Attachment #8

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

July 27, 2016

Robert Trump
Total Petroleum Services
16601 W. 132nd Circle
Olathe, KS 66062

RE: Project: SAC-N-FOX
Pace Project No.: 60223766

Dear Robert Trump:
Enclosed are the analytical results for sample(s) received by the laboratory on July 15, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI 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,

Sherri Rosenstangle

Sherri Rosenstangle
sherri.rosenstangle@pacelabs.com
Project Manager

Enclosures

**REPORT OF LABORATORY ANALYSIS**

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# CERTIFICATIONS

Project: SAC-N-FOX
Pace Project No.: 60223766

**Minnesota Certification IDs**

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
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

**Indiana Certification IDs**

7726 Moller Road, Indianapolis, IN 46268
Illinois Certification #: 200074
Indiana Certification #: C-49-06
Kansas/NELAP Certification #:E-10177
Kentucky UST Certification #: 0042
Kentucky WW Certification #:98019
Ohio VAP Certification #: CL-0065
Oklahoma Certification #: 2014-148
Texas Certification #: T104704355-15-9
West Virginia Certification #: 330
Wisconsin Certification #: 999788130
USDA Soil Permit #: P330-10-00128

**Kansas Certification IDs**

9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 15-016-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407
Utah Certification #: KS00021
Kansas Field Laboratory Accreditation: # E-92587



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## SAMPLE SUMMARY

Project: SAC-N-FOX
Pace Project No.: 60223766

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|---|---|---|---|---|
| 60223766001 | F2-GW | Water | 07/11/16 16:30 | 07/15/16 17:10 |

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## SAMPLE ANALYTE COUNT

Project: SAC-N-FOX
Pace Project No.: 60223766

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| **60223766001** | **F2-GW** | EPA 8015 Alcohol-Glycol | BJW | 1 | PASI-I |
| | | EPA 6010 | SMW | 7 | PASI-K |
| | | EPA 6010 | IP | 1 | PASI-M |
| | | EPA 7470 | TDS | 1 | PASI-K |
| | | EPA 5030B/8260 | PGH | 8 | PASI-K |
| | | SM 4500-H+B | LDB | 1 | PASI-K |



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# ANALYTICAL RESULTS

Project: SAC-N-FOX
Pace Project No.: 60223766

**Sample: F2-GW** **Lab ID: 60223766001** Collected: 07/11/16 16:30 Received: 07/15/16 17:10 Matrix: Water

Comments: • Samples requiring thermal preservation were received outside of recommended temperature limits of 0-6 degrees Celsius.

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8015M Alcohols in water** | Analytical Method: EPA 8015 Alcohol-Glycol | | | | | | | |
| Ethanol | **7.2** | mg/L | 5.0 | 1 | | 07/20/16 15:23 | 64-17-5 | |
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | |
| Arsenic | ND | ug/L | 10.0 | 1 | 07/21/16 11:15 | 07/22/16 11:17 | 7440-38-2 | |
| Sulfur | **5310** | ug/L | 500 | 1 | 07/21/16 14:15 | 07/22/16 20:05 | | |
| Barium | **2260** | ug/L | 10.0 | 1 | 07/21/16 11:15 | 07/22/16 11:17 | 7440-39-3 | |
| Cadmium | ND | ug/L | 5.0 | 1 | 07/21/16 11:15 | 07/22/16 11:17 | 7440-43-9 | |
| Chromium | ND | ug/L | 5.0 | 1 | 07/21/16 11:15 | 07/22/16 11:17 | 7440-47-3 | |
| Lead | ND | ug/L | 5.0 | 1 | 07/21/16 11:15 | 07/22/16 11:17 | 7439-92-1 | |
| Selenium | ND | ug/L | 15.0 | 1 | 07/21/16 11:15 | 07/22/16 11:17 | 7782-49-2 | |
| Silver | ND | ug/L | 7.0 | 1 | 07/21/16 11:15 | 07/22/16 11:17 | 7440-22-4 | |
| **7470 Mercury** | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | ND | ug/L | 0.20 | 1 | 07/25/16 09:40 | 07/25/16 14:00 | 7439-97-6 | |
| **8260 MSV** | Analytical Method: EPA 5030B/8260 | | | | | | | |
| Benzene | **5460** | ug/L | 50.0 | 50 | | 07/22/16 14:12 | 71-43-2 | |
| Ethylbenzene | **136** | ug/L | 1.0 | 1 | | 07/20/16 14:44 | 100-41-4 | |
| Toluene | **11600** | ug/L | 250 | 250 | | 07/25/16 15:30 | 108-88-3 | |
| Xylene (Total) | **9060** | ug/L | 150 | 50 | | 07/22/16 14:12 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | |
| 4-Bromofluorobenzene (S) | 95 | % | 77-130 | 1 | | 07/20/16 14:44 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 102 | % | 81-127 | 1 | | 07/20/16 14:44 | 17060-07-0 | |
| Toluene-d8 (S) | 102 | % | 80-120 | 1 | | 07/20/16 14:44 | 2037-26-5 | |
| Preservation pH | **1.0** | | 0.10 | 1 | | 07/20/16 14:44 | | |
| **4500H+ pH, Electrometric** | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | **6.8** | Std. Units | 0.10 | 1 | | 07/20/16 12:45 | | H6 |



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# QUALITY CONTROL DATA

Project: SAC-N-FOX
Pace Project No.: 60223766

QC Batch: 342803
QC Batch Method: EPA 8015 Alcohol-Glycol
Associated Lab Samples: 60223766001

Analysis Method: EPA 8015 Alcohol-Glycol
Analysis Description: EPA 8015 Modified

METHOD BLANK: 1587707
Matrix: Water
Associated Lab Samples: 60223766001

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Ethanol | mg/L | ND | 5.0 | 07/20/16 11:49 | |

LABORATORY CONTROL SAMPLE: 1587708

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Ethanol | mg/L | 50 | 46.2 | 92 | 70-133 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1587709 1587710

| Parameter | Units | 60223575001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ethanol | mg/L | ND | 50 | 50 | 32.0 | 38.9 | 64 | 78 | 61-143 | 19 | 20 | |

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# QUALITY CONTROL DATA

Project: SAC-N-FOX
Pace Project No.: 60223766

QC Batch: 439735
QC Batch Method: EPA 7470
Analysis Method: EPA 7470
Analysis Description: 7470 Mercury
Associated Lab Samples: 60223766001

METHOD BLANK: 1799381
Matrix: Water
Associated Lab Samples: 60223766001

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Mercury | ug/L | ND | 0.20 | 07/25/16 12:21 | |

LABORATORY CONTROL SAMPLE: 1799382

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Mercury | ug/L | 5 | 4.8 | 97 | 80-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1799383 1799384

| Parameter | Units | 60223593001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | ug/L | 0.61 | 5 | 5 | 5.0 | 5.0 | 88 | 88 | 75-125 | 0 | 20 | |

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# QUALITY CONTROL DATA

Project: SAC-N-FOX
Pace Project No.: 60223766

QC Batch: 439438
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Associated Lab Samples: 60223766001

METHOD BLANK: 1797181
Matrix: Water
Associated Lab Samples: 60223766001

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Arsenic | ug/L | ND | 10.0 | 07/22/16 11:08 | |
| Barium | ug/L | ND | 10.0 | 07/22/16 11:08 | |
| Cadmium | ug/L | ND | 5.0 | 07/22/16 11:08 | |
| Chromium | ug/L | ND | 5.0 | 07/22/16 11:08 | |
| Lead | ug/L | ND | 5.0 | 07/22/16 11:08 | |
| Selenium | ug/L | ND | 15.0 | 07/22/16 11:08 | |
| Silver | ug/L | ND | 7.0 | 07/22/16 11:08 | |

