SDMS DocID 2232304

ORIGINAL

LORD

LORD Corporation
2000 West Grandview Blvd.
Erie, PA 16509-1029
USA
+1 814 868 0924
www.lord.com

CERTIFIED MAIL
Mr. David P. Turner, RPM (3HS22)
Western PA Section
United States Environmental Protection Agency, Region 3
1650 Arch Street
Philadelphia, PA 19103-2029

October 13, 2008

Reference: LORD-Shope RA Monthly Progress Report

Dear Mr. Turner:

LORD is hereby submitting two copies of the monthly progress report for the period of September 1, 2008 through September 30, 2008.

The following work was conducted during this period:

REMEDIAL ACTION

NPDES Report:

The August report will be submitted under a separate cover.

Thermal Oxidizer:

The influent was 167.0 ppm with 99.6% removal. A copy of the laboratory report is attached for your review.

Groundwater Treatment:

The groundwater treatment system was operating normally during this interim.

The groundwater TOC effluent concentration was 1.4 mg/l.

Sincerely,
LORD Corporation

George M. Kickel
Director, Environment, Safety, Health, and Regulatory Compliance

GMK08025/cmf
Attachment
cc: (b) (4) [redacted] – ARCADIS G & M, Inc.
John Morettini, PADEP (Certified Mail)

ORIGINAL

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

ANALYTICAL REPORT

LORD Shope

Lot #: H8I100104

(b) (4) [redacted]

ARCADIS U.S., Inc.
284 Cramer Creek Court
Dublin, OH 43017

TESTAMERICA LABORATORIES, INC.

(b) (4) [redacted]

Project Manager

September 15, 2008

ANALYTICAL METHODS SUMMARY

H8I100104

PARAMETER	ANALYTICAL METHOD
Method for Analysis of Reformed Gas by GC	ASTM D 1946/E 260
Volatile Organics by TO15	EPA-2 TO-15

References:

ASTM Annual Book Of ASTM Standards.

EPA-2 "Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air", EPA-625/R-96/010b, January 1999.

ORIGINAL

SAMPLE SUMMARY

H8I100104

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
KWJ2C	001	TOI/090508	09/05/08	11:10
KWJ2D	002	TOE/090508	09/05/08	11:25

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

PROJECT NARRATIVE
H8I100104

The results reported herein are applicable to the samples submitted for analysis only.

This report shall not be reproduced except in full, without the written approval of the laboratory.

The original chain of custody documentation is included with this report.

Sample Receipt

There were no problems with the condition of the samples received.

Quality Control and Data Interpretation

Unless otherwise noted, all holding times and QC criteria were met and the test results shown in this report meet all applicable NELAC requirements.

GCMS Volatiles

The EPA method requires that all target analytes in the continuing calibration verification standard be within 30% difference from the initial calibration. The laboratory standard operating procedure allows up to four analytes in the calibration verification to be ≤40% difference from the initial calibration. The calibration verification analyzed on 9/11/08 exhibited a %difference of >30% but ≤40% for chloromethane and 1,2-dichloro-1,1,2,2-tetrafluoroethane.

TestAmerica Knoxville maintains the following certifications, approvals and accreditations: Arkansas DEQ Cert. #05-043-0, California DHS ELAP Cert. #2423, Colorado DPHE, Connecticut DPH Cert. #PH-0223, Florida DOH Cert. #E87177, Georgia DNR Cert. #906, Hawaii DOH, Illinois EPA Cert. #000687, Indiana DOH Cert. #C-TN-02, Iowa DNR Cert. #375, Kansas DHE Cert. #E-10349, Kentucky DEP Lab ID #90101, Louisiana DEQ Cert. #03079, Louisiana DOHH Cert. #LA030024, Maryland DHMH Cert. #277, Massachusetts DEP Cert. #M-TN009, Michigan DEQ Lab ID #9933, New Jersey DEP Cert. #TN001, New York DOH Lab #10781, North Carolina DPH Lab ID #21705, North Carolina DEHNR Cert. #64, Ohio EPA VAP Cert. #CL0059, Oklahoma DEQ ID #9415, Pennsylvania DEP Cert. #68-00576, South Carolina DHEC Lab ID #84001001, Tennessee DOH Lab ID #02014, Utah DOH Cert. # QUAN3, Virginia DGS Lab ID #00165, Washington DOE Lab #C120, West Virginia DEP Cert. #345, Wisconsin DNR Lab ID #998044300, Naval Facilities Engineering Service Center and USDA Soil Permit #S-46424. This list of approvals is subject to change and does not imply that laboratory certification is available for all parameters reported in this environmental sample data report.

