0500	0.05185		mg/L		102	75 - 125	2	20
Lead	0.00546		0.0500	0.05600		mg/L		101	75 ₋ 125	4	20

Lab Sample ID: 600-89523-1 MS Client Sample ID: MW-46 MS **Matrix: Water Prep Type: Dissolved** Analysis Batch: 322175 Prep Batch: 321870

MS MS Sample Sample Spike %Rec. Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits

Cadmium 0.000797 0.0500 0.04911 75 - 125 mg/L 97 0.00302 0.0500 Lead 0.05195 98 75 - 125 mg/L

Lab Sample ID: 600-89523-1 MSD **Matrix: Water**

Matrix: Water									Prep Ty	/pe: Diss	solved
Analysis Batch: 322175									Prep	Batch: 3	21870
	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Cadmium	0.000797		0.0500	0.05280		mg/L		104	75 - 125	7	20

TestAmerica Houston

QC Sample Results

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-89523-1

Method: 6020A - Metals (ICP/MS) (Continued)

Sample Sample

Lab Sample ID: 600-89523-1 MSD

Matrix: Water

Analysis Batch: 322175

Client Sample ID: MW-46 MSD Prep Type: Dissolved

Prep Batch: 321870

	riep i	Datell. 3	21070
	%Rec.		RPD
Rec	Limits	RPD	Limit

 Analyte
 Result Lead
 Qualifier
 Added Added Nesult Lead
 Qualifier Output
 Unit Mig/L
 D Minute Description
 Where Description
 Limits RPD Limits Description
 RPD Limits Description

MSD MSD

Spike

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Unadjusted Detection Limits

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-89523-1

	Method: 6020A -	Metals	(ICP/MS)	- Total	Recoverable
--	-----------------	--------	----------	---------	-------------

Analyte	MQL	MDL	Units	Method	
Cadmium	0.000500	0.0000950	mg/L	6020A	
Lead	0.00150	0.000200	mg/L	6020A	

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	MQL	MDL	Units	Method	
Cadmium	0.000500	0.0000950	mg/L	6020A	
Lead	0.00150	0.000200	mg/L	6020A	

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QC Association Summary

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-89523-1

Metals

Prep Batch: 321870

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-89523-1	MW-46	Dissolved	Water	3005A	
600-89523-1	MW-46	Total Recoverable	Water	3005A	
600-89523-1 MS	MW-46 MS	Dissolved	Water	3005A	
600-89523-1 MS	MW-46 MS	Total Recoverable	Water	3005A	
600-89523-1 MSD	MW-46 MSD	Dissolved	Water	3005A	
600-89523-1 MSD	MW-46 MSD	Total Recoverable	Water	3005A	
600-89523-2	DUP-8	Dissolved	Water	3005A	
600-89523-2	DUP-8	Total Recoverable	Water	3005A	
LCS 680-321870/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCSD 680-321870/14-A	Lab Control Sample Dup	Total Recoverable	Water	3005A	
MB 680-321870/1-A	Method Blank	Total Recoverable	Water	3005A	

Analysis Batch: 322175

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-89523-1	MW-46	Dissolved	Water	6020A	321870
600-89523-1	MW-46	Total Recoverable	Water	6020A	321870
600-89523-1 MS	MW-46 MS	Dissolved	Water	6020A	321870
600-89523-1 MS	MW-46 MS	Total Recoverable	Water	6020A	321870
600-89523-1 MSD	MW-46 MSD	Dissolved	Water	6020A	321870
600-89523-1 MSD	MW-46 MSD	Total Recoverable	Water	6020A	321870
600-89523-2	DUP-8	Dissolved	Water	6020A	321870
600-89523-2	DUP-8	Total Recoverable	Water	6020A	321870
LCS 680-321870/2-A	Lab Control Sample	Total Recoverable	Water	6020A	321870
LCSD 680-321870/14-A	Lab Control Sample Dup	Total Recoverable	Water	6020A	321870
MB 680-321870/1-A	Method Blank	Total Recoverable	Water	6020A	321870

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Lab Chronicle

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-89523-1

Client Sample ID: MW-46 Lab Sample ID: 600-89523-1

Date Collected: 03/27/14 13:17

Date Received: 03/28/14 10:15

Matrix: Water

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	250 mL	321870	03/28/14 16:22	BJB	TAL SAV
Dissolved	Analysis	6020A		1	50 mL	250 mL	322175	03/31/14 12:18	BWR	TAL SAV
Total Recoverable	Prep	3005A			50 mL	250 mL	321870	03/28/14 16:22	BJB	TAL SAV
Total Recoverable	Analysis	6020A		1	50 mL	250 mL	322175	03/31/14 12:56	BWR	TAL SAV

Client Sample ID: DUP-8 Lab Sample ID: 600-89523-2

Date Collected: 03/27/14 00:00 Matrix: Water

Date Received: 03/28/14 10:15

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	250 mL	321870	03/28/14 16:22	BJB	TAL SAV
Dissolved	Analysis	6020A		1	50 mL	250 mL	322175	03/31/14 13:33	BWR	TAL SAV
Total Recoverable	Prep	3005A			50 mL	250 mL	321870	03/28/14 16:22	BJB	TAL SAV
Total Recoverable	Analysis	6020A		1	50 mL	250 mL	322175	03/31/14 13:40	BWR	TAL SAV

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

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TestAmerica Job ID: 600-89523-1

Project/Site: Exide Recycling Center, Frisco TX Projec

Laboratory: TestAmerica Houston

Client: Golder Associates Inc.

