

# Test Report

## eANALYTICS LABORATORY

May 1, 2014

Client: Tasman Geosciences / Anadarko  
Project: Howard 15-27a  
Lab ID: 1293  
Date Samples Received: 5/1/2014  
Number of Samples: 2  
Sample Condition: Samples arrived intact and in appropriate sample containers  
Sample Temperature: Within acceptable range of 2-6° C, or as specified in EPA Method

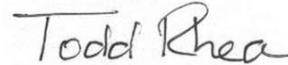
The quality control procedures associated with the requested analyses were satisfactorily passed before the samples were run.

Thank you for allowing eAnalytics Laboratory to provide laboratory services for you.

Sincerely,



Christopher Dieken  
Quality Assurance Manager



Todd Rhea  
Laboratory Manager

**eAnalytics Laboratory**

1767 Rocky Mountain Avenue Loveland CO 80538

Chain of Custody

# eANALYTICS

## LABORATORY

Chain of Custody Form

| CLIENT INFORMATION<br><small>(*New Clients please fill out completely)</small>  |             |                    | ANALYSIS INFORMATION<br><small>(Select analysis by checking box on corresponding sample line)</small> |  |                 |                     |                    |  |                                |                             |                |                |  |  |  |  |  |  |  |  |  |
|---|-------------|--------------------|---|--|-----------------|---------------------|--------------------|--|--------------------------------|-----------------------------|----------------|----------------|--|--|--|--|--|--|--|--|--|
| Company: Tasman Geosciences / Anadarko  |             |                    | Number of Containers  | Matrix: (S) Soil (W) Water (V) Vapor (O) Other | BTEX (EPA 8260) | BTEX/GRO (EPA 8260) | DRO/ORO (EPA 8015) | TPH-GRO/DRO/ORO (EPA 8260/8015)  | SAR (US Dept of Ag Method 20B) | EC (US Dept of Ag Method 3) | pH (EPA 9045D) | Other Analysis |  |  |  |  |  |  |  |  |  |
| Project: Howard 1527a   |             |                    |   |  |                 |                     |                    |  |                                |                             |                |                |  |  |  |  |  |  |  |  |  |
| Project Manager: Paul Schneider   |             |                    |   |  |                 |                     |                    |  |                                |                             |                |                |  |  |  |  |  |  |  |  |  |
| Sampler: Jenna Barker   |             |                    |   |  |                 |                     |                    |  |                                |                             |                |                |  |  |  |  |  |  |  |  |  |
| Phone/Email: 720-987-9717 / JBarker@Tasman-Geo.com  |             |                    |   |  |                 |                     |                    |  |                                |                             |                |                |  |  |  |  |  |  |  |  |  |
| Address: 6899 Pecos Street, Unit C<br>Denver, CO 80221  |             |                    |   |  |                 |                     |                    |  |                                |                             |                |                |  |  |  |  |  |  |  |  |  |
| Lab ID  | Sample Name | Sampling Date/Time |   |  |                 |                     |                    |  |                                |                             |                |                |  |  |  |  |  |  |  |  |  |
| 1   | GW01        | 5/1/14             | AM/PM   | 3  | W               | X                   |                    |  |                                |                             |                |                |  |  |  |  |  |  |  |  |  |
| 2   | W01C3       | ↓                  | AM/PM   | 1  | S               |                     |                    |  |                                |                             |                |                |  |  |  |  |  |  |  |  |  |
|   |             |                    | AM/PM   |  |                 |                     |                    |  |                                |                             |                |                |  |  |  |  |  |  |  |  |  |
|   |             |                    | AM/PM   |  |                 |                     |                    |  |                                |                             |                |                |  |  |  |  |  |  |  |  |  |
|   |             |                    | AM/PM   |  |                 |                     |                    |  |                                |                             |                |                |  |  |  |  |  |  |  |  |  |
|   |             |                    | AM/PM   |  |                 |                     |                    |  |                                |                             |                |                |  |  |  |  |  |  |  |  |  |
|   |             |                    | AM/PM   |  |                 |                     |                    |  |                                |                             |                |                |  |  |  |  |  |  |  |  |  |
|   |             |                    | AM/PM   |  |                 |                     |                    |  |                                |                             |                |                |  |  |  |  |  |  |  |  |  |
|   |             |                    | AM/PM   |  |                 |                     |                    |  |                                |                             |                |                |  |  |  |  |  |  |  |  |  |
|   |             |                    | AM/PM   |  |                 |                     |                    |  |                                |                             |                |                |  |  |  |  |  |  |  |  |  |
|   |             |                    | AM/PM   |  |                 |                     |                    |  |                                |                             |                |                |  |  |  |  |  |  |  |  |  |
|   |             |                    | AM/PM   |  |                 |                     |                    |  |                                |                             |                |                |  |  |  |  |  |  |  |  |  |
|   |             |                    | AM/PM   |  |                 |                     |                    |  |                                |                             |                |                |  |  |  |  |  |  |  |  |  |
|   |             |                    | AM/PM   |  |                 |                     |                    |  |                                |                             |                |                |  |  |  |  |  |  |  |  |  |
| Comments: By 7am 5/2/14 Please  |             |                    |   |  |                 |                     |                    |  |                                |                             |                |                |  |  |  |  |  |  |  |  |  |
| <b>Turnaround Time (Business Days)</b><br>TAT begins when sample is received by eANALYTICS<br>Normal (5-10 Days) Rush analysis requires an extra charge. If<br>3 Day (1.