Sample Data Summary

ORIGINAL

ARCADIS U.S., Inc.

Client Sample ID: TOI/090508

GC/MS Volatiles

Lot-Sample #...: H8I100104-001 Work Order #...: KWJ2C1AA Matrix.....: AIR
Date Sampled...: 09/05/08 Date Received..: 09/09/08
Prep Date.....: 09/11/08 Analysis Date..: 09/11/08
Prep Batch #...: 8256060
Dilution Factor: 2216.12 Method.....: EPA-2 TO-15

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acetone	ND	11000	ppb(v/v)
Acetonitrile	ND	2200	ppb(v/v)
Acrolein	ND	1800	ppb(v/v)
alpha-Methylstyrene	ND	890	ppb(v/v)
Benzene	**130 J**	**440**	**ppb(v/v)**
Bromodichloromethane	ND	440	ppb(v/v)
Bromoform	ND	440	ppb(v/v)
Bromomethane	ND	440	ppb(v/v)
1,3-Butadiene	ND	890	ppb(v/v)
2-Butanone (MEK)	ND	2200	ppb(v/v)
tert-Butyl alcohol	ND	4400	ppb(v/v)
Carbon disulfide	ND	1100	ppb(v/v)
Carbon tetrachloride	ND	440	ppb(v/v)
Chlorobenzene	ND	440	ppb(v/v)
Dibromochloromethane	ND	440	ppb(v/v)
Chlorodifluoromethane	ND	440	ppb(v/v)
Chloroethane	**140 J**	**440**	**ppb(v/v)**
Chloroform	**1100**	**440**	**ppb(v/v)**
Chloromethane	ND	1100	ppb(v/v)
1,2-Dibromoethane (EDB)	ND	440	ppb(v/v)
Dibromomethane	ND	890	ppb(v/v)
1,2-Dichlorobenzene	ND	440	ppb(v/v)
1,3-Dichlorobenzene	ND	440	ppb(v/v)
1,4-Dichlorobenzene	ND	440	ppb(v/v)
Dichlorodifluoromethane	ND	440	ppb(v/v)
1,1-Dichloroethane	**530**	**440**	**ppb(v/v)**
1,2-Dichloroethane	ND	440	ppb(v/v)
cis-1,2-Dichloroethene	**87000**	**440**	**ppb(v/v)**
trans-1,2-Dichloroethene	**310 J**	**440**	**ppb(v/v)**
1,1-Dichloroethene	**700**	**440**	**ppb(v/v)**
1,2-Dichloropropane	ND	440	ppb(v/v)
cis-1,3-Dichloropropene	ND	440	ppb(v/v)
trans-1,3-Dichloropropene	ND	440	ppb(v/v)
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	440	ppb(v/v)
1,4-Dioxane	ND	1100	ppb(v/v)
Ethyl acetate	ND	4400	ppb(v/v)
Ethylbenzene	ND	440	ppb(v/v)
4-Ethyltoluene	ND	890	ppb(v/v)

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ORIGINAL

ARCADIS U.S., Inc.