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Arkansas DEQ	State Program	6	88-0759	08-04-14
Louisiana	NELAP	6	30643	06-30-14
Oklahoma	State Program	6	1309	08-31-14
Texas	NELAP	6	T104704223	10-31-14
USDA	Federal		P330-08-00217	04-01-14 *
Utah	NELAP	8	TX00083	10-31-14

Laboratory: TestAmerica Savannah

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

Authority	Program	EPA Region	Certification ID	Expiration Date
	AFCEE		SAVLAB	
A2LA	DoD ELAP		399.01	02-28-15
A2LA	ISO/IEC 17025		399.01	02-28-15
Alabama	State Program	4	41450	06-30-14
Arkansas DEQ	State Program	6	88-0692	01-31-15
California	NELAP	9	3217CA	07-31-14
Colorado	State Program	8	N/A	12-31-14
Connecticut	State Program	1	PH-0161	03-31-15
Florida	NELAP	4	E87052	06-30-14
GA Dept. of Agriculture	State Program	4	N/A	06-30-14
Georgia	State Program	4	N/A	06-30-14
Georgia	State Program	4	803	06-30-14
Guam	State Program	9	09-005r	04-17-14 *
Hawaii	State Program	9	N/A	06-30-14
Illinois	NELAP	5	200022	11-30-14
Indiana	State Program	5	N/A	06-30-14
lowa	State Program	7	353	07-01-15
Kentucky (DW)	State Program	4	90084	12-31-14
Kentucky (UST)	State Program	4	18	06-30-14
Louisiana	NELAP	6	LA100015	12-31-14
Maine	State Program	1	GA00006	08-16-14
Maryland	State Program	3	250	12-31-14
Massachusetts	State Program	1	M-GA006	06-30-14
Michigan	State Program	5	9925	06-30-14
Mississippi	State Program	4	N/A	06-30-14
Montana	State Program	8	CERT0081	01-01-15
Nebraska	State Program	7	TestAmerica-Savannah	06-30-14
New Jersey	NELAP	2	GA769	06-30-14
New Mexico	State Program	6	N/A	06-30-14
New York	NELAP	2	10842	03-31-14 *
North Carolina DENR	State Program	4	269	12-31-14
North Carolina DHHS	State Program	4	13701	07-31-14
Oklahoma	State Program	6	9984	08-31-14
Pennsylvania	NELAP	3	68-00474	06-30-14
Puerto Rico	State Program	2	GA00006	12-31-14
South Carolina	State Program	4	98001	06-30-14
Tennessee	State Program	4	TN02961	06-30-14
Texas	NELAP	6	T104704185-08-TX	11-30-14
USDA	Federal		SAV 3-04	04-07-14 *

^{*} Expired certification is currently pending renewal and is considered valid.

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TestAmerica Houston

Certification Summary

Client: Golder Associates Inc.

Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-89523-1

Laboratory: TestAmerica Savannah (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Virginia	NELAP	3	460161	06-14-14
Washington	State Program	10	C1794	06-10-14
West Virginia DEP	State Program	3	94	06-30-14
West Virginia DHHR	State Program	3	9950C	12-31-14
Wisconsin	State Program	5	999819810	08-31-14
Wyoming	State Program	8	8TMS-L	06-30-14

