

December 21, 2016

Brian Humpal
Midwest Soil Testing
6616 Indian Well Tr.
Saint Paul, MN 55110

RE: Project:
Pace Project No.: 10372956

Dear Brian Humpal:

Enclosed are the analytical results for sample(s) received by the laboratory on December 12, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,



Timothy Sandager
timothy.sandager@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

CERTIFICATIONS

Project:

Pace Project No.: 10372956

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

Alaska Certification UST-107

525 N 8th Street, Salina, KS 67401

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Alabama Certification #40770

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

Colorado Certification #Pace

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: 8TMS-L

Florida/NELAP Certification #: E87605

Guam Certification #:14-008r

Georgia Certification #: 959

Georgia EPD #: Pace

Idaho Certification #: MN00064

Hawaii Certification #MN00064

Illinois Certification #: 200011

Indiana Certification#C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky Dept of Envi. Protection - DW #90062

Kentucky Dept of Envi. Protection - WW #:90062

Louisiana DEQ Certification #: 3086

Louisiana DHH #: LA140001

Maine Certification #: 2013011

Maryland Certification #: 322

Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT0092

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

New York Certification #: 11647

North Carolina Certification #: 530

North Carolina State Public Health #: 27700

North Dakota Certification #: R-036

Ohio EPA #: 4150

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Saipan (CNMI) #:MP0003

South Carolina #:74003001

Texas Certification #: T104704192

Tennessee Certification #: 02818

Utah Certification #: MN000642013-4

Virginia DGS Certification #: 251

Virginia/VELAP Certification #: Pace

Washington Certification #: C486

West Virginia Certification #: 382

West Virginia DHHR #:9952C

Wisconsin Certification #: 999407970

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SAMPLE SUMMARY

Project:

Pace Project No.: 10372956

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10372956001	11099 Hwy 61	Water	12/12/16 13:31	12/12/16 14:45

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SAMPLE ANALYTE COUNT

Project:
Pace Project No.: 10372956

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10372956001	11099 Hwy 61	Hach 10360 Rev 1.1	MBL	1
		EPA 1664A OG	CJM	1
		SM 2540D	JFP	1

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ANALYTICAL RESULTS

Project:
Pace Project No.: 10372956

Sample: 11099 Hwy 61 Lab ID: 10372956001 Collected: 12/12/16 13:31 Received: 12/12/16 14:45 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Hach 10360 Rev 1.1 BOD Analytical Method: Hach 10360 Rev 1.1 Preparation Method: Hach 10360									
BOD, 5 day	208	mg/L	60.0	30.0	30	12/14/16 09:56	12/19/16 12:45		B1, B5, B6
1664 HEM, Oil and Grease Analytical Method: EPA 1664A OG									
Oil and Grease	43.0	mg/L	5.1	1.1	1		12/20/16 19:47		
2540D Total Suspended Solids Analytical Method: SM 2540D									
Total Suspended Solids	135	mg/L	50.0	25.0	1		12/16/16 18:14		

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QUALITY CONTROL DATA

Project:
Pace Project No.: 10372956

QC Batch: 451679	Analysis Method: Hach 10360 Rev 1.1
QC Batch Method: Hach 10360	Analysis Description: Hach 10360 Rev 1.1, BOD
Associated Lab Samples: 10372956001	

METHOD BLANK: 2473237 Matrix: Water
Associated Lab Samples: 10372956001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	1.0	12/19/16 12:28	B5

LABORATORY CONTROL SAMPLE: 2473239

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	182	92	85-115	B5, B6

SAMPLE DUPLICATE: 2473240

Parameter	Units	10372972001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	ND	1.4J		20	B5, B6

SAMPLE DUPLICATE: 2473965

Parameter	Units	10373265001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	779	634	20	20	B5, B6

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project:
Pace Project No.: 10372956

QC Batch: 452702	Analysis Method: EPA 1664A OG
QC Batch Method: EPA 1664A OG	Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 10372956001	

METHOD BLANK: 2477987 Matrix: Water
Associated Lab Samples: 10372956001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	1.1	12/20/16 19:47	

LABORATORY CONTROL SAMPLE: 2477988

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	34.4	86	78-114	

MATRIX SPIKE SAMPLE: 2478000

Parameter	Units	10372822001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	40.4	35.6	85	78-114	

SAMPLE DUPLICATE: 2478001

Parameter	Units	10373215001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	<1.1	ND		18	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project:
Pace Project No.: 10372956

QC Batch: 452129	Analysis Method: SM 2540D
QC Batch Method: SM 2540D	Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 10372956001	

METHOD BLANK: 2475331 Matrix: Water
Associated Lab Samples: 10372956001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	10.0	5.0	12/16/16 18:14	

LABORATORY CONTROL SAMPLE: 2475332

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Suspended Solids	mg/L	100	98.0	98	80-120	

SAMPLE DUPLICATE: 2475333

Parameter	Units	10372826005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	222	252	13	10	D6

SAMPLE DUPLICATE: 2475334

Parameter	Units	10373015001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	ND	ND		10	

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QUALIFIERS

Project: I
Pace Project No.: 10372956

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 452702

[BE] Batch extracted by solid phase extraction (SPE).