Client Sample ID: TOI/090508

GC/MS Volatiles

Lot-Sample #...: H8I100104-001 Work Order #...: KWJ2C1AA Matrix.....: AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS
n-Heptane	ND	1100	ppb(v/v)
Hexachlorobutadiene	ND	2200	ppb(v/v)
n-Hexane	**510 J**	**1100**	**ppb(v/v)**
2-Hexanone	ND	1100	ppb(v/v)
Cumene	ND	890	ppb(v/v)
Methyl methacrylate	ND	1100	ppb(v/v)
4-Methyl-2-pentanone (MIBK)	ND	1100	ppb(v/v)
Methyl tert-butyl ether	ND	2200	ppb(v/v)
n-Octane	ND	890	ppb(v/v)
Pentane	**270 J**	**2200**	**ppb(v/v)**
Propene	**570 J**	**1100**	**ppb(v/v)**
Styrene	ND	440	ppb(v/v)
1,1,2,2-Tetrachloroethane	ND	440	ppb(v/v)
Tetrachloroethene	**2400**	**440**	**ppb(v/v)**
Toluene	ND	440	ppb(v/v)
1,2,4-Trichloro-benzene	ND	2200	ppb(v/v)
1,1,1-Trichloroethane	**770**	**440**	**ppb(v/v)**
1,1,2-Trichloroethane	ND	440	ppb(v/v)
Trichloroethene	**50000**	**440**	**ppb(v/v)**
Trichlorofluoromethane	ND	440	ppb(v/v)
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	440	ppb(v/v)
1,2,4-Trimethylbenzene	ND	440	ppb(v/v)
1,3,5-Trimethylbenzene	ND	440	ppb(v/v)
2,2,4-Trimethylpentane	ND	1100	ppb(v/v)
Vinyl acetate	ND	2200	ppb(v/v)
Vinyl chloride	**21000**	**440**	**ppb(v/v)**
m-Xylene & p-Xylene	ND	440	ppb(v/v)
o-Xylene	ND	440	ppb(v/v)
Acrylonitrile	ND	4400	ppb(v/v)
3-Chloropropene	ND	440	ppb(v/v)
Methylene chloride	**1300 B**	**1100**	**ppb(v/v)**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	101	(70 - 130)
Toluene-d8	108	(70 - 130)
4-Bromofluorobenzene	100	(70 - 130)

NOTE(S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

ORIGINAL

ARCADIS U.S., Inc.

Client Sample ID: TOE/090508

GC/MS Volatiles

Lot-Sample #...: H8I100104-002 Work Order #...: KWJ2D1AA Matrix.....: AIR
Date Sampled...: 09/05/08 Date Received..: 09/09/08
Prep Date.....: 09/11/08 Analysis Date..: 09/11/08
Prep Batch #...: 8256060
Dilution Factor: 10 Method.....: EPA-2 TO-15

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acetone	**140**	**50**	**ppb(v/v)**
Acetonitrile	ND	10	ppb(v/v)
Acrolein	ND	8.0	ppb(v/v)
alpha-Methylstyrene	ND	4.0	ppb(v/v)
Benzene	ND	2.0	ppb(v/v)
Bromodichloromethane	ND	2.0	ppb(v/v)
Bromoform	ND	2.0	ppb(v/v)
Bromomethane	ND	2.0	ppb(v/v)
1,3-Butadiene	ND	4.0	ppb(v/v)
2-Butanone (MEK)	**33**	**10**	**ppb(v/v)**
tert-Butyl alcohol	**92**	**20**	**ppb(v/v)**
Carbon disulfide	**3.6 J**	**5.0**	**ppb(v/v)**
Carbon tetrachloride	ND	2.0	ppb(v/v)
Chlorobenzene	ND	2.0	ppb(v/v)
Dibromochloromethane	ND	2.0	ppb(v/v)
Chlorodifluoromethane	ND	2.0	ppb(v/v)
Chloroethane	ND	2.0	ppb(v/v)
Chloroform	ND	2.0	ppb(v/v)
Chloromethane	ND	5.0	ppb(v/v)
1,2-Dibromoethane (EDB)	ND	2.0	ppb(v/v)
Dibromomethane	ND	4.0	ppb(v/v)
1,2-Dichlorobenzene	ND	2.0	ppb(v/v)
1,3-Dichlorobenzene	ND	2.0	ppb(v/v)
1,4-Dichlorobenzene	ND	2.0	ppb(v/v)
Dichlorodifluoromethane	ND	2.0	ppb(v/v)
1,1-Dichloroethane	ND	2.0	ppb(v/v)
1,2-Dichloroethane	ND	2.0	ppb(v/v)
cis-1,2-Dichloroethene	**1.5 J**	**2.0**	**ppb(v/v)**
trans-1,2-Dichloroethene	ND	2.0	ppb(v/v)
1,1-Dichloroethene	ND	2.0	ppb(v/v)
1,2-Dichloropropane	ND	2.0	ppb(v/v)
cis-1,3-Dichloropropene	ND	2.0	ppb(v/v)
trans-1,3-Dichloropropene	ND	2.0	ppb(v/v)
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	2.0	ppb(v/v)
1,4-Dioxane	ND	5.0	ppb(v/v)
Ethyl acetate	ND	20	ppb(v/v)
Ethylbenzene	ND	2.0	ppb(v/v)
4-Ethyltoluene	ND	4.0	ppb(v/v)