LABORATORY CONTROL SAMPLE: 1797182

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Arsenic | ug/L | 1000 | 1080 | 108 | 80-120 | |
| Barium | ug/L | 1000 | 1010 | 101 | 80-120 | |
| Cadmium | ug/L | 1000 | 1120 | 112 | 80-120 | |
| Chromium | ug/L | 1000 | 961 | 96 | 80-120 | |
| Lead | ug/L | 1000 | 1110 | 111 | 80-120 | |
| Selenium | ug/L | 1000 | 1100 | 110 | 80-120 | |
| Silver | ug/L | 500 | 496 | 99 | 80-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1797183 1797184

| Parameter | Units | 60223766001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | ug/L | ND | 1000 | 1000 | 1110 | 1120 | 110 | 111 | 75-125 | 1 | 20 | |
| Barium | ug/L | 2260 | 1000 | 1000 | 3210 | 3240 | 96 | 98 | 75-125 | 1 | 20 | |
| Cadmium | ug/L | ND | 1000 | 1000 | 1120 | 1130 | 112 | 113 | 75-125 | 1 | 20 | |
| Chromium | ug/L | ND | 1000 | 1000 | 926 | 930 | 93 | 93 | 75-125 | 0 | 20 | |
| Lead | ug/L | ND | 1000 | 1000 | 1030 | 1030 | 103 | 103 | 75-125 | 0 | 20 | |
| Selenium | ug/L | ND | 1000 | 1000 | 1120 | 1130 | 112 | 113 | 75-125 | 1 | 20 | |
| Silver | ug/L | ND | 500 | 500 | 503 | 504 | 101 | 101 | 75-125 | 0 | 20 | |

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# QUALITY CONTROL DATA

Project: SAC-N-FOX
Pace Project No.: 60223766

QC Batch: 426351
QC Batch Method: EPA 3010
Associated Lab Samples: 60223766001

Analysis Method: EPA 6010
Analysis Description: 6010 MET

METHOD BLANK: 2321335
Associated Lab Samples: 60223766001

Matrix: Water

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Sulfur | ug/L | ND | 500 | 07/22/16 19:58 | |

LABORATORY CONTROL SAMPLE: 2321336

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Sulfur | ug/L | 20000 | 20000 | 100 | 80-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2321337 2321338

| Parameter | Units | 60223766001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sulfur | ug/L | 5310 | 20000 | 20000 | 25400 | 26700 | 101 | 107 | 75-125 | 5 | 20 | |

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# QUALITY CONTROL DATA

Project: SAC-N-FOX
Pace Project No.: 60223766

QC Batch: 439301
QC Batch Method: EPA 5030B/8260
Associated Lab Samples: 60223766001

Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge

METHOD BLANK: 1796709
Associated Lab Samples: 60223766001

Matrix: Water

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Ethylbenzene | ug/L | ND | 1.0 | 07/20/16 09:09 | |
| 1,2-Dichloroethane-d4 (S) | % | 96 | 81-127 | 07/20/16 09:09 | |
| 4-Bromofluorobenzene (S) | % | 97 | 77-130 | 07/20/16 09:09 | |
| Toluene-d8 (S) | % | 99 | 80-120 | 07/20/16 09:09 | |

LABORATORY CONTROL SAMPLE: 1796710

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Ethylbenzene | ug/L | 20 | 21.0 | 105 | 80-120 | |
| 1,2-Dichloroethane-d4 (S) | % | | | 99 | 81-127 | |
| 4-Bromofluorobenzene (S) | % | | | 98 | 77-130 | |
| Toluene-d8 (S) | % | | | 99 | 80-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1796711 1796712

| Parameter | Units | 60223758002 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ethylbenzene | ug/L | ND | 20 | 20 | 22.1 | 22.2 | 110 | 111 | 29-151 | 0 | 45 | |
| 1,2-Dichloroethane-d4 (S) | % | | | | | | 98 | 95 | 81-127 | | | |
| 4-Bromofluorobenzene (S) | % | | | | | | 96 | 96 | 77-130 | | | |
| Toluene-d8 (S) | % | | | | | | 98 | 100 | 80-120 | | | |
| Preservation pH | | 1.0 | | | 1.0 | 1.0 | | | | 0 | | |

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## REPORT OF LABORATORY ANALYSIS

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Date: 07/27/2016 11:46 AM

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# QUALITY CONTROL DATA

Project: SAC-N-FOX
Pace Project No.: 60223766

QC Batch: 439616
QC Batch Method: EPA 5030B/8260
Associated Lab Samples: 60223766001

Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge

METHOD BLANK: 1798182
Associated Lab Samples: 60223766001

Matrix: Water

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Benzene | ug/L | ND | 1.0 | 07/22/16 12:30 | |
| Xylene (Total) | ug/L | ND | 3.0 | 07/22/16 12:30 | |
| 1,2-Dichloroethane-d4 (S) | % | 100 | 81-127 | 07/22/16 12:30 | |
| 4-Bromofluorobenzene (S) | % | 99 | 77-130 | 07/22/16 12:30 | |
| Toluene-d8 (S) | % | 100 | 80-120 | 07/22/16 12:30 | |

LABORATORY CONTROL SAMPLE: 1798183

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Benzene | ug/L | 20 | 19.9 | 100 | 79-116 | |
| Xylene (Total) | ug/L | 60 | 58.4 | 97 | 80-120 | |
| 1,2-Dichloroethane-d4 (S) | % | | | 101 | 81-127 | |
| 4-Bromofluorobenzene (S) | % | | | 98 | 77-130 | |
| Toluene-d8 (S) | % | | | 100 | 80-120 | |

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# QUALITY CONTROL DATA

Project: SAC-N-FOX
Pace Project No.: 60223766

QC Batch: 439782
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Associated Lab Samples: 60223766001

METHOD BLANK: 1799456
Matrix: Water
Associated Lab Samples: 60223766001

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Toluene | ug/L | ND | 1.0 | 07/25/16 10:39 | |
| 1,2-Dichloroethane-d4 (S) | % | 105 | 81-127 | 07/25/16 10:39 | |
| 4-Bromofluorobenzene (S) | % | 97 | 77-130 | 07/25/16 10:39 | |
| Toluene-d8 (S) | % | 97 | 80-120 | 07/25/16 10:39 | |

LABORATORY CONTROL SAMPLE: 1799457

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Toluene | ug/L | 20 | 20.2 | 101 | 80-120 | |
| 1,2-Dichloroethane-d4 (S) | % | | | 102 | 81-127 | |
| 4-Bromofluorobenzene (S) | % | | | 97 | 77-130 | |
| Toluene-d8 (S) | % | | | 99 | 80-120 | |

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# QUALIFIERS

Project: SAC-N-FOX
Pace Project No.: 60223766

## 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.

## LABORATORIES

| | |
|---|---|
| PASI-I | Pace Analytical Services - Indianapolis |
| PASI-K | Pace Analytical Services - Kansas City |
| PASI-M | Pace Analytical Services - Minneapolis |

## BATCH QUALIFIERS

Batch: 439616
[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.
Batch: 439782
[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

## ANALYTE QUALIFIERS

H6 Analysis initiated outside of the 15 minute EPA required holding time.