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TestAmerica Savannah

5102 LaRoche Avenue Savannah, GA 31404 Phone (912) 354-7858 Fax (912) 352-0165

Chain of Custody Record

TestAmerico

	Sampler: Chris Trevino	vino		MG dell	- پ				Cari	Carrier Tracking No(s):	1 No(s):		COC No.		
Client Information				Joine	Joiner, Dean A	a -							600-27100-9382.	382.2	
Christina Higginbotham	Phone: 817-281-0510	910		E-Maii dean	joiner@	testame	E-Mail: dean.joiner@testamericainc.com	Ę					Page:		
Company: Golder Associates Inc.							Ą	Analysis Requested	Redues	ted			- Web	302086	
Address: 500 Century Plaza Drive Stite 190	Due Date Requested:	ed:						,					Preservation Codes	Codes:	
City City Houston	TAT Requested:	24 hours	_				•						A - HCL B - NaOH C - Zn Acetate	M - Hexane N - None	
State, Zip: TX, 77073	· 7]									(63	D - Nitric Acid E - NaHSO4	P - Na2O4S Q - Na2SO3	
Phone: 281-821-6868(Tel) 281-821-6870(Fax)	PO#: Purchase Order Requested	r Requested			(or							***	F - MeOH G - Amchlor H - Ascorpto Acid		13 Cohudrate
Email: Christina_Higginbotham@goider.com	WO#.				$\{[e]\}$							810	I - Ice J - DI Water		oo il die
Project Name: Exide Recycling Center, Frisco TX	Project #. 60004831				(obs. fr)							onletn	K-EDTA L-EDA	W - ph 4-5 Z - other (specify)	cify)
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0 MW-46 MS	03-27-14	1317		Water	$\stackrel{\sim}{\times}$	><	2							Savannah	
USW 34-WW 33	03-27-14	1817	<u>ტ</u>	Water	X	X	٢			:		2.4	Savannah, GA 31404 Phone (912) 354-7858	131404	
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			9	Water									Attn: Sample Receiving	Receiving	
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			<u> </u>	Water									Please E-mail	Please E-mail copy of Chain of Custody	of Custody
600-89523 Chain of Custody	• 		9	Water									and request T	and request TA Houston job #	**
			<u>ე</u>	Water											шишши
Possible Hazard Identification Non-Hazard Hammable Skin Initant Pois	Poison B 🔀 Unknown		Radiological		Samp	le Disp	lle Disposal (A 1 Return To Client	fee may	be asse □ Dispo	assessed if san Disposal By Lab	amples	are Zeta ⊥	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) Return To Client Approves D.	ained longer than 1 month) Hold Until Client Approves Disposal	lesc.
ested: I, II, III, IV, Other (specify)					Speci	al Instru	Special Instructions/QC Requirements:	Requir	ments:	,					
linquished by:		Date:			Time:		۱			Method of	Method of Shipment:				
Reinquished by, Ans Trewing /	Date/Time: 03-スア-リゲ /	00%/	<u>.</u>	Company		Received by:	1/2	X]		Date/Time:	H821	14 1015	Company C	3
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Relinquished by:	Date/Time:			Company	12.	Received by:					Date/Time	at.		Company	
Custody Seals Intact: Custody Seal No.: Δ Yes Δ No					3	oler Temp	Cooler Temperature(s) °C and Other Remarks:	C and Oth	er Remarks	16			1.0.1	600-84523	1.23
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Date: 03/28/2014

Login Sample Summary

Page: 1

				Status	Location
Login No: Project:	89523 Login Da 60004831	ite: 03/28/2014 10:15	VTSR: NO	Active Active	600 TestAmerica Houston 600 TestAmerica Houston
Prj Mgr:	Joiner, Dean A	Prj Mgr Asst:			
		Site is not assi	gned to Project		

Login Group:

1 6020

Method	Description
6020A	Metals (ICP/MS)
3005A	Preparation, Total

3005A Preparation, Total Recoverable or Dissolved Metals **6020A** Metals (ICP/MS)

3005A Preparation, Total Recoverable or Dissolved Metals

FIELD_FL Sample Filtration, Field

Sample Distributi	ı e	ı e	ו ע	S	τ	r	1	D	u	τ	1	0	n
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Sample #	Customer Sample ID	Matrix	Sample Date	Received Date	Login Group
1	MW-46	Water	03/27/2014 -13:17	03/28/2014 -10:15	1
1 MS	MW-46	Water	03/27/2014 -13:17	03/28/2014 -10:15	1
1 MSD	MW-46	Water	03/27/2014 -13:17	03/28/2014 -10:15	1
2	DUP-8	Water	03/27/2014	03/28/2014 -10:15	1

Loc: 600 **89523**



Login Sample Receipt Checklist

Client: Golder Associates Inc. Job Number: 600-89523-1

Login Number: 89523 List Source: TestAmerica Houston

List Number: 1

Creator: Conner, Keaton

Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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Login Sample Receipt Checklist

Client: Golder Associates Inc. Job Number: 600-89523-1

List Source: TestAmerica Savannah
List Number: 1
List Creation: 03/28/14 01:12 PM

Creator: Conner, Keaton

Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Houston 6310 Rothway Street Houston, TX 77040 Tel: (713)690-4444

TestAmerica Job ID: 600-89551-1 Client Project/Site: Exide Frisco

Revision: 1

For:

Golder Associates Inc. 500 Century Plaza Drive Suite 190 Houston, Texas 77073

Attn: Christina Higginbotham

Authorized for release by: 4/14/2014 10:51:12 AM

Cathy Upton, Project Management Assistant II (713)690-4444

cathy.upton@testamericainc.com

Designee for

Dean Joiner, Project Manager II (713)690-4444

dean.joiner@testamericainc.com

Links

results through
Total Access

Review your project

Have a Question?



Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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.

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Table of Contents	2
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Appendix A Laboratory Data Package Cover Page - Page 1 of 4

This data package is for TestAmerica Houston job number 600-89551-1 and consists of:

$ \sqrt{} $	R1	- Field	chain-of-custody	documentation
---------------	----	---------	------------------	---------------

- ☑ R2 Sample identification cross-reference;
- ☑ R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - a. Items consistent with NELAC Chapter 5,
 - b. dilution factors,
 - c. preparation methods,
 - d. cleanup methods, and
 - e. if required for the project, tentatively identified compounds (TICs).
- ☐ R4 Surrogate recovery data including:
 - a. Calculated recovery (%R), and
 - b. The laboratory's surrogate QC limits.
- ☑ R5 Test reports/summary forms for blank samples;
- ☑ R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - a. LCS spiking amounts,
 - b. Calculated %R for each analyte, and
 - c. The laboratory's LCS QC limits.
- ☐ R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - Samples associated with the MS/MSD clearly identified,
 - b. MS/MSD spiking amounts,
 - c. Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d. Calculated %Rs and relative percent differences (RPDs), and
 - e. The laboratory's MS/MSD QC limits
- ☐ R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - a. The amount of analyte measured in the duplicate,
 - b. The calculated RPD, and
 - c. The laboratory's QC limits for analytical duplicates.
- R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
- ☑ R10 Other problems or anomalies.

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

 Cathy L Upton
 4/14/2014

 Name (printed)
 Signature
 Date

Project Management Assistant II

Official Title (printed)

Page 3 of 22

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Laboratory Review Checklist: Reportable Data - Page 2 of 4

Laboratory Name:	TestAmerica Houston	LRC Date:	4/2/2014
Project Name:	Exide Frisco	Laboratory Job Number:	600-89551-1
Reviewer Name:	Dean A Joiner		

щ1	A ²	Page district	V	NI -	NI A 3	ND4	ED#
		Description Chain-of-custody (C-O-C)	Yes	No	NA³	NR ⁴	ER#
Κ1	OI		V				
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
22	\circ	Were all departures from standard conditions described in an exception report?	Х				
₹2	OI	Sample and quality control (QC) identification	V				
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
<u> </u>	01	Are all laboratory ID numbers cross-referenced to the corresponding QC data?	Х				
₹3	OI	Test reports	V				
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	Х				
		Were all analyte identifications checked by a peer or supervisor?	Х				
		Were sample detection limits reported for all analytes not detected?	Х				
		Were all results for soil and sediment samples reported on a dry weight basis?			Χ		
		Were % moisture (or solids) reported for all soil and sediment samples?			Χ		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			Χ		
		If required for the project, are TICs reported?			Χ		
4	0	Surrogate recovery data					
		Were surrogates added prior to extraction?			Χ		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?			Χ		
5	OI	Test reports/summary forms for blank samples					
		Were appropriate type(s) of blanks analyzed?	Χ				
		Were blanks analyzed at the appropriate frequency?	Χ				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup					
		procedures?	Χ				
		Were blank concentrations < MQL?	Χ				
6	OI	Laboratory control samples (LCS):					
-		Were all COCs included in the LCS?	Χ				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	Χ				
		Were LCSs analyzed at the required frequency?	Χ				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	Χ				
		Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used					
		to calculate the SDLs?	Х				
		Was the LCSD RPD within QC limits?			Х		
7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data					
_	<u>.</u>	Were the project/method specified analytes included in the MS and MSD?	Х				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?				Х	R07C
		Were MS/MSD RPDs within laboratory QC limits?					R07D
8	OI	Analytical duplicate data					ROTE
J	OI.	Were appropriate analytical duplicates analyzed for each matrix?	Х				
		Were analytical duplicates analyzed at the appropriate frequency?	X				
		Were RPDs or relative standard deviations within the laboratory QC limits?				Χ	R08C
9	OI	Method quantitation limits (MQLs):				^	11000
J	ΟI	Are the MQLs for each method analyte included in the laboratory data package?	Х				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard? Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
40 I	Οı	, , ,	Х				
10	UI	Other problems/anomalies	.,				
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	Х				
		Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the					
		sample results?	Х				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and					
		methods associated with this laboratory data package?	Х				

- Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items
 identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
- ${\it 2.}\quad {\it O}={\it organic analyses; I=inorganic analyses (and general chemistry, when applicable);}\\$
- 3. NA = Not applicable;
- 4. NR = Not reviewed;
- 5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

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Laboratory Review checklist: Supporting Data - Page 3 of 4

Laboratory Name:	TestAmerica Houston	LRC Date:	4/2/2014
Project Name:	Exide Frisco	Laboratory Job Number:	600-89551-1
Reviewer Name:	Dean A Joiner		