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ORIGINAL

ARCADIS U.S., Inc.

Client Sample ID: TOE/090508

GC/MS Volatiles

Lot-Sample #...: H8I100104-002 Work Order #...: KWJ2D1AA Matrix.....: AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS
n-Heptane	**3.0 J**	**5.0**	**ppb(v/v)**
Hexachlorobutadiene	ND	10	ppb(v/v)
n-Hexane	**3.1 J**	**5.0**	**ppb(v/v)**
2-Hexanone	**13**	**5.0**	**ppb(v/v)**
Cumene	ND	4.0	ppb(v/v)
Methyl methacrylate	ND	5.0	ppb(v/v)
4-Methyl-2-pentanone (MIBK)	**1.4 J**	**5.0**	**ppb(v/v)**
Methyl tert-butyl ether	ND	10	ppb(v/v)
n-Octane	**3.0 J**	**4.0**	**ppb(v/v)**
Pentane	**2.1 J**	**10**	**ppb(v/v)**
Propene	**2.3 J**	**5.0**	**ppb(v/v)**
Styrene	ND	2.0	ppb(v/v)
1,1,2,2-Tetrachloroethane	ND	2.0	ppb(v/v)
Tetrachloroethene	ND	2.0	ppb(v/v)
Toluene	ND	2.0	ppb(v/v)
1,2,4-Trichloro-benzene	ND	10	ppb(v/v)
1,1,1-Trichloroethane	ND	2.0	ppb(v/v)
1,1,2-Trichloroethane	ND	2.0	ppb(v/v)
Trichloroethene	**1.1 J**	**2.0**	**ppb(v/v)**
Trichlorofluoromethane	ND	2.0	ppb(v/v)
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	2.0	ppb(v/v)
1,2,4-Trimethylbenzene	ND	2.0	ppb(v/v)
1,3,5-Trimethylbenzene	ND	2.0	ppb(v/v)
2,2,4-Trimethylpentane	ND	5.0	ppb(v/v)
Vinyl acetate	ND	10	ppb(v/v)
Vinyl chloride	ND	2.0	ppb(v/v)
m-Xylene & p-Xylene	ND	2.0	ppb(v/v)
o-Xylene	ND	2.0	ppb(v/v)
Acrylonitrile	ND	20	ppb(v/v)
3-Chloropropene	ND	2.0	ppb(v/v)
Methylene chloride	**1.4 J,B**	**5.0**	**ppb(v/v)**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	101	(70 - 130)
Toluene-d8	102	(70 - 130)
4-Bromofluorobenzene	101	(70 - 130)

NOTE(S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

ORIGINAL

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: H8I100104 **Work Order #...:** KWQDE1AA **Matrix.....:** AIR
MB Lot-Sample #: H8I120000-060

