

Cascade Corporation- Fairview, OR

Sample Delivery Group: L1119044
Samples Received: 06/29/2019
Project Number: PNG0564S19
Description:

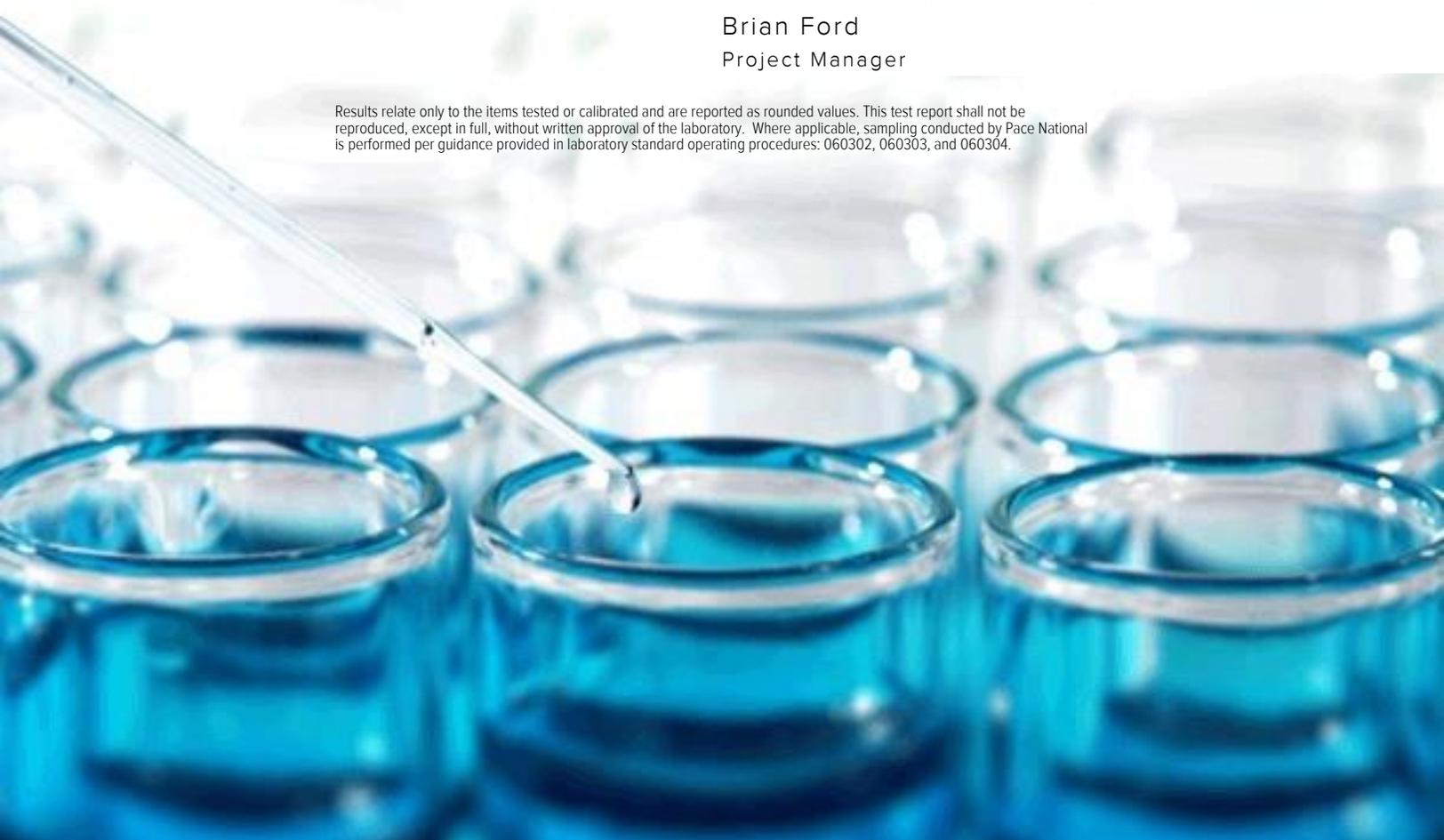
Report To: Cindy Bartlett
2201 NE 201st Avenue
Fairview, OR 97024-9718