-							1
#1	A ²	Description	Yes	No	NA³	NR⁴	ER#
S1	OI	Initial calibration (ICAL)					
		Were response factors and/or relative response factors for each analyte within QC limits?	Х				
		Were percent RSDs or correlation coefficient criteria met?	Х				
		Was the number of standards recommended in the method used for all analytes?	Х				
		Were all points generated between the lowest and highest standard used to calculate the curve?	Х				
		Are ICAL data available for all instruments used?	X				
	1	Has the initial calibration curve been verified using an appropriate second source standard?	Х				
S2		Initial and continuing calibration verification (ICV and CCV) and continuing calibration blank (CCB):					
32	Oi	Was the CCV analyzed at the method-required frequency?	Х				
		, , ,	_				
		Were percent differences for each analyte within the method-required QC limits? Was the ICAL curve verified for each analyte?	X				
			X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	Х				
S3	0	Mass spectral tuning			.,		
		Was the appropriate compound for the method used for tuning?			Х		
	-	Were ion abundance data within the method-required QC limits?			Х		
S4	0	Internal standards (IS)					
		Were IS area counts and retention times within the method-required QC limits?			Χ		
S5	OI	Raw data (NELAC Section 5.5.10)					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	Х				
S6	0	Dual column confirmation					
		Did dual column confirmation results meet the method-required QC?			Х		
S7	0	Tentatively identified compounds (TICs)					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			Χ		
S8	I	Interference Check Sample (ICS) results					
		Were percent recoveries within method QC limits?	Х				
S9	I	Serial dilutions, post digestion spikes, and method of standard additions					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?				Χ	S09A
S10	OI	Method detection limit (MDL) studies					
		Was a MDL study performed for each reported analyte?	Х				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	ΟI	Proficiency test reports					
•	Ů.	Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	ΟI	Standards documentation					
<u> </u>	O.	Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	Х				
C1 2	О	Compound/analyte identification procedures					
313	Oi	Are the procedures for compound/analyte identification documented?	Х				
S14	ΟI	Demonstration of analyst competency (DOC)	^				
314	Oi	, , , ,					
		Was DOC conducted consistent with NELAC Chapter 5?	X				
045		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	Verification/validation documentation for methods (NELAC Chapter 5)					
			.,				
	T	Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	Laboratory standard operating procedures (SOPs)					
		Are laboratory SOPs current and on file for each method performed?	X				
	1.	Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required re	port(s).	tems	;		
		identified by the letter "S" should be retained and made available upon request for the appropriate retention period.					
	2.	O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);					
	3.	NA = Not applicable;					
	4.	NR = Not reviewed;					
				ced).			

Page 5 of 22 4/14/2014

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Laboratory Review Checklist: Exception Reports - Page 4 of 4

Laboratory Name:	TestAmerica Houston	LRC Date:	4/2/2014
Project Name:	Exide Frisco	Laboratory Job Number:	600-89551-1
Reviewer Name:	Dean A Joiner		

ER # ¹	Description
R07C/ R07D/ R08C/ S09A	The laboratory selected a sample from another client to perform as the MS/MSD/DUP/PDS/SD.
1.	Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items
	identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2.	O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
3.	NA = Not applicable;
4.	NR = Not reviewed;
5.	ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

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Analysis	tch	680-298498	680-298498	680-298498	680-298498	580-298498	680-298498	680-298498	680-298498	680-298498	680-298498	680-298498	680-298498	680-298498	680-298498	680-298498	680-298498	680-298498	680-298498	680-298498	580-298498	680-298498	680-298498	680-298498	680-298498	680-298498	680-298498	007000000
Ana	ا Batch	1 680-2							_										_									L
	Prep Batch	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	680-297813	600 002012
	CAS	7429-90-5	7440-36-0	7440-38-2	7440-39-3	7440-41-7	7440-42-8	7440-43-9	7440-70-2	7440-47-3	7440-48-4	7440-50-8	7439-89-6	7439-92-1	7439-95-4	7439-96-5	7439-97-6	7439-98-7	7440-02-0	9/7/7440	7782-49-2	7440-22-4	7440-23-5	7440-24-6	7440-28-0	7440-31-5	7440-32-6	7440 63 0
Instrument	ID	ICPMSC	COMPOSI																									
Analysis	Method	6020A	VUCUS																									
	Prep Method	3005A	V 1000																									
Percent	Recovery	113	115	119	86	104	102	86	118	110	105	101	108	118	86	86	125	110	122	110	93	109	114	96	86	124	127	777
	RL	20	2	2.5	2	9.0	100	0.5	250	2	9.0	2	100	1.5	250	2	8.0	2	2	200	2.5	-	200	-	-	2	2	0,
	MDL	23	2.3	1.3	1.3	0.25	40	0.095	130	2.5	0.15	1.1	33	0.2	43	-	0.4	1.5	2	170	-	0.25	250	9.0	9.0	1.3	1.3	00
Spike	Amount	90	2.5	2	2	0.5	20	0.2	250	2	0.2	2	20	0.3	80	2	9.0	2	4	200	2	0.4	400	1	1	2	2.5	2
	Unit	T/6n	T/Bn	T/Bn	T/Bn	ng/L	ng/L	T/Bn	ng/L	T/Bn	ng/L	T/Bn	/~															
	Result	56.4	2.875	2.375	1.965	0.52	51.24	0.195	294.73	5.49	0.21	2.02	54.13	0.355	78.42	1.955	0.625	2.202	4.86	219.45	1.855	0.435	457.985	0.945	0.98	2.47	3.17	99 9
	Analyte	Aluminum	Antimony	Arsenic	Barium	Beryllium	Boron	Cadmium	Calcinm	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Molybdenum	Nickel	Potassium	Selenium	Silver	Sodium	Strontium	Thallium	Tin	Titanium	Winday.
	Client Sample ID	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	Q4 2013 AQ MDLV ICPMSC	COMPOSITION ON CACCANO
	Clie	Q4 2013	010010																									
	Matrix	Water	10,001																									
	Dept	ME	_ NA⊏																									