Prep Date.....: 09/11/08
Analysis Date..: 09/11/08 **Prep Batch #...:** 8256060
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Acetone	ND	5.0	ppb(v/v)	EPA-2 TO-15
Acetonitrile	ND	1.0	ppb(v/v)	EPA-2 TO-15
Acrolein	ND	0.80	ppb(v/v)	EPA-2 TO-15
Acrylonitrile	ND	2.0	ppb(v/v)	EPA-2 TO-15
Benzene	ND	0.20	ppb(v/v)	EPA-2 TO-15
Bromodichloromethane	ND	0.20	ppb(v/v)	EPA-2 TO-15
Bromoform	ND	0.20	ppb(v/v)	EPA-2 TO-15
Bromomethane	ND	0.20	ppb(v/v)	EPA-2 TO-15
1,3-Butadiene	ND	0.40	ppb(v/v)	EPA-2 TO-15
Carbon disulfide	ND	0.50	ppb(v/v)	EPA-2 TO-15
Carbon tetrachloride	ND	0.20	ppb(v/v)	EPA-2 TO-15
Chlorobenzene	ND	0.20	ppb(v/v)	EPA-2 TO-15
Dibromochloromethane	ND	0.20	ppb(v/v)	EPA-2 TO-15
Chloroethane	ND	0.20	ppb(v/v)	EPA-2 TO-15
Chloroform	ND	0.20	ppb(v/v)	EPA-2 TO-15
Chloromethane	ND	0.50	ppb(v/v)	EPA-2 TO-15
3-Chloropropene	ND	0.20	ppb(v/v)	EPA-2 TO-15
Dibromomethane	ND	0.40	ppb(v/v)	EPA-2 TO-15
1,2-Dichlorobenzene	ND	0.20	ppb(v/v)	EPA-2 TO-15
1,3-Dichlorobenzene	ND	0.20	ppb(v/v)	EPA-2 TO-15
1,4-Dichlorobenzene	ND	0.20	ppb(v/v)	EPA-2 TO-15
Dichlorodifluoromethane	ND	0.20	ppb(v/v)	EPA-2 TO-15
1,1-Dichloroethane	ND	0.20	ppb(v/v)	EPA-2 TO-15
1,2-Dichloroethane	ND	0.20	ppb(v/v)	EPA-2 TO-15
1,1-Dichloroethene	ND	0.20	ppb(v/v)	EPA-2 TO-15
cis-1,2-Dichloroethene	ND	0.20	ppb(v/v)	EPA-2 TO-15
trans-1,2-Dichloroethene	ND	0.20	ppb(v/v)	EPA-2 TO-15
1,2-Dichloropropane	ND	0.20	ppb(v/v)	EPA-2 TO-15
cis-1,3-Dichloropropene	ND	0.20	ppb(v/v)	EPA-2 TO-15
trans-1,3-Dichloropropene	ND	0.20	ppb(v/v)	EPA-2 TO-15
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.20	ppb(v/v)	EPA-2 TO-15
1,4-Dioxane	ND	0.50	ppb(v/v)	EPA-2 TO-15
Ethyl acetate	ND	2.0	ppb(v/v)	EPA-2 TO-15
Ethylbenzene	ND	0.20	ppb(v/v)	EPA-2 TO-15
Trichlorofluoromethane	ND	0.20	ppb(v/v)	EPA-2 TO-15
n-Heptane	ND	0.50	ppb(v/v)	EPA-2 TO-15
Hexachlorobutadiene	ND	1.0	ppb(v/v)	EPA-2 TO-15
n-Hexane	ND	0.50	ppb(v/v)	EPA-2 TO-15
2-Hexanone	ND	0.50	ppb(v/v)	EPA-2 TO-15
2,2,4-Trimethylpentane	ND	0.50	ppb(v/v)	EPA-2 TO-15