Entire Report Reviewed By:



Brian Ford
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace National is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.





| | | |
|---|----------|-----------------------|
| Cp: Cover Page | 1 | ¹Cp |
| Tc: Table of Contents | 2 | ²Tc |
| Ss: Sample Summary | 3 | ³Ss |
| Cn: Case Narrative | 4 | ⁴Cn |
| Sr: Sample Results | 5 | ⁵Sr |
| HOLD01 L1119044-01 | 5 | ⁶Qc |
| Qc: Quality Control Summary | 6 | ⁷Gl |
| Metals (ICP) by Method 6010D | 6 | ⁸Al |
| Gl: Glossary of Terms | 7 | ⁹Sc |
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SAMPLE SUMMARY



HOLD01 L1119044-01 Waste

Collected by: Brian Webb
 Collected date/time: 06/28/19 14:00
 Received date/time: 06/29/19 08:45

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|------------------------------|-----------|----------|-----------------------|--------------------|---------|----------------|
| Preparation by Method 1311 | WG1312962 | 1 | 07/17/19 14:50 | 07/17/19 14:50 | CGD | Mt. Juliet, TN |
| Metals (ICP) by Method 6010D | WG1313684 | 1 | 07/18/19 15:54 | 07/19/19 12:29 | CCE | Mt. Juliet, TN |

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Brian Ford
Project Manager

- ¹ Cp
- ² Tc
- ³ Ss
- ⁴ Cn
- ⁵ Sr
- ⁶ Qc
- ⁷ Gl
- ⁸ Al
- ⁹ Sc



Preparation by Method 1311

| Analyte | Result | Qualifier | Prep date / time | Batch |
|-----------------|--------|-----------|----------------------|-----------|
| TCLP Extraction | - | | 7/17/2019 2:50:58 PM | WG1312962 |
| Fluid | 1 | | 7/17/2019 2:50:58 PM | WG1312962 |
| Initial pH | 8.16 | | 7/17/2019 2:50:58 PM | WG1312962 |
| Final pH | 5.14 | | 7/17/2019 2:50:58 PM | WG1312962 |

1 Cp

2 Tc

3 Ss

4 Cn

Metals (ICP) by Method 6010D

| Analyte | Result | Qualifier | RDL | Limit | Dilution | Analysis date / time | Batch |
|----------|--------|-----------|-------|-------|----------|----------------------|---------------------------|
| Chromium | ND | | 0.100 | 5 | 1 | 07/19/2019 12:29 | WG1313684 |

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3432365-1 07/19/19 12:21

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|----------|-----------|--------------|--------|--------|
| Chromium | U | | 0.0330 | 0.100 |

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3432365-2 07/19/19 12:24 • (LCSD) R3432365-3 07/19/19 12:26

| Analyte | Spike Amount | LCS Result | LCSD Result | LCS Rec. | LCSD Rec. | Rec. Limits | LCS Qualifier | LCSD Qualifier | RPD | RPD Limits |
|----------|--------------|------------|-------------|----------|-----------|-------------|---------------|----------------|-------|------------|
| Chromium | 10.0 | 10.9 | 10.8 | 109 | 108 | 80.0-120 | | | 0.769 | 20 |

L1119044-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1119044-01 07/19/19 12:29 • (MS) R3432365-5 07/19/19 12:34

| Analyte | Spike Amount | Original Result | MS Result | MS Rec. | Dilution | Rec. Limits | MS Qualifier |
|----------|--------------|-----------------|-----------|---------|----------|-------------|--------------|
| Chromium | 10.0 | ND | 10.9 | 109 | 1 | 75.0-125 | |



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

| | |
|------------------------------|--|
| MDL | Method Detection Limit. |
| ND | Not detected at the Reporting Limit (or MDL where applicable). |
| RDL | Reported Detection Limit. |
| Rec. | Recovery. |
| RPD | Relative Percent Difference. |
| SDG | Sample Delivery Group. |
| U | Not detected at the Reporting Limit (or MDL where applicable). |
| Analyte | The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported. |
| Dilution | If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor. |
| Limits | These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges. |
| Original Sample | The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG. |
| Qualifier | This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable. |
| Result | The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte. |
| Uncertainty (Radiochemistry) | Confidence level of 2 sigma. |
| Case Narrative (Cn) | A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report. |
| Quality Control Summary (Qc) | This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material. |
| Sample Chain of Custody (Sc) | This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis. |
| Sample Results (Sr) | This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported. |
| Sample Summary (Ss) | This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis. |

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Ai

⁹ Sc

Qualifier Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.



Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
 * Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

| | | | |
|-------------------------|-------------|-----------------------------|------------------|
| Alabama | 40660 | Nebraska | NE-OS-15-05 |
| Alaska | 17-026 | Nevada | TN-03-2002-34 |
| Arizona | AZ0612 | New Hampshire | 2975 |
| Arkansas | 88-0469 | New Jersey-NELAP | TN002 |
| California | 2932 | New Mexico ¹ | n/a |
| Colorado | TN00003 | New York | 11742 |
| Connecticut | PH-0197 | North Carolina | Env375 |
| Florida | E87487 | North Carolina ¹ | DW21704 |
| Georgia | NELAP | North Carolina ³ | 41 |
| Georgia ¹ | 923 | North Dakota | R-140 |
| Idaho | TN00003 | Ohio-VAP | CL0069 |
| Illinois | 200008 | Oklahoma | 9915 |
| Indiana | C-TN-01 | Oregon | TN200002 |
| Iowa | 364 | Pennsylvania | 68-02979 |
| Kansas | E-10277 | Rhode Island | LA000356 |
| Kentucky ^{1,6} | 90010 | South Carolina | 84004 |
| Kentucky ² | 16 | South Dakota | n/a |
| Louisiana | AI30792 | Tennessee ^{1,4} | 2006 |
| Louisiana ¹ | LA180010 | Texas | T104704245-18-15 |
| Maine | TN0002 | Texas ⁵ | LAB0152 |
| Maryland | 324 | Utah | TN00003 |
| Massachusetts | M-TN003 | Vermont | VT2006 |
| Michigan | 9958 | Virginia | 460132 |
| Minnesota | 047-999-395 | Washington | C847 |
| Mississippi | TN00003 | West Virginia | 233 |
| Missouri | 340 | Wisconsin | 9980939910 |
| Montana | CERT0086 | Wyoming | A2LA |