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# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SAC-N-FOX
Pace Project No.: 60223766

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| 60223766001 | F2-GW | EPA 8015 Alcohol-Glycol | 342803 | | |
| 60223766001 | F2-GW | EPA 3010 | 426351 | EPA 6010 | 426659 |
| 60223766001 | F2-GW | EPA 3010 | 439438 | EPA 6010 | 439538 |
| 60223766001 | F2-GW | EPA 7470 | 439735 | EPA 7470 | 439802 |
| 60223766001 | F2-GW | EPA 5030B/8260 | 439301 | | |
| 60223766001 | F2-GW | EPA 5030B/8260 | 439616 | | |
| 60223766001 | F2-GW | EPA 5030B/8260 | 439782 | | |
| 60223766001 | F2-GW | SM 4500-H+B | 439244 | | |



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**Sample Condition Upon Receipt**

WO#: 60223766
60223766

Client Name: Total Petroleum

| Optional |
|---|
| Proj Due Date: |
| Proj Name: |

**Courier:** FedEx ☐ UPS ☐ VIA ☐ Clay ☐ PEX ☐ ECI ☐ Pace ☐ Other ☐ Client ☒

**Tracking #:** _____ Pace Shipping Label Used? Yes ☐ No ☐

**Custody Seal on Cooler/Box Present:** Yes ☐ No ☒ Seals intact: Yes ☐ No ☒

**Packing Material:** Bubble Wrap ☐ Bubble Bags ☒ Foam ☐ None ☐ Other ☐

**Thermometer Used:** CF +1.1 T-266 / CF -0.1 T-239 **Type of Ice:** Wet Blue None (circle one) ☐ Samples received on ice, cooling process has begun.

**Cooler Temperature:** 14.2

Temperature should be above freezing to 6°C

**Date and initials of person examining contents:** JB 7/16

| | | | | |
|---|---|---|---|---|
| Chain of Custody present: | ☒Yes | ☐No | ☐N/A | 1. Out of temp |
| Chain of Custody filled out: | ☒Yes | ☐No | ☐N/A | 2. |
| Chain of Custody relinquished: | ☒Yes | ☐No | ☐N/A | 3. |
| Sampler name & signature on COC: | ☒Yes | ☐No | ☐N/A | 4. |
| Samples arrived within holding time: | ☒Yes | ☐No | ☐N/A | 5. |
| **Short Hold Time analyses (<72hr):** | ☒Yes | ☐No | ☐N/A | 6. pH |
| **Rush Turn Around Time requested:** | ☐Yes | ☒No | ☐N/A | 7. |
| Sufficient volume: | ☒Yes | ☐No | ☐N/A | 8. |
| Correct containers used: | ☒Yes | ☐No | ☐N/A | |
| Pace containers used: | ☒Yes | ☐No | ☐N/A | 9. |
| Containers intact: | ☒Yes | ☐No | ☐N/A | 10. |
| Unpreserved 5035A soils frozen w/in 48hrs? | ☐Yes | ☐No | ☒N/A | 11. |
| Filtered volume received for dissolved tests? | ☐Yes | ☐No | ☒N/A | 12. |
| Sample labels match COC: Includes date/time/ID/analyses Matrix: WT | ☒Yes | ☐No | ☐N/A | 13. |
| All containers needing preservation have been checked. | ☒Yes | ☐No | ☐N/A | |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ☒Yes | ☐No | ☐N/A | 14. |
| Exceptions: VOA, Coliform, O&G, WI-DRO (water) | ☒Yes | ☐No | | Initial when completed / Lot # of added preservative |
| Trip Blank present: Pace Trip Blank lot # (if purchased): 7/15 | ☒Yes | ☐No | ☐N/A | 15. |
| Headspace in VOA vials ( >6mm): | ☐Yes | ☒No | ☐N/A | 16. |
| Project sampled in USDA Regulated Area: | ☐Yes | ☐No | ☒N/A | 17. List State: |
| Additional labels attached to 5035A vials in the field? | ☐Yes | ☐No | ☒N/A | 18. |

**Client Notification/ Resolution:** Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: Robert T Date/Time: 7.15.16

Comments/ Resolution: Report ethanol + footnote temp issue

Project Manager Review: [signature] Date: 7.15.16

# 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

| ...ed Client Information: | Section B Required Project Information: | Section C Invoice Information: |
|---|---|---|
| Company: Total Petroleum Services | Report To: Robert Trump | Attention: Robert Trump |
| Address: 16601 W. 132nd Circle | Copy To: | Company Name: SAME AS Client |
| Olathe, KS 66062 | | Address: |
| Email: robertltrump@gmail.com | Purchase Order #: SAC-N-Box | Pace Quote: |
| Phone: (913)461-5985 Fax: | Project Name: | Pace Project Manager: sherri.rosenstangle@pacelabs.com, |
| Requested Due Date: 7-23-16 | Project #: 1310 | Pace Profile #: ~~5641.5~~ 5641.2 |

Regulatory Agency

State / Location: KS

| ITEM # | SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique) | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED START DATE | COLLECTED START TIME | COLLECTED END DATE | COLLECTED END TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Unpreserved | H2SO4 | HNO3 | HCl | NaOH | Na2S2O3 | Methanol | Other | Analyses Test Y/N | BTEX | RCRA Metals | pH | Ethanol | Sulfur | | | | | | | Residual Chlorine (Y/N) | 60223766 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | F2-GW BP2U (2)BP3N (3)DG4H | WT | U | 7/1/16 | 4:30 | | | 2 | | | | | | | | | | | | | | | X | | (2)DG4H | | | | | | |
| 2 | | | | | | | | 1 | | | | | | | | | | | | | X | | | | | | | | | | 001 |
| 3 | | | | | | | | 2 | | | | | X | | | | | | | X | | | | | | | | | | | |
| 4 | | | | | | | | 3 | | | | | X | | | | | | X | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Tim Smith | 7-15-16 | 1710 | [signature] | 7/15 | 1710 | 19.2 | Y | N | Y |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Timothy Smith

SIGNATURE of SAMPLER: [signature] DATE Signed: 7-15-16

TEMP in C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

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July 27, 2016

Robert Trump
Total Petroleum Services
16601 W. 132nd Circle
Olathe, KS 66062

RE: Project: SAC-N-FOX
Pace Project No.: 60223764

Dear Robert Trump:
Enclosed are the analytical results for sample(s) received by the laboratory on July 15, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI 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,

Sherri Rosenstangle

Sherri Rosenstangle
sherri.rosenstangle@pacelabs.com
Project Manager

Enclosures



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# CERTIFICATIONS

Project: SAC-N-FOX
Pace Project No.: 60223764

**Minnesota Certification IDs**

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
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

**Indiana Certification IDs**

7726 Moller Road, Indianapolis, IN 46268
Illinois Certification #: 200074
Indiana Certification #: C-49-06
Kansas/NELAP Certification #:E-10177
Kentucky UST Certification #: 0042
Kentucky WW Certification #:98019
Ohio VAP Certification #: CL-0065
Oklahoma Certification #: 2014-148
Texas Certification #: T104704355-15-9
West Virginia Certification #: 330
Wisconsin Certification #: 999788130
USDA Soil Permit #: P330-10-00128

**Kansas Certification IDs**

9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 15-016-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407
Utah Certification #: KS00021
Kansas Field Laboratory Accreditation: # E-92587



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## SAMPLE SUMMARY

Project: SAC-N-FOX
Pace Project No.: 60223764

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|---|---|---|---|---|
| 60223764001 | F1-GW | Water | 07/11/16 16:30 | 07/15/16 17:10 |

REPORT OF LABORATORY ANALYSIS

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# SAMPLE ANALYTE COUNT

Project: SAC-N-FOX
Pace Project No.: 60223764

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| **60223764001** | **F1-GW** | EPA 8015 Alcohol-Glycol | BJW | 1 | PASI-I |
| | | EPA 6010 | SMW | 7 | PASI-K |
| | | EPA 6010 | IP | 1 | PASI-M |
| | | EPA 7470 | TDS | 1 | PASI-K |
| | | EPA 5030B/8260 | PGH | 8 | PASI-K |
| | | SM 4500-H+B | LDB | 1 | PASI-K |



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# ANALYTICAL RESULTS

Project: SAC-N-FOX
Pace Project No.: 60223764

**Sample: F1-GW** **Lab ID: 60223764001** Collected: 07/11/16 16:30 Received: 07/15/16 17:10 Matrix: Water

Comments: • Samples requiring thermal preservation were received outside of recommended temperature limits of 0-6 degrees Celsius.