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ORIGINAL

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: H8I100104 Work Order #...: KWQDE1AA Matrix.....: AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Cumene	ND	0.40	ppb(v/v)	EPA-2 TO-15
tert-Butyl alcohol	ND	2.0	ppb(v/v)	EPA-2 TO-15
Methylene chloride	**0.084 J**	**0.50**	**ppb(v/v)**	**EPA-2 TO-15**
Methyl methacrylate	ND	0.50	ppb(v/v)	EPA-2 TO-15
n-Octane	ND	0.40	ppb(v/v)	EPA-2 TO-15
Pentane	ND	1.0	ppb(v/v)	EPA-2 TO-15
Styrene	ND	0.20	ppb(v/v)	EPA-2 TO-15
1,1,2,2-Tetrachloroethane	ND	0.20	ppb(v/v)	EPA-2 TO-15
Tetrachloroethene	ND	0.20	ppb(v/v)	EPA-2 TO-15
Toluene	ND	0.20	ppb(v/v)	EPA-2 TO-15
1,2,4-Trichloro-benzene	ND	1.0	ppb(v/v)	EPA-2 TO-15
1,1,1-Trichloroethane	ND	0.20	ppb(v/v)	EPA-2 TO-15
1,1,2-Trichloroethane	ND	0.20	ppb(v/v)	EPA-2 TO-15
Trichloroethene	ND	0.20	ppb(v/v)	EPA-2 TO-15
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	0.20	ppb(v/v)	EPA-2 TO-15
1,2,4-Trimethylbenzene	ND	0.20	ppb(v/v)	EPA-2 TO-15
1,3,5-Trimethylbenzene	ND	0.20	ppb(v/v)	EPA-2 TO-15
Vinyl acetate	ND	1.0	ppb(v/v)	EPA-2 TO-15
Vinyl chloride	ND	0.20	ppb(v/v)	EPA-2 TO-15
o-Xylene	ND	0.20	ppb(v/v)	EPA-2 TO-15
Methyl tert-butyl ether	ND	1.0	ppb(v/v)	EPA-2 TO-15
alpha-Methylstyrene	ND	0.40	ppb(v/v)	EPA-2 TO-15
Chlorodifluoromethane	ND	0.20	ppb(v/v)	EPA-2 TO-15
m-Xylene & p-Xylene	ND	0.20	ppb(v/v)	EPA-2 TO-15
1,2-Dibromoethane (EDB)	ND	0.20	ppb(v/v)	EPA-2 TO-15
2-Butanone (MEK)	ND	1.0	ppb(v/v)	EPA-2 TO-15
4-Methyl-2-pentanone (MIBK)	ND	0.50	ppb(v/v)	EPA-2 TO-15
4-Ethyltoluene	ND	0.40	ppb(v/v)	EPA-2 TO-15
Propene	ND	0.50	ppb(v/v)	EPA-2 TO-15

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	104	(70 - 130)
Toluene-d8	101	(70 - 130)
4-Bromofluorobenzene	100	(70 - 130)

NOTE(S):

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

J Estimated result. Result is less than RL.

ORIGINAL

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: H8I100104 Work Order #...: KWQDE1AC Matrix.....: AIR
LCS Lot-Sample#: H8I120000-060
Prep Date.....: 09/11/08 Analysis Date..: 09/11/08
Prep Batch #...: 8256060
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
1,1-Dichloroethene	98	(70 - 130)	EPA-2 TO-15
Benzene	91	(70 - 130)	EPA-2 TO-15
Trichloroethene	101	(70 - 130)	EPA-2 TO-15
Toluene	89	(70 - 130)	EPA-2 TO-15
Chlorobenzene	91	(70 - 130)	EPA-2 TO-15

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	105	(70 - 130)
Toluene-d8	99	(70 - 130)
4-Bromofluorobenzene	102	(70 - 130)

NOTE(S):

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

Bold print denotes control parameters

ORIGINAL

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: H8I100104 Work Order #...: KWQDE1AC Matrix.....: AIR
LCS Lot-Sample#: H8I120000-060
Prep Date.....: 09/11/08 Analysis Date..: 09/11/08
Prep Batch #...: 8256060
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
1,1-Dichloroethene	2.50	2.46	ppb(v/v)	98	EPA-2 TO-15
Benzene	2.50	2.27	ppb(v/v)	91	EPA-2 TO-15
Trichloroethene	2.50	2.52	ppb(v/v)	101	EPA-2 TO-15
Toluene	2.50	2.22	ppb(v/v)	89	EPA-2 TO-15
Chlorobenzene	2.50	2.28	ppb(v/v)	91	EPA-2 TO-15

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	105	(70 - 130)
Toluene-d8	99	(70 - 130)
4-Bromofluorobenzene	102	(70 - 130)

NOTE(S):

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

Bold print denotes control parameters

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Sample Data Summary

ORIGINAL

ARCADIS U.S., Inc.