Case Narrative

Client: Golder Associates Inc. Project/Site: Exide Frisco

TestAmerica Job ID: 600-89551-1

Job ID: 600-89551-1

Laboratory: TestAmerica Houston

Narrative

Job Narrative 600-89551-1

Comments

The report was revised on 04/14/14 to update the TRRP checklist, replacing the final report generated on 04/02/14. No changes to data/edds.

Receipt

The samples were received on 3/30/2014 9:40 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.2° C.

Method Summary

Client: Golder Associates Inc. Project/Site: Exide Frisco

TestAmerica Job ID: 600-89551-1

Method	Method Description	Protocol	Laboratory
6020A	Metals (ICP/MS)	SW846	TAL SAV

Protocol References:

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

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

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Sample Summary

Client: Golder Associates Inc. Project/Site: Exide Frisco TestAmerica Job ID: 600-89551-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
600-89551-1	MW-37	Water	03/28/14 11:20	03/30/14 09:40
600-89551-2	MW-11	Water	03/28/14 16:06	03/30/14 09:40

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Client Sample Results

Client: Golder Associates Inc. Project/Site: Exide Frisco

TestAmerica Job ID: 600-89551-1

Client Sample ID: MW-37 Lab Sample ID: 600-89551-1 Date Collected: 03/28/14 11:20

Matrix: Water

Date Received: 03/30/14 09:40

Method: 6020A - Metals (ICP/MS) - Dissolved

Result Qualifier Analyte Dil Fac MQL (Adj) SDL Unit D Prepared Analyzed Cadmium 0.0000950 U 0.000500 0.0000950 mg/L 03/31/14 10:56 04/02/14 01:24

Client Sample ID: MW-11 Lab Sample ID: 600-89551-2

Date Collected: 03/28/14 16:06 **Matrix: Water**

Date Received: 03/30/14 09:40

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte Result Qualifier MQL (Adj) SDL Unit D Dil Fac Prepared Analyzed Cadmium 0.0000950 U 0.000500 0.0000950 03/31/14 10:56 04/02/14 01:30 mg/L

Definitions/Glossary

Client: Golder Associates Inc. Project/Site: Exide Frisco

TestAmerica Job ID: 600-89551-1

Qualifiers

Metals

Qualifier	Qualifier Description
U	Analyte was not detected at or above the SDL.

Glossary

QC

RER

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
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

RL Reporting Limit or Requested Limit (Radiochemistry)

Quality Control

Relative error ratio

RPD Relative Percent Difference, a measure of the relative difference between two points

TEF Toxicity Equivalent Factor (Dioxin)
TEQ Toxicity Equivalent Quotient (Dioxin)

QC Sample Results

Client: Golder Associates Inc. Project/Site: Exide Frisco

TestAmerica Job ID: 600-89551-1

Lab Sample ID: MB 680-322068/1-A

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: LCS 680-322068/2-A

Matrix: Water

Matrix: Water

Analyte

Cadmium

Analysis Batch: 322507

Analysis Batch: 322507

Client Sample ID: Method Blank **Prep Type: Total Recoverable**

Prep Batch: 322068

MB MB

Result Qualifier MQL (Adj) SDL Unit D Dil Fac Analyte Prepared Analyzed 0.0000950 U 0.000500 0.0000950 mg/L 03/31/14 10:56 04/01/14 23:12 Cadmium

LCS LCS

0.05821

Result Qualifier

Unit

mg/L

Spike

Added

0.0500

Client Sample ID: Lab Control Sample Prep Type: Total Recoverable

Prep Batch: 322068

Limits %Rec

116

75 - 125

Unadjusted Detection Limits

Client: Golder Associates Inc. Project/Site: Exide Frisco

TestAmerica Job ID: 600-89551-1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	MQL	MDL	Units	Method
Cadmium	0.000500	0.0000950	mg/L	6020A

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QC Association Summary

Client: Golder Associates Inc. Project/Site: Exide Frisco TestAmerica Job ID: 600-89551-1

Metals

Prep Batch: 322068

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method Prep Batch
600-89551-1	MW-37	Dissolved	Water	3005A
600-89551-2	MW-11	Dissolved	Water	3005A
LCS 680-322068/2-A	Lab Control Sample	Total Recoverable	Water	3005A
MB 680-322068/1-A	Method Blank	Total Recoverable	Water	3005A

Analysis Batch: 322507

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-89551-1	MW-37	Dissolved	Water	6020A	322068
600-89551-2	MW-11	Dissolved	Water	6020A	322068
LCS 680-322068/2-A	Lab Control Sample	Total Recoverable	Water	6020A	322068
MB 680-322068/1-A	Method Blank	Total Recoverable	Water	6020A	322068

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Lab Chronicle

Client: Golder Associates Inc. Project/Site: Exide Frisco

TestAmerica Job ID: 600-89551-1

Lab Sample ID: 600-89551-1

Matrix: Water

Client Sample ID: MW-37 Date Collected: 03/28/14 11:20 Date Received: 03/30/14 09:40

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	250 mL	322068	03/31/14 10:56	BJB	TAL SAV
Dissolved	Analysis	6020A		1	50 mL	250 mL	322507	04/02/14 01:24	BWR	TAL SAV

Client Sample ID: MW-11 Lab Sample ID: 600-89551-2

Matrix: Water

Date Collected: 03/28/14 16:06 Date Received: 03/30/14 09:40

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	250 mL	322068	03/31/14 10:56	BJB	TAL SAV
Dissolved	Analysis	6020A		1	50 mL	250 mL	322507	04/02/14 01:30	BWR	TAL SAV

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

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Certification Summary

Client: Golder Associates Inc. Project/Site: Exide Frisco

TestAmerica Job ID: 600-89551-1

Laboratory: TestAmerica Houston

The certifications listed below are applicable to this report.

Authority	Pr	ogram	EPA Re	gion Certification I	
Texas	NE	ELAP	6	T104704223	10-31-14

Laboratory: TestAmerica Savannah

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

Authority	Program	EPA Region	Certification ID	Expiration Date
	AFCEE		SAVLAB	
A2LA	DoD ELAP		399.01	02-28-15
A2LA	ISO/IEC 17025		399.01	02-28-15
Alabama	State Program	4	41450	06-30-14
Arkansas DEQ	State Program	6	88-0692	01-31-15
California	NELAP	9	3217CA	07-31-14
Colorado	State Program	8	N/A	12-31-14
Connecticut	State Program	1	PH-0161	03-31-15
Florida	NELAP	4	E87052	06-30-14
GA Dept. of Agriculture	State Program	4	N/A	06-30-14
Georgia	State Program	4	N/A	06-30-14
Georgia	State Program	4	803	06-30-14
Guam	State Program	9	09-005r	04-17-14 *
Hawaii	State Program	9	N/A	06-30-14
Illinois	NELAP	5	200022	11-30-14
Indiana	State Program	5	N/A	06-30-14
lowa	State Program	7	353	07-01-15
Kentucky (DW)	State Program	4	90084	12-31-14
Kentucky (UST)	State Program	4	18	06-30-14
Louisiana	NELAP	6	LA100015	12-31-14
Maine	State Program	1	GA00006	08-16-14
Maryland	State Program	3	250	12-31-14
Massachusetts	State Program	1	M-GA006	06-30-14
Michigan	State Program	5	9925	06-30-14
Mississippi	State Program	4	N/A	06-30-14
Montana	State Program	8	CERT0081	01-01-15
Nebraska	State Program	7	TestAmerica-Savannah	06-30-14
New Jersey	NELAP	2	GA769	06-30-14
New Mexico	State Program	6	N/A	06-30-14
New York	NELAP	2	10842	03-31-14 *
North Carolina DENR	State Program	4	269	12-31-14
North Carolina DHHS	State Program	4	13701	07-31-14
Oklahoma	State Program	6	9984	08-31-14
Pennsylvania	NELAP	3	68-00474	06-30-14
Puerto Rico	State Program	2	GA00006	12-31-14
South Carolina	State Program	4	98001	06-30-14
Tennessee	State Program	4	TN02961	06-30-14
Texas	NELAP	6	T104704185-08-TX	11-30-14
USDA	Federal		SAV 3-04	04-07-14 *
Virginia	NELAP	3	460161	06-14-14
Washington	State Program	10	C1794	06-10-14
West Virginia DEP	State Program	3	94	06-30-14
West Virginia DHHR	State Program	3	9950C	12-31-14
Wisconsin	State Program	5	999819810	08-31-14

^{*} Expired certification is currently pending renewal and is considered valid.

TestAmerica Houston

4/14/2014

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Certification Summary

Client: Golder Associates Inc. Project/Site: Exide Frisco

TestAmerica Job ID: 600-89551-1

Laboratory: TestAmerica Savannah (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Wyoming	State Program	8	8TMS-L	06-30-14

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TestAmerica Savannah 5102 LaRoche Avenue Savannah, GA 31404 Phone (912) 354-7858 Fax (912) 352-0165		Chain o	Chain of Custody Record	ord	TestAmerica The Leader In SOURCOMMENTAL TESTING
Client Information	Sampler: Chris Trevino	Lab PM Joiner	۸: r, Dean A	Carrier Tracking No(s):	o(s): (COC No: 600-27100-9382.2
Client Contact. Christina Higginbotham	Phone: 817-281-0510	E-Mail dean	E-Mail: dean.joiner@testamericainc.com		Page: Page f of i
Company: Golder Associates Inc.			Ana	Analysis Requested	Job # 1302086
Address. 500 Century Plaza Drive Suite 190	Due Date Requested:				ĕ
City. Houston	TAT Requested:				
State, Zic. TX, 77073	5 Da	ays	P,)		D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3
Phone: (281-821-6868(Tel) 281-821-6870(Fax)	Po# Purchase Order Requested				τ
Emait Christina_Higginbotham@golder.com	WG #;		P' Cq I		I - Ice J - Di Water
Project Name: Exide Recycling Center, Frisco TX	Project #: 60004831		10.80) Pb, Co		K - EDTA L - EDA
Site: Exide Frisco	SSOW#:		ASID) () etals - ed Mel		Other:
	Sam	(W=water, S=solid, O=wasteloil, BT=Tissue,	henenijā bje nielmimaija m istot - Aosi vioseid - Aosi J - AOSO		equiny lete
a diple identification	Sample Date 11me	G=grab)	9 G	600	E Special Instructions/Note:
28-MW ge	03-28-14 1120	G Water	×	-8955	Golder***: Ship Directly to:
	909/ 4-82-50	G Water	×	51 CI	TestAmerica Savannah
		G Water		nain d	Savannah (2A 31404 Phone (912) 354-7858
		G Water		of Cu	
		G Water		stody	
		G Water		/ /	Attn: Sample Receiving
		G Water			
		G Water			TA SAVANNAH LOGIN: Analytical subbed throuh TA Houston
		G Water		1: 1	Please E-mail copy of Chain of Custody
		G Water			and request TA Houston job #
		G Water			
Possible Hazard Identification Non-Hazard		Jeoinoloipea Jeoinoloipea	Sample Disposal (A fe	e may be assessed if san	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Ιĩ		10000 m	Special Instructions/QC Requirements:	Requirements:	
Empty Kit Relinquished by:	Date:		Time:	Method of Shipment:	ipment
	871/173	S Company	Received by:		Date/Time:
	Date/Time:	Company	Received by:		Date/Time: Company
	Date/Time:	Company	Received by:		Deterting / 21/14 Ofto Ompany
Custody Seals Intact: Custody Seal No.: A Yes A No			Cooler Temperature(s) °C and Other Remarks:	7,	2.5 (00-8955)

Date: 03/30/2014

Login Sample Summary

Page: 1

Login No: 89551 Login Date: 03/30/2014 9:40 VTSR: NO Active 600 TestAmerica Houston Active 600 TestAmerica Houston Active Frj Mgr: Joiner, Dean A Prj Mgr Asst:

Site is not assigned to Project

Login Group:

1 6020

Method 6020A Description
Metals (ICP/MS)

3005A

Preparation, Total Recoverable or Dissolved Metals

FIELD_FL Sample Filtration, Field

		Sample D	istribution		
<u>Sample #</u> 1 2	Customer Sample ID MW-37 MW-11	<u>Matrix</u> Water Water		Received Date 03/30/2014 -09:40 03/30/2014 -09:40	-

600-89551 Login
PM: Joiner, Dean A
Company: Golder Associates Inc.

Loc: 600 **89551**

Login Sample Receipt Checklist

Client: Golder Associates Inc. Job Number: 600-89551-1

Login Number: 89551 List Source: TestAmerica Houston

List Number: 1

Creator: Conner, Keaton

orditor. Common, reducting		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
s the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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Login Sample Receipt Checklist

Client: Golder Associates Inc. Job Number: 600-89551-1

List Source: TestAmerica Savannah
List Number: 1
List Creation: 03/30/14 10:15 AM

Creator: Conner, Keaton

,		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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