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8015M Alcohols in water** | Analytical Method: EPA 8015 Alcohol-Glycol | | | | | | | |
| Ethanol | **5.6** | mg/L | 5.0 | 1 | | 07/20/16 15:32 | 64-17-5 | |
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | |
| Arsenic | **12.2** | ug/L | 10.0 | 1 | 07/21/16 11:15 | 07/22/16 11:12 | 7440-38-2 | |
| Sulfur | **6700** | ug/L | 500 | 1 | 07/21/16 14:15 | 07/22/16 20:24 | | |
| Barium | **2230** | ug/L | 10.0 | 1 | 07/21/16 11:15 | 07/22/16 11:12 | 7440-39-3 | |
| Cadmium | ND | ug/L | 5.0 | 1 | 07/21/16 11:15 | 07/22/16 11:12 | 7440-43-9 | |
| Chromium | ND | ug/L | 5.0 | 1 | 07/21/16 11:15 | 07/22/16 11:12 | 7440-47-3 | |
| Lead | ND | ug/L | 5.0 | 1 | 07/21/16 11:15 | 07/22/16 11:12 | 7439-92-1 | |
| Selenium | ND | ug/L | 15.0 | 1 | 07/21/16 11:15 | 07/22/16 11:12 | 7782-49-2 | |
| Silver | ND | ug/L | 7.0 | 1 | 07/21/16 11:15 | 07/22/16 11:12 | 7440-22-4 | |
| **7470 Mercury** | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | ND | ug/L | 0.20 | 1 | 07/25/16 09:40 | 07/25/16 13:55 | 7439-97-6 | |
| **8260 MSV** | Analytical Method: EPA 5030B/8260 | | | | | | | |
| Benzene | **3110** | ug/L | 50.0 | 50 | | 07/22/16 13:57 | 71-43-2 | |
| Ethylbenzene | **36.7** | ug/L | 1.0 | 1 | | 07/20/16 14:15 | 100-41-4 | |
| Toluene | **5420** | ug/L | 50.0 | 50 | | 07/22/16 13:57 | 108-88-3 | |
| Xylene (Total) | **6660** | ug/L | 150 | 50 | | 07/22/16 13:57 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | |
| 4-Bromofluorobenzene (S) | 98 | % | 77-130 | 1 | | 07/20/16 14:15 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 102 | % | 81-127 | 1 | | 07/20/16 14:15 | 17060-07-0 | |
| Toluene-d8 (S) | 100 | % | 80-120 | 1 | | 07/20/16 14:15 | 2037-26-5 | |
| Preservation pH | **1.0** | | 0.10 | 1 | | 07/20/16 14:15 | | |
| **4500H+ pH, Electrometric** | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | **6.9** | Std. Units | 0.10 | 1 | | 07/20/16 12:45 | | H6 |



REPORT OF LABORATORY ANALYSIS

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# QUALITY CONTROL DATA

Project: SAC-N-FOX
Pace Project No.: 60223764

QC Batch: 342803
QC Batch Method: EPA 8015 Alcohol-Glycol
Analysis Method: EPA 8015 Alcohol-Glycol
Analysis Description: EPA 8015 Modified
Associated Lab Samples: 60223764001

METHOD BLANK: 1587707
Matrix: Water
Associated Lab Samples: 60223764001

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Ethanol | mg/L | ND | 5.0 | 07/20/16 11:49 | |

LABORATORY CONTROL SAMPLE: 1587708

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Ethanol | mg/L | 50 | 46.2 | 92 | 70-133 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1587709 1587710

| Parameter | Units | 60223575001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ethanol | mg/L | ND | 50 | 50 | 32.0 | 38.9 | 64 | 78 | 61-143 | 19 | 20 | |

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# QUALITY CONTROL DATA

Project: SAC-N-FOX
Pace Project No.: 60223764

QC Batch: 439735
QC Batch Method: EPA 7470
Analysis Method: EPA 7470
Analysis Description: 7470 Mercury
Associated Lab Samples: 60223764001

METHOD BLANK: 1799381
Matrix: Water
Associated Lab Samples: 60223764001

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Mercury | ug/L | ND | 0.20 | 07/25/16 12:21 | |

LABORATORY CONTROL SAMPLE: 1799382

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Mercury | ug/L | 5 | 4.8 | 97 | 80-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1799383 1799384

| Parameter | Units | 60223593001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | ug/L | 0.61 | 5 | 5 | 5.0 | 5.0 | 88 | 88 | 75-125 | 0 | 20 | |

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# QUALITY CONTROL DATA

Project: SAC-N-FOX
Pace Project No.: 60223764

QC Batch: 439438
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Associated Lab Samples: 60223764001

METHOD BLANK: 1797181
Matrix: Water
Associated Lab Samples: 60223764001

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Arsenic | ug/L | ND | 10.0 | 07/22/16 11:08 | |
| Barium | ug/L | ND | 10.0 | 07/22/16 11:08 | |
| Cadmium | ug/L | ND | 5.0 | 07/22/16 11:08 | |
| Chromium | ug/L | ND | 5.0 | 07/22/16 11:08 | |
| Lead | ug/L | ND | 5.0 | 07/22/16 11:08 | |
| Selenium | ug/L | ND | 15.0 | 07/22/16 11:08 | |
| Silver | ug/L | ND | 7.0 | 07/22/16 11:08 | |

LABORATORY CONTROL SAMPLE: 1797182

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Arsenic | ug/L | 1000 | 1080 | 108 | 80-120 | |
| Barium | ug/L | 1000 | 1010 | 101 | 80-120 | |
| Cadmium | ug/L | 1000 | 1120 | 112 | 80-120 | |
| Chromium | ug/L | 1000 | 961 | 96 | 80-120 | |
| Lead | ug/L | 1000 | 1110 | 111 | 80-120 | |
| Selenium | ug/L | 1000 | 1100 | 110 | 80-120 | |
| Silver | ug/L | 500 | 496 | 99 | 80-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1797183 1797184

| Parameter | Units | 60223766001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | ug/L | ND | 1000 | 1000 | 1110 | 1120 | 110 | 111 | 75-125 | 1 | 20 | |
| Barium | ug/L | 2260 | 1000 | 1000 | 3210 | 3240 | 96 | 98 | 75-125 | 1 | 20 | |
| Cadmium | ug/L | ND | 1000 | 1000 | 1120 | 1130 | 112 | 113 | 75-125 | 1 | 20 | |
| Chromium | ug/L | ND | 1000 | 1000 | 926 | 930 | 93 | 93 | 75-125 | 0 | 20 | |
| Lead | ug/L | ND | 1000 | 1000 | 1030 | 1030 | 103 | 103 | 75-125 | 0 | 20 | |
| Selenium | ug/L | ND | 1000 | 1000 | 1120 | 1130 | 112 | 113 | 75-125 | 1 | 20 | |
| Silver | ug/L | ND | 500 | 500 | 503 | 504 | 101 | 101 | 75-125 | 0 | 20 | |

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Date: 07/27/2016 11:45 AM

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# QUALITY CONTROL DATA

Project: SAC-N-FOX
Pace Project No.: 60223764

QC Batch: 426351
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Associated Lab Samples: 60223764001

METHOD BLANK: 2321335
Matrix: Water
Associated Lab Samples: 60223764001

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Sulfur | ug/L | ND | 500 | 07/22/16 19:58 | |