Client Sample ID: TOI/090508

GC Volatiles

Lot-Sample #...: H8I100104-001 Work Order #...: KWJ2C1AC Matrix.....: AIR
Date Sampled...: 09/05/08 Date Received..: 09/09/08
Prep Date.....: 09/11/08 Analysis Date..: 09/11/08
Prep Batch #...: 8255213
Dilution Factor: 1.77 Method.....: ASTM D 1946/E 260

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Methane	ND	0.18	%

ORIGINAL

METHOD BLANK REPORT

GC Volatiles

Client Lot #...: H8I100104 Work Order #...: KWM6N1AA Matrix.....: AIR
MB Lot-Sample #: H8I110000-213

Prep Date.....: 09/11/08
Analysis Date..: 09/11/08 Prep Batch #...: 8255213
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Methane	ND	0.10	%	ASTM D 1946/E 260

NOTE(S):

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

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LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Volatiles

Client Lot #...: H8I100104 Work Order #...: KWM6N1AC Matrix.....: AIR
LCS Lot-Sample#: H8I110000-213
Prep Date.....: 09/11/08 Analysis Date..: 09/11/08
Prep Batch #...: 8255213
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
Carbon dioxide	99	(75 - 125)	ASTM D 1946/E 260
Nitrogen	106	(70 - 130)	ASTM D 1946/E 260
Oxygen	111	(70 - 130)	ASTM D 1946/E 260
Carbon monoxide	102	(70 - 130)	ASTM D 1946/E 260
Methane	102	(70 - 130)	ASTM D 1946/E 260

NOTE(S):

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

Bold print denotes control parameters

ORIGINAL

LABORATORY CONTROL SAMPLE DATA REPORT

GC Volatiles

Client Lot #...: H8I100104 Work Order #...: KWM6N1AC Matrix.....: AIR
LCS Lot-Sample#: H8I110000-213
Prep Date.....: 09/11/08 Analysis Date..: 09/11/08
Prep Batch #...: 8255213
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
Carbon dioxide	5.00	4.93	%	99	ASTM D 1946/E
Nitrogen	5.00	5.32	%	106	ASTM D 1946/E
Oxygen	5.00	5.56	%	111	ASTM D 1946/E
Carbon monoxide	5.00	5.08	%	102	ASTM D 1946/E
Methane	4.00	4.07	%	102	ASTM D 1946/E

NOTE(S):

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

Bold print denotes control parameters

ORIGINAL[19]

Sample Receipt Documentation

[redacted]

Chain of Custody Record

H8I 100104

TestAmerica

[redacted]

THE LEADER IN ENVIRONMENTAL TESTING

TAL-4142 (0408)

Client: ARCADIS US INC	Project Manager: (b) (4) [redacted]	Date: 9-5-08	Chain of Custody Number: 000275
Address: 284 CRAMER CREEK COURT	Telephone Number (Area Code)/Fax Number: 614-799-4701		Lab Number:
City: DUBLIN State: OH Zip Code: 43017	Site Contact:	Lab Contact:	Page 1 of 1
Project Name and Location (State): LORD SHODE LANDFILL	Carrier/Waybill Number:		
Contract/Purchase Order/Quote No.:			

Analysis (Attach list if more space is needed): SUMMA CANISTER; VOC - METHOD TO-15; METHANE - METHOD EPA-18

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sold.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	SUMMA CANISTER	VOC - METHOD TO-15	METHANE - METHOD EPA-18	Special Instructions/ Conditions of Receipt
TOI/090508	9-5-08	11:10AM	X										X	X	X	CANISTER 1326N
TOE/090508	9-5-08	11:25AM	X										X	X		CANISTER 93183

REC. AT AMBIENT
CUSTODY SEAL INTACT
1 BOX RH 9/9/08
UPS#1Z183X7603348237 19
2 CANS / 0 FLOWS

Possible Hazard Identification: ☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required: ☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☒ Other NORMAL