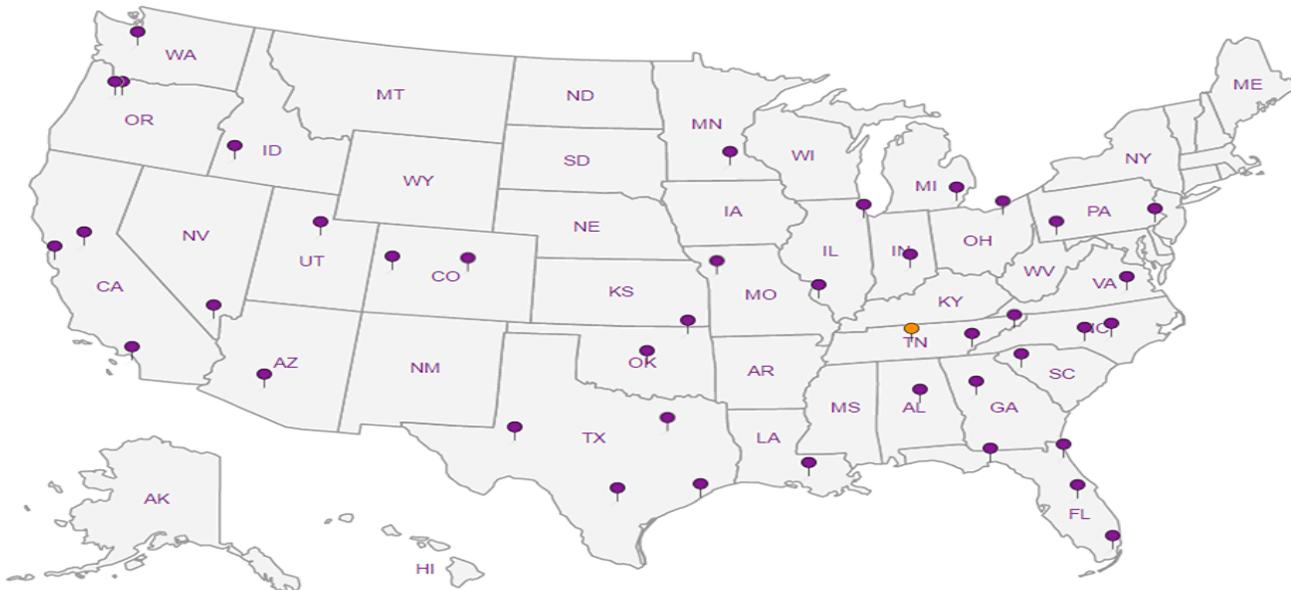
Third Party Federal Accreditations

| | | | |
|-------------------------------|---------|--------------------|---------------|
| A2LA – ISO 17025 | 1461.01 | AIHA-LAP,LLC EMLAP | 100789 |
| A2LA – ISO 17025 ⁵ | 1461.02 | DOD | 1461.01 |
| Canada | 1461.01 | USDA | P330-15-00234 |
| EPA-Crypto | TN00003 | | |

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



1 Cp

2 Tc

3 Ss

4 Cn

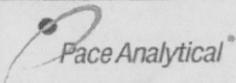
5 Sr

6 Qc

7 Gl

8 Al

9 Sc



CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB USE ONLY - Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

L1119044

ALL SHADED AREAS are for LAB USE ONLY

Company: Geosyntec Billing Information:

Address: 920 SW 6th Ave, Portland

Report To: CBartlett@geosyntec.com Email To: BWebb@geosyntec.com

Copy To: Cascade Corp Site Collection Info/Address: Cascade Corp

Customer Project Name/Number: PN60564519 State: OR County/City: Fairview Time Zone Collected: (X)PT []MT []CT []ET

Phone: 530 545-1182 Site/Facility ID #: _____ Compliance Monitoring? Yes No

Email: bwebb@geosyntec.com Purchase Order #: _____ DW PWS ID #: _____

Collected By (print): Brian Webb Quote #: _____ DW Location Code: _____

Collected By (signature): [Signature] Turnaround Date Required: Normal TAT Immediately Packed on Ice: Yes No

Sample Disposal: Dispose as appropriate Return Archive: _____ Rush: Same Day Next Day 2 Day 3 Day 4 Day 5 Day Field Filtered (if applicable): Yes No