LABORATORY CONTROL SAMPLE: 2321336

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Sulfur | ug/L | 20000 | 20000 | 100 | 80-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2321337 2321338

| Parameter | Units | 60223766001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sulfur | ug/L | 5310 | 20000 | 20000 | 25400 | 26700 | 101 | 107 | 75-125 | 5 | 20 | |

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# QUALITY CONTROL DATA

Project: SAC-N-FOX
Pace Project No.: 60223764

QC Batch: 439301
QC Batch Method: EPA 5030B/8260
Associated Lab Samples: 60223764001

Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge

METHOD BLANK: 1796709
Matrix: Water
Associated Lab Samples: 60223764001

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Ethylbenzene | ug/L | ND | 1.0 | 07/20/16 09:09 | |
| 1,2-Dichloroethane-d4 (S) | % | 96 | 81-127 | 07/20/16 09:09 | |
| 4-Bromofluorobenzene (S) | % | 97 | 77-130 | 07/20/16 09:09 | |
| Toluene-d8 (S) | % | 99 | 80-120 | 07/20/16 09:09 | |

LABORATORY CONTROL SAMPLE: 1796710

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Ethylbenzene | ug/L | 20 | 21.0 | 105 | 80-120 | |
| 1,2-Dichloroethane-d4 (S) | % | | | 99 | 81-127 | |
| 4-Bromofluorobenzene (S) | % | | | 98 | 77-130 | |
| Toluene-d8 (S) | % | | | 99 | 80-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1796711 1796712

| Parameter | Units | 60223758002 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ethylbenzene | ug/L | ND | 20 | 20 | 22.1 | 22.2 | 110 | 111 | 29-151 | 0 | 45 | |
| 1,2-Dichloroethane-d4 (S) | % | | | | | | 98 | 95 | 81-127 | | | |
| 4-Bromofluorobenzene (S) | % | | | | | | 96 | 96 | 77-130 | | | |
| Toluene-d8 (S) | % | | | | | | 98 | 100 | 80-120 | | | |
| Preservation pH | | 1.0 | | | 1.0 | 1.0 | | | | 0 | | |

**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.**

## REPORT OF LABORATORY ANALYSIS

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Date: 07/27/2016 11:45 AM

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(913)599-5665

# QUALITY CONTROL DATA

Project: SAC-N-FOX
Pace Project No.: 60223764

QC Batch: 439616
QC Batch Method: EPA 5030B/8260
Associated Lab Samples: 60223764001

Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge

METHOD BLANK: 1798182
Matrix: Water
Associated Lab Samples: 60223764001

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Benzene | ug/L | ND | 1.0 | 07/22/16 12:30 | |
| Toluene | ug/L | ND | 1.0 | 07/22/16 12:30 | |
| Xylene (Total) | ug/L | ND | 3.0 | 07/22/16 12:30 | |
| 1,2-Dichloroethane-d4 (S) | % | 100 | 81-127 | 07/22/16 12:30 | |
| 4-Bromofluorobenzene (S) | % | 99 | 77-130 | 07/22/16 12:30 | |
| Toluene-d8 (S) | % | 100 | 80-120 | 07/22/16 12:30 | |

LABORATORY CONTROL SAMPLE: 1798183

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Benzene | ug/L | 20 | 19.9 | 100 | 79-116 | |
| Toluene | ug/L | 20 | 19.1 | 95 | 80-120 | |
| Xylene (Total) | ug/L | 60 | 58.4 | 97 | 80-120 | |
| 1,2-Dichloroethane-d4 (S) | % | | | 101 | 81-127 | |
| 4-Bromofluorobenzene (S) | % | | | 98 | 77-130 | |
| Toluene-d8 (S) | % | | | 100 | 80-120 | |

**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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# QUALIFIERS

Project: SAC-N-FOX
Pace Project No.: 60223764

## 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.

## LABORATORIES

| | |
|---|---|
| PASI-I | Pace Analytical Services - Indianapolis |
| PASI-K | Pace Analytical Services - Kansas City |
| PASI-M | Pace Analytical Services - Minneapolis |

## BATCH QUALIFIERS

Batch: 439616

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

## ANALYTE QUALIFIERS

H6 Analysis initiated outside of the 15 minute EPA required holding time.



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# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SAC-N-FOX
Pace Project No.: 60223764

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| 60223764001 | F1-GW | EPA 8015 Alcohol-Glycol | 342803 | | |
| 60223764001 | F1-GW | EPA 3010 | 426351 | EPA 6010 | 426659 |
| 60223764001 | F1-GW | EPA 3010 | 439438 | EPA 6010 | 439538 |
| 60223764001 | F1-GW | EPA 7470 | 439735 | EPA 7470 | 439802 |
| 60223764001 | F1-GW | EPA 5030B/8260 | 439301 | | |
| 60223764001 | F1-GW | EPA 5030B/8260 | 439616 | | |
| 60223764001 | F1-GW | SM 4500-H+B | 439244 | | |



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**Sample Condition Upon Receipt**

**WO#: 60223764**

60223764

Client Name: Total Petroleum

| Optional |
|---|
| Proj Due Date: |
| Proj Name: |

**Courier:** FedEx ☐ UPS ☐ VIA ☐ Clay ☐ PEX ☐ ECI ☐ Pace ☐ Other ☐ Client ☒

**Tracking #:** _____ Pace Shipping Label Used? Yes ☐ No ☐

**Custody Seal on Cooler/Box Present:** Yes ☐ No ☒ Seals intact: Yes ☐ No ☒

**Packing Material:** Bubble Wrap ☐ Bubble Bags ☒ Foam ☐ None ☐ Other ☐

**Thermometer Used:** CF +1.1 T-266 / CF -0.1 T-239 **Type of Ice:** (Wet) Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

**Cooler Temperature:** 19.2

Temperature should be above freezing to 6°C

**Date and Initials of person examining contents:** JB 7/16

| | | | | |
|---|---|---|---|---|
| Chain of Custody present: | ☒Yes | ☐No | ☐N/A | 1. Out of temp |
| Chain of Custody filled out: | ☒Yes | ☐No | ☐N/A | 2. |
| Chain of Custody relinquished: | ☒Yes | ☐No | ☐N/A | 3. |
| Sampler name & signature on COC: | ☒Yes | ☐No | ☐N/A | 4. |
| Samples arrived within holding time: | ☒Yes | ☐No | ☐N/A | 5. |
| **Short Hold Time analyses (<72hr):** | ☒Yes | ☐No | ☐N/A | 6. pH |
| **Rush Turn Around Time requested:** | ☐Yes | ☒No | ☐N/A | 7. |
| Sufficient volume: | ☒Yes | ☐No | ☐N/A | 8. |
| Correct containers used: | ☒Yes | ☐No | ☐N/A | |
| Pace containers used: | ☒Yes | ☐No | ☐N/A | 9. |
| Containers intact: | ☒Yes | ☐No | ☐N/A | 10. |
| Unpreserved 5035A soils frozen w/in 48hrs? | ☐Yes | ☐No | ☒N/A | 11. |
| Filtered volume received for dissolved tests? | ☐Yes | ☐No | ☒N/A | 12. |
| Sample labels match COC: | ☒Yes | ☐No | ☐N/A | |
| Includes date/time/ID/analyses Matrix: WT | | | | 13. |
| All containers needing preservation have been checked. | ☒Yes | ☐No | ☐N/A | |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ☒Yes | ☐No | ☐N/A | 14. |
| Exceptions: (VOA) Coliform, O&G, WI-DRO (water) | ☒Yes | ☐No | | Initial when completed / Lot # of added preservative |
| Trip Blank present: | ☒Yes | ☐No | ☐N/A | |
| Pace Trip Blank lot # (if purchased): 7/15 | | | | 15. |
| Headspace in VOA vials ( >6mm): | ☐Yes | ☒No | ☐N/A | 16. |
| Project sampled in USDA Regulated Area: | ☐Yes | ☐No | ☒N/A | 17. List State: |
| Additional labels attached to 5035A vials in the field? | ☐Yes | ☐No | ☒N/A | 18. |

**Client Notification/ Resolution:** Copy COC to Client? Y / (N) Field Data Required? Y / (N)

Person Contacted: Robert T Date/Time: 7.19.16

Comments/ Resolution: Report Strathand - Footnote temp issue

Project Manager Review: [signature] Date: 7.19.16

F-KS-C-003-Rev.9, 30June2015

[illegible] Document
[illegible] MENT. All relevant fields must be completed accurately.

Page : 1 Of 1

Section C

| | | | |
|---|---|---|---|
| [illegible] Services | Required Project Information: | Invoice Information: | |
| Address: 16601 W. 132nd Circle | Report To: Robert Trump | Attention: TPS LLC | |
| Olathe, KS 66062 | Copy To: | Company Name: Same as Client | |
| Email: robertltrump@gmail.com | | Address: | Regulatory Agency |
| Phone: (913)461-5985 Fax: | Purchase Order #: | Pace Quote: | |
| Requested Due Date: 7-23-16 | Project Name: Sac-N-Pox | Pace Project Manager: sherri.rosenstangle@pacelabs.com, | State / Location |
| | Project #: 15110 | Pace Profile #: ~~5641.5~~ 5641.2 | KS |

| ITEM # | SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED START DATE | COLLECTED START TIME | COLLECTED END DATE | COLLECTED END TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Unpreserved | H2SO4 | HNO3 | HCl | NaOH | Na2S2O3 | Methanol | Other | Analyses Test Y/N | BTEX | RCRA Metals | pH | Ethanol | Sulfur | | | | | | | Residual Chlorine (Y/N) | 60223764 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | FI-GW BP2U (2)BP3N (3)DG9U | WT | G | 7-14-16 | 430pm | | | | 2 | | | | | | | | | | | | | | X | | | (2) DG9U | | | | | |
| 2 | (2) DG9U TB (2) DG9U TB | | | | | | | | 1 | | | | | | | | | | | | X | | | | | | | | | | |
| 3 | | | | | | | | | 2 | | | | X | | | | | | | X | | | | | | | | | | | |
| 4 | | | | | | | | | 3 | | | | X | | | | | | X | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Tim Smith | 7/15/16 | 17:10 | [signature] | 7/15 | 17:10 | 19.2 | Y | N | Y |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | TEMP in C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N) |

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Timothy Smith [signature]

SIGNATURE of SAMPLER: [signature] DATE Signed: 7-15-16

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Lenexa, KS 66219
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July 27, 2016

Robert Trump
Total Petroleum Services
16601 W. 132nd Circle
Olathe, KS 66062

RE: Project: SAC-N-FOX
Pace Project No.: 60223765

Dear Robert Trump:
Enclosed are the analytical results for sample(s) received by the laboratory on July 15, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI 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,

Sherri Rosenstangle

Sherri Rosenstangle
sherri.rosenstangle@pacelabs.com
Project Manager

Enclosures

NELAP ACCREDITED TNI LABORATORY

**REPORT OF LABORATORY ANALYSIS**

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# CERTIFICATIONS

Project: SAC-N-FOX
Pace Project No.: 60223765

**Minnesota Certification IDs**

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
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

**Indiana Certification IDs**

7726 Moller Road, Indianapolis, IN 46268
Illinois Certification #: 200074
Indiana Certification #: C-49-06
Kansas/NELAP Certification #:E-10177
Kentucky UST Certification #: 0042
Kentucky WW Certification #:98019
Ohio VAP Certification #: CL-0065
Oklahoma Certification #: 2014-148
Texas Certification #: T104704355-15-9
West Virginia Certification #: 330
Wisconsin Certification #: 999788130
USDA Soil Permit #: P330-10-00128

**Kansas Certification IDs**

9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 15-016-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407
Utah Certification #: KS00021
Kansas Field Laboratory Accreditation: # E-92587



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## SAMPLE SUMMARY

Project: SAC-N-FOX
Pace Project No.: 60223765

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|---|---|---|---|---|
| 60223765001 | F3-GW | Water | 07/11/16 16:30 | 07/15/16 17:10 |

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# SAMPLE ANALYTE COUNT

Project: SAC-N-FOX
Pace Project No.: 60223765

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| 60223765001 | F3-GW | EPA 8015 Alcohol-Glycol | BJW | 1 | PASI-I |
| | | EPA 6010 | SMW | 7 | PASI-K |
| | | EPA 6010 | IP | 1 | PASI-M |
| | | EPA 7470 | TDS | 1 | PASI-K |
| | | EPA 5030B/8260 | PGH | 8 | PASI-K |
| | | SM 4500-H+B | LDB | 1 | PASI-K |

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# ANALYTICAL RESULTS

Project: SAC-N-FOX
Pace Project No.: 60223765

**Sample: F3-GW** **Lab ID: 60223765001** Collected: 07/11/16 16:30 Received: 07/15/16 17:10 Matrix: Water

Comments: • Samples requiring thermal preservation were received outside of recommended temperature limits of 0-6 degrees Celsius.

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8015M Alcohols in water** | Analytical Method: EPA 8015 Alcohol-Glycol | | | | | | | |
| Ethanol | **8.6** | mg/L | 5.0 | 1 | | 07/20/16 15:42 | 64-17-5 | |
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | |
| Arsenic | **12.2** | ug/L | 10.0 | 1 | 07/21/16 11:15 | 07/22/16 11:14 | 7440-38-2 | |
| Sulfur | **5660** | ug/L | 500 | 1 | 07/21/16 14:15 | 07/22/16 20:27 | | |
| Barium | **2270** | ug/L | 10.0 | 1 | 07/21/16 11:15 | 07/22/16 11:14 | 7440-39-3 | |
| Cadmium | ND | ug/L | 5.0 | 1 | 07/21/16 11:15 | 07/22/16 11:14 | 7440-43-9 | |
| Chromium | ND | ug/L | 5.0 | 1 | 07/21/16 11:15 | 07/22/16 11:14 | 7440-47-3 | |
| Lead | ND | ug/L | 5.0 | 1 | 07/21/16 11:15 | 07/22/16 11:14 | 7439-92-1 | |
| Selenium | ND | ug/L | 15.0 | 1 | 07/21/16 11:15 | 07/22/16 11:14 | 7782-49-2 | |
| Silver | ND | ug/L | 7.0 | 1 | 07/21/16 11:15 | 07/22/16 11:14 | 7440-22-4 | |
| **7470 Mercury** | Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | |
| Mercury | ND | ug/L | 0.20 | 1 | 07/25/16 09:40 | 07/25/16 13:57 | 7439-97-6 | |
| **8260 MSV** | Analytical Method: EPA 5030B/8260 | | | | | | | |
| Benzene | **3090** | ug/L | 50.0 | 50 | | 07/22/16 14:27 | 71-43-2 | |
| Ethylbenzene | **25.7** | ug/L | 1.0 | 1 | | 07/20/16 14:29 | 100-41-4 | |
| Toluene | **5120** | ug/L | 50.0 | 50 | | 07/22/16 14:27 | 108-88-3 | |
| Xylene (Total) | **6440** | ug/L | 150 | 50 | | 07/22/16 14:27 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | |
| 4-Bromofluorobenzene (S) | 98 | % | 77-130 | 1 | | 07/20/16 14:29 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 101 | % | 81-127 | 1 | | 07/20/16 14:29 | 17060-07-0 | |
| Toluene-d8 (S) | 101 | % | 80-120 | 1 | | 07/20/16 14:29 | 2037-26-5 | |
| Preservation pH | **1.0** | | 0.10 | 1 | | 07/20/16 14:29 | | |
| **4500H+ pH, Electrometric** | Analytical Method: SM 4500-H+B | | | | | | | |
| pH at 25 Degrees C | **6.8** | Std. Units | 0.10 | 1 | | 07/20/16 12:45 | | H6 |



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# QUALITY CONTROL DATA

Project: SAC-N-FOX
Pace Project No.: 60223765

QC Batch: 342803
QC Batch Method: EPA 8015 Alcohol-Glycol
Associated Lab Samples: 60223765001

Analysis Method: EPA 8015 Alcohol-Glycol
Analysis Description: EPA 8015 Modified

METHOD BLANK: 1587707
Associated Lab Samples: 60223765001

Matrix: Water

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Ethanol | mg/L | ND | 5.0 | 07/20/16 11:49 | |

LABORATORY CONTROL SAMPLE: 1587708

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Ethanol | mg/L | 50 | 46.2 | 92 | 70-133 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1587709 1587710

| Parameter | Units | 60223575001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ethanol | mg/L | ND | 50 | 50 | 32.0 | 38.9 | 64 | 78 | 61-143 | 19 | 20 | |

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.

## REPORT OF LABORATORY ANALYSIS

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Date: 07/27/2016 11:46 AM

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# QUALITY CONTROL DATA

Project: SAC-N-FOX
Pace Project No.: 60223765

QC Batch: 439735
QC Batch Method: EPA 7470
Associated Lab Samples: 60223765001

Analysis Method: EPA 7470
Analysis Description: 7470 Mercury

METHOD BLANK: 1799381
Associated Lab Samples: 60223765001

Matrix: Water

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Mercury | ug/L | ND | 0.20 | 07/25/16 12:21 | |

LABORATORY CONTROL SAMPLE: 1799382

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Mercury | ug/L | 5 | 4.8 | 97 | 80-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1799383 1799384

| Parameter | Units | 60223593001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | ug/L | 0.61 | 5 | 5 | 5.0 | 5.0 | 88 | 88 | 75-125 | 0 | 20 | |

**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.**

## REPORT OF LABORATORY ANALYSIS

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Lenexa, KS 66219
(913)599-5665

# QUALITY CONTROL DATA

Project: SAC-N-FOX
Pace Project No.: 60223765

QC Batch: 439438
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Associated Lab Samples: 60223765001

METHOD BLANK: 1797181
Matrix: Water
Associated Lab Samples: 60223765001

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Arsenic | ug/L | ND | 10.0 | 07/22/16 11:08 | |
| Barium | ug/L | ND | 10.0 | 07/22/16 11:08 | |
| Cadmium | ug/L | ND | 5.0 | 07/22/16 11:08 | |
| Chromium | ug/L | ND | 5.0 | 07/22/16 11:08 | |
| Lead | ug/L | ND | 5.0 | 07/22/16 11:08 | |
| Selenium | ug/L | ND | 15.0 | 07/22/16 11:08 | |
| Silver | ug/L | ND | 7.0 | 07/22/16 11:08 | |

LABORATORY CONTROL SAMPLE: 1797182

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Arsenic | ug/L | 1000 | 1080 | 108 | 80-120 | |
| Barium | ug/L | 1000 | 1010 | 101 | 80-120 | |
| Cadmium | ug/L | 1000 | 1120 | 112 | 80-120 | |
| Chromium | ug/L | 1000 | 961 | 96 | 80-120 | |
| Lead | ug/L | 1000 | 1110 | 111 | 80-120 | |
| Selenium | ug/L | 1000 | 1100 | 110 | 80-120 | |
| Silver | ug/L | 500 | 496 | 99 | 80-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1797183 1797184

| Parameter | Units | 60223766001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | ug/L | ND | 1000 | 1000 | 1110 | 1120 | 110 | 111 | 75-125 | 1 | 20 | |
| Barium | ug/L | 2260 | 1000 | 1000 | 3210 | 3240 | 96 | 98 | 75-125 | 1 | 20 | |
| Cadmium | ug/L | ND | 1000 | 1000 | 1120 | 1130 | 112 | 113 | 75-125 | 1 | 20 | |
| Chromium | ug/L | ND | 1000 | 1000 | 926 | 930 | 93 | 93 | 75-125 | 0 | 20 | |
| Lead | ug/L | ND | 1000 | 1000 | 1030 | 1030 | 103 | 103 | 75-125 | 0 | 20 | |
| Selenium | ug/L | ND | 1000 | 1000 | 1120 | 1130 | 112 | 113 | 75-125 | 1 | 20 | |
| Silver | ug/L | ND | 500 | 500 | 503 | 504 | 101 | 101 | 75-125 | 0 | 20 | |

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# QUALITY CONTROL DATA

Project: SAC-N-FOX
Pace Project No.: 60223765

QC Batch: 426351
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Associated Lab Samples: 60223765001

METHOD BLANK: 2321335
Matrix: Water
Associated Lab Samples: 60223765001

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Sulfur | ug/L | ND | 500 | 07/22/16 19:58 | |

LABORATORY CONTROL SAMPLE: 2321336

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Sulfur | ug/L | 20000 | 20000 | 100 | 80-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2321337 2321338

| Parameter | Units | 60223766001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sulfur | ug/L | 5310 | 20000 | 20000 | 25400 | 26700 | 101 | 107 | 75-125 | 5 | 20 | |

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# QUALITY CONTROL DATA

Project: SAC-N-FOX
Pace Project No.: 60223765

QC Batch: 439301
QC Batch Method: EPA 5030B/8260
Associated Lab Samples: 60223765001

Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge

METHOD BLANK: 1796709
Matrix: Water
Associated Lab Samples: 60223765001

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Ethylbenzene | ug/L | ND | 1.0 | 07/20/16 09:09 | |
| 1,2-Dichloroethane-d4 (S) | % | 96 | 81-127 | 07/20/16 09:09 | |
| 4-Bromofluorobenzene (S) | % | 97 | 77-130 | 07/20/16 09:09 | |
| Toluene-d8 (S) | % | 99 | 80-120 | 07/20/16 09:09 | |

LABORATORY CONTROL SAMPLE: 1796710

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Ethylbenzene | ug/L | 20 | 21.0 | 105 | 80-120 | |
| 1,2-Dichloroethane-d4 (S) | % | | | 99 | 81-127 | |
| 4-Bromofluorobenzene (S) | % | | | 98 | 77-130 | |
| Toluene-d8 (S) | % | | | 99 | 80-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1796711 1796712

| Parameter | Units | 60223758002 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ethylbenzene | ug/L | ND | 20 | 20 | 22.1 | 22.2 | 110 | 111 | 29-151 | 0 | 45 | |
| 1,2-Dichloroethane-d4 (S) | % | | | | | | 98 | 95 | 81-127 | | | |
| 4-Bromofluorobenzene (S) | % | | | | | | 96 | 96 | 77-130 | | | |
| Toluene-d8 (S) | % | | | | | | 98 | 100 | 80-120 | | | |
| Preservation pH | | 1.0 | | | 1.0 | 1.0 | | | | 0 | | |

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# QUALITY CONTROL DATA

Project: SAC-N-FOX
Pace Project No.: 60223765

QC Batch: 439616
QC Batch Method: EPA 5030B/8260
Associated Lab Samples: 60223765001

Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge

METHOD BLANK: 1798182
Associated Lab Samples: 60223765001

Matrix: Water

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Benzene | ug/L | ND | 1.0 | 07/22/16 12:30 | |
| Toluene | ug/L | ND | 1.0 | 07/22/16 12:30 | |
| Xylene (Total) | ug/L | ND | 3.0 | 07/22/16 12:30 | |
| 1,2-Dichloroethane-d4 (S) | % | 100 | 81-127 | 07/22/16 12:30 | |
| 4-Bromofluorobenzene (S) | % | 99 | 77-130 | 07/22/16 12:30 | |
| Toluene-d8 (S) | % | 100 | 80-120 | 07/22/16 12:30 | |

LABORATORY CONTROL SAMPLE: 1798183

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Benzene | ug/L | 20 | 19.9 | 100 | 79-116 | |
| Toluene | ug/L | 20 | 19.1 | 95 | 80-120 | |
| Xylene (Total) | ug/L | 60 | 58.4 | 97 | 80-120 | |
| 1,2-Dichloroethane-d4 (S) | % | | | 101 | 81-127 | |
| 4-Bromofluorobenzene (S) | % | | | 98 | 77-130 | |
| Toluene-d8 (S) | % | | | 100 | 80-120 | |

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# QUALIFIERS

Project: SAC-N-FOX
Pace Project No.: 60223765

## 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.

## LABORATORIES

| | |
|---|---|
| PASI-I | Pace Analytical Services - Indianapolis |
| PASI-K | Pace Analytical Services - Kansas City |
| PASI-M | Pace Analytical Services - Minneapolis |

## BATCH QUALIFIERS

Batch: 439616

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

## ANALYTE QUALIFIERS

H6 Analysis initiated outside of the 15 minute EPA required holding time.



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# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SAC-N-FOX
Pace Project No.: 60223765

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| 60223765001 | F3-GW | EPA 8015 Alcohol-Glycol | 342803 | | |
| 60223765001 | F3-GW | EPA 3010 | 426351 | EPA 6010 | 426659 |
| 60223765001 | F3-GW | EPA 3010 | 439438 | EPA 6010 | 439538 |
| 60223765001 | F3-GW | EPA 7470 | 439735 | EPA 7470 | 439802 |
| 60223765001 | F3-GW | EPA 5030B/8260 | 439301 | | |
| 60223765001 | F3-GW | EPA 5030B/8260 | 439616 | | |
| 60223765001 | F3-GW | SM 4500-H+B | 439244 | | |



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**Sample Condition Upon Receipt**

WO#: 60223765

60223765

Client Name: Total Petroleum

| Optional |
|---|
| Proj Due Date: |
| Proj Name: |

**Courier:** FedEx ☐ UPS ☐ VIA ☐ Clay ☐ PEX ☐ ECI ☐ Pace ☐ Other ☐ Client ☒

**Tracking #:** _____ Pace Shipping Label Used? Yes ☐ No ☐

**Custody Seal on Cooler/Box Present:** Yes ☐ No ☒ Seals intact: Yes ☐ No ☒

**Packing Material:** Bubble Wrap ☐ Bubble Bags ☒ Foam ☐ None ☐ Other ☐

**Thermometer Used:** CF +1.1 T-266 / CF -0.1 T-239 **Type of Ice:** Wet Blue None ☐ Samples received on ice, cooling process has begun. (circle one)

**Cooler Temperature:** 19.2

Temperature should be above freezing to 6°C

**Date and initials of person examining contents:** JB 7/16

| | | | | |
|---|---|---|---|---|
| Chain of Custody present: | ☒Yes | ☐No | ☐N/A | 1. Out of temp |
| Chain of Custody filled out: | ☒Yes | ☐No | ☐N/A | 2. |
| Chain of Custody relinquished: | ☒Yes | ☐No | ☐N/A | 3. |
| Sampler name & signature on COC: | ☒Yes | ☐No | ☐N/A | 4. |
| Samples arrived within holding time: | ☒Yes | ☐No | ☐N/A | 5. |
| **Short Hold Time analyses (<72hr):** | ☒Yes | ☐No | ☐N/A | 6. pH |
| **Rush Turn Around Time requested:** | ☐Yes | ☒No | ☐N/A | 7. |
| Sufficient volume: | ☒Yes | ☐No | ☐N/A | 8. |
| Correct containers used: | ☒Yes | ☐No | ☐N/A | |
| Pace containers used: | ☒Yes | ☐No | ☐N/A | 9. |
| Containers intact: | ☒Yes | ☐No | ☐N/A | 10. |
| Unpreserved 5035A soils frozen w/in 48hrs? | ☐Yes | ☐No | ☒N/A | 11. |
| Filtered volume received for dissolved tests? | ☐Yes | ☐No | ☒N/A | 12. |
| Sample labels match COC: | ☒Yes | ☐No | ☐N/A | |
| Includes date/time/ID/analyses Matrix: WT | | | | 13. |
| All containers needing preservation have been checked. | ☒Yes | ☐No | ☐N/A | |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ☒Yes | ☐No | ☐N/A | 14 |
| Exceptions: VOA, Coliform, O&G, WI-DRO (water) | ☒Yes | ☐No | | Initial when completed / Lot # of added preservative |
| Trip Blank present: | ☒Yes | ☐No | ☐N/A | |
| Pace Trip Blank lot # (if purchased): 7/15 | | | | 15. |
| Headspace in VOA vials ( >6mm): | ☐Yes | ☒No | ☐N/A | 16. |
| Project sampled in USDA Regulated Area: | ☐Yes | ☐No | ☒N/A | 17. List State: |
| Additional labels attached to 5035A vials in the field? | ☐Yes | ☐No | ☒N/A | 18. |

**Client Notification/ Resolution:** Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: Robert T Date/Time: 7.19.16

Comments/ Resolution: Report estimated & footnote temp issue

Project Manager Review: [signature] Date: 7.19.16

F-KS-C-003-Rev.9, 30June2015

PaceAnalytical

# CHAIN-OF-C[illegible] Document

The Chain-of-Custody is a [illegible] All relevant fields must be completed accurately.

Page : 1 Of 1

**Section A — Required Client Information:**

| | |
|---|---|
| Company: | Total Petroleum Services |
| Address: | 16601 W. 132nd Circle |
| | Olathe, KS 66062 |
| Email: | robertltrump@gmail.com |
| Phone: | (913)461-5985 Fax: |
| Requested Due Date: | 7-23-16 |

**Section B — Required Project Information:**

| | |
|---|---|
| Report To: | Robert Trump |
| Copy To: | |
| Purchase Order #: | |
| Project Name: | SAC-N-FOX |
| Project #: | 15110 |

**Section C — Invoice Information:**

| | |
|---|---|
| Attention: | TPS LLC |
| Company Name: | |
| Address: | SAME AS CLIENT |
| Pace Quote: | |
| Pace Project Manager: | sherri.rosenstangle@pacelabs.com, |
| Pace Profile #: | ~~5041.5~~ 5041.2 |

| Regulatory Agency | |
|---|---|
| State / Location | KS |

Requested Analysis Filtered (Y/N)

| ITEM # | SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique) | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED START DATE | COLLECTED START TIME | COLLECTED END DATE | COLLECTED END TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Unpreserved | H2SO4 | HNO3 | HCl | NaOH | Na2S2O3 | Methanol | Other | Analyses Test Y/N | BTEX | RCRA Metals | pH | Ethanol | Sulfur | Residual Chlorine (Y/N) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | F3-GW (1)Zn (2)BPSN (3)DCAN (4)RAM | W | G | 7-11-16 | 430p | | | | 2 | | | | | | | | | | | | | X | | | 60223765 |
| 2 | | | | | | | | | 1 | | | | | | | | | | | | X | | | | |
| 3 | | | | | | | | | 2 | | | | X | | | | | | | X | | | | | |
| 4 | | | | | | | | | 3 | | | | X | | | | | | X | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | | |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Tim Smith | 7-15-16 | 1710 | [signature] | 7/15 | 1710 | 19.2 | Y | N | Y |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

TEMP in C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

**SAMPLER NAME AND SIGNATURE**

PRINT Name of SAMPLER: Timothy Smith

SIGNATURE of SAMPLER: [signature] DATE Signed: 7-15-16