QC Requirements (Specify):

1. Relinquished By: (b) (4) [redacted]	Date: 9-8-08	Time: 4:00PM	1. Received By: (b) (4) [redacted]	Date: 9/9/08	Time: 0845
2. Relinquished By	Date	Time	2. Received By	Date	Time
3. Relinquished By	Date	Time	3. Received By	Date	Time

Comments

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

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TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

H8I 100104

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	Project Manager: [redacted]	Sampled By: G-R	2 of 2 COCs
Company: ARCADIS US INC	Phone:		
Address: 284 CRAMER CREEK COURT	Site Contact:		
City/State/Zip DUBLIN OH 43017	TAL Contact:		
Phone: 614-799-4701			
FAX:			
Project Name: LORD SHOPE LANDFILL	Analysis Turnaround Time		
Site/location: GIRARD PA	Standard (Specify)		
PO #	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
TOI/090508	9-5-08	11:00AM					1326N	X					X					X	
TOE/090508	9-5-08	11:25AM					93183	X										X	

Sampled by :	Temperature (Fahrenheit)			
		Interior	Ambient	
	Start			
	Stop			
	Pressure (inches of Hg)			
		Interior	Ambient	
	Start			
	Stop			

NOTE - METHANE METHOD EPA-18

Special Instructions/QC Requirements & Comments:

Canisters Shipped by: UPS	Date/Time:	Canisters Received by:
Samples Relinquished by: [redacted]	Date/Time: 9-5-08 4:00PM	Received by: [redacted] 9/9/08 1245
Relinquished by:	Date/Time:	Received by:

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TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Client: _____ **Project:** _____ **Lot Number:** H8L100104

Review Items	Yes	No	NA	If No, what was the problem?	Comments/Actions Taken
1. Do sample container labels match COC? (IDs, Dates, Times)	✓			☐ 1a Do not match COC ☐ 1b Incomplete information ☐ 1c Marking smeared ☐ 1d Label torn ☐ 1e No label ☐ 1f COC not received ☐ 1g Other:	
2. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C; NC, 1668, 1613B: 0-4°C; VOST: 10°C; MA: 2-6 °C)			✓	☐ 2a Temp Blank = _____ ☐ 2b Cooler Temp = _____	
3. Were samples received with correct chemical preservative (excluding Encore)?			✓	☐ 3a Sample preservative =	
4. Were custody seals present/intact on cooler and/or containers?	✓			☐ 4a Not present ☐ 4b Not intact ☐ 4c Other:	
5. Were all of the samples listed on the COC received?	✓			☐ 5a Samples received-not on COC ☐ 5b Samples not received-on COC	
6. Were all of the sample containers received intact?	✓			☐ 6a Leaking ☐ 6b Broken	
7. Were VOA samples received without headspace?			✓	☐ 7a Headspace (VOA only)	
8. Were samples received in appropriate containers?	✓			☐ 8a Improper container	
9. Did you check for residual chlorine, if necessary?			✓	☐ 9a Could not be determined due to matrix interference	
10. Were samples received within holding time?	✓			☐ 10a Holding time expired	
11. For rad samples, was sample activity info. provided?			✓	☐ Incomplete information	
12. For SOG water samples (1613B, 1668A, 8290, LR PAHs), do samples have visible solids present?			✓	If yes & appears to be >1%, was SOG notified? _____	
13. Are the shipping containers intact?	✓			☐ 13a Leaking ☐ 13b Other:	
14. Was COC relinquished? (Signed/Dated/Timed)	✓			☐ 14a Not relinquished	
15. Are tests/parameters listed for each sample?	✓			☐ 15a Incomplete information	
16. Is the matrix of the samples noted?	✓			☐ 15a Incomplete information	
17. Is the date/time of sample collection noted?	✓			☐ 15a Incomplete information	
18. Is the client and project name/# identified?	✓			☐ 15a Incomplete information	
19. Was the sampler identified on the COC?	✓	✓ RH			

Quote #: 79678 PM Instructions: _____

Sample Receiving Associate: (b) (4) [redacted] Date: 9/9/08

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