[] Hold: _____ (Expedite Charges Apply) Analysis: _____

Container Preservative Type ** _____ Lab Project Manager: _____

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

| Analyses | Lab Profile/Line: |
|---|--|
| VOC's 8260 RCRA 8 601B/7470 TCLP (HOLD) | Lab Sample Receipt Checklist: |
| | Custody Seals Present/Intact Y N <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> |
| | Custody Signatures Present Y N <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> |
| | Collector Signature Present <input checked="" type="checkbox"/> N NA |
| | Bottles Intact <input checked="" type="checkbox"/> N NA |
| | Correct Bottles <input checked="" type="checkbox"/> N NA |
| | Sufficient Volume <input checked="" type="checkbox"/> N NA |
| | Samples Received on Ice <input checked="" type="checkbox"/> N NA |
| | VOA - Headspace Acceptable Y N <input checked="" type="checkbox"/> |
| | USDA Regulated Soils Y N <input checked="" type="checkbox"/> |
| | Samples in Holding Time <input checked="" type="checkbox"/> N NA |
| | Residual Chlorine Present Y N <input checked="" type="checkbox"/> |
| | Cl Strips: _____ |
| | Sample pH Acceptable Y N <input checked="" type="checkbox"/> |
| | pH Strips: _____ |
| Sulfide Present Y N <input checked="" type="checkbox"/> | |
| Lead Acetate Strips: _____ | |

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

| Customer Sample ID | Matrix * | Comp / Grab | Collected (or Composite Start) | | Composite End | | Res Cl | # of Ctns |
|--------------------|----------|-------------|--------------------------------|------|---------------|------|--------|-----------|
| | | | Date | Time | Date | Time | | |
| VMW-IDW01 | Soi.C | Comp | 062819 | 1400 | " | " | 4 | X X |
| VMW-IDW02 | Soi.C | Comp | 062819 | 1400 | " | " | 4 | X X |
| VMW-IDW03 | Soi.C | Comp | 062819 | 1400 | " | " | 4 | X X |
| HOLD01 | Soi.C | Comp | 062819 | 1400 | " | " | 1 | X |
| HOLD02 | Soi.C | Comp | 062819 | 1400 | " | " | 1 | X |
| HOLD03 | Soi.C | Comp | 062819 | 1400 | " | " | 1 | X |

RAD SCREEN: <0.5 mR/hr

G146

L1119044

Customer Remarks / Special Conditions / Possible Hazards: Please hold on TCLP

Type of Ice Used: Wet Blue Dry None SHORT HOLDS PRESENT (<72 hours): Y N/A

Packing Material Used: _____ Lab Tracking #: 426992021380

Radchem sample(s) screened (<500 cpm): Y N NA Samples received via: FEDEX UPS Client Courier Pace Courier

| | | | | |
|--|---------------------------------|--|---------------------------|---|
| Relinquished by/Company: (Signature) <u>Brian Webb</u> to <u>Fedex</u> | Date/Time: <u>06/28/19</u> 1430 | Received by/Company: (Signature) _____ | Date/Time: _____ | MTJL LAB USE ONLY Table #: _____ Acctnum: _____ Template: _____ Prelogin: _____ PM: _____ PB: _____ |
| Relinquished by/Company: (Signature) _____ | Date/Time: _____ | Received by/Company: (Signature) _____ | Date/Time: _____ | |
| Relinquished by/Company: (Signature) _____ | Date/Time: _____ | Received by/Company: (Signature) _____ | Date/Time: <u>6/28/19</u> | |

Lab Sample Temperature Info:
 Temp Blank Received: Y N
 Therm ID#: _____
 Cooler 1 Temp Upon Receipt: 6.6 oC
 Cooler 1 Therm Corr. Factor: 2.1 oC
 Cooler 1 Corrected Temp: 0.5 oC
 Comments: OK PW AK

Trip Blank Received: Y N/A
 HCL MeOH TSP Other

Non Conformance(s): YES / NO Page: _____ of: _____

M027

L11190214

Andy Vann

From: Brian Ford
Sent: Monday, July 15, 2019 5:08 PM
To: Project Service; Brian Ford
Subject: L1114294 *CASCORFOR* log off hold

Please log HOLD01 off hold label 6-168 for TCLP CRICP. R5 due 07/22.

Thanks,
Brian Ford
Project Manager
Pace Analytical National Center for Testing & Innovation
12065 Lebanon Road | Mt. Juliet, TN 37122
direct 615.773.9772 | cell 615.881.4570
bford@pacenational.com | pacenational.com

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