ANALYTE QUALIFIERS

B1 Less than 1.0 mg/L DO remained for all dilutions set. The reported value is an estimated greater than value and is calculated for the dilution using the least amount of sample.

B5 BOD seed blank was outside acceptance criteria. Reported results were accepted based on remaining quality control indicators.

B6 The calculated seed correction exceeded the range of 0.6 to 1.0 mg/L.

D6 The precision between the sample and sample duplicate exceeded laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project:

Pace Project No.: 10372956

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10372956001	11099 Hwy 61	Hach 10360	451679	Hach 10360 Rev 1.1	451855
10372956001	11099 Hwy 61	EPA 1664A OG	452702		
10372956001	11099 Hwy 61	SM 2540D	452129		

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

Section A
 Required Client Information:
 Company: Midwest Soil Testing
 Address: P.O. Box 383
Hugo, MN 55038
 Email to: Brian@midwestsoiltesting.com
 Phone: 651-492-7550 Fax: _____

Section B
 Required Project Information:
 Report to: Brian Humpal
 Copy to: _____
 Purchase Order No.: 1033 Orwell
 Project Name: _____
 Project Number: _____

Section C
 Invoice Information:
 Attention: Brian Humpal
 Company Name: Midwest Soil Testing
 Address: P.O. Box 383, Hugo, MN 55038
 Fax: _____
 Reference: _____
 Billing Manager: Tim Sandager
 Fax Profile #: _____

REGULATORY AGENCY
 NPDES GROUND WATER DRINKING WATER
 LUST RCRA OTHER _____

Site Location: _____ STATE: MINN

ITEM #	Section D Client Information	Valid Matrix Codes	Required	MATRIX CODE (see field codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives	Analysis Test	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Temp in °C	Received on	Sealed Cooler	Samples Intact
						COMPOSITE START	COMPOSITE END/GRAB										
1		DRINKING WATER WATER WASTE WATER SOIL SOIL/SOLID OIL WIFE AIR OTHER TISSUE	Required														
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	

ADDITIONAL COMMENTS
12/12/16 11:31 13:31
12/12/16 13:31 13:31
12/12/16 13:31 13:31

RELINQUISHED BY / AFFILIATION
12/12/16 11:31 13:31
12/12/16 13:31 13:31
12/12/16 13:31 13:31

ACCEPTED BY / AFFILIATION
12/12/16 11:31 13:31
12/12/16 13:31 13:31
12/12/16 13:31 13:31

DATE **TIME** **DATE** **TIME** **DATE** **TIME**


SAMPLER NAME AND SIGNATURE
 PRINT Name of SAMPLER: Brian Humpal
 SIGNATURE of SAMPLER: [Signature]

DATE SIGNED (MM/DD/YYYY) 12/12/16

Sample Condition Upon Receipt

Client Name: Midwesting Soil Testing **Project #:** _____

WO#: 10372956



10372956

Courier: Fed Ex UPS USPS Client
 Commercial Pace SpeedDee Other: _____

Tracking Number: _____

Custody Seal on Cooler/Box Present? Yes No **Seals Intact?** Yes No **Optional:** Proj. Due Date: _____ Proj. Name: _____

Packing Material: Bubble Wrap Bubble Bags None Other: _____ **Temp Blank?** Yes No

Thermometer Used: 151401163 151401164 B88A912167504 B88A0143310098 **Type of Ice:** Wet Blue None Samples on ice, cooling process has begun

Cooler Temp Read (°C): 2.1 **Cooler Temp Corrected (°C):** 2.1 **Biological Tissue Frozen?** Yes No N/A
 Temp should be above freezing to 5°C **Correction Factor:** true **Date and Initials of Person Examining Contents:** 12/12/16 CCL

USDA Regulated Soil (N/A, water sample)
 Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No
 Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No
If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

	COMMENTS:
Chain of Custody Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Filled Out? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Chain of Custody Relinquished? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3.
Sampler Name and/or Signature on COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
Short Hold Time Analysis (<72 hr)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
Correct Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Containers Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Filtered Volume Received for Dissolved Tests? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved container
Sample Labels Match COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No -Includes Date/Time/ID/Analysis Matrix: <u>WT</u>	12.
All containers needing acid/base preservation have been checked? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>9 Sulfide, NaOH>12 Cyanide) <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A Exceptions: VOA, Coliform, TOC/DOC <u>Oil and Grease</u> , DRO/8015 (water) and Dioxin. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. <input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH Positive for Res. Chlorine? Y N Sample # _____ Initial when completed: <u>12/12/16 CCL</u> Lot # of added preservative: _____
Headspace in VOA Vials (>6mm)? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Present? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): _____	

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? Yes No

Person Contacted: _____ **Date/Time:** _____
Comments/Resolution: _____

Project Manager Review: _____ **Date:** 12/12/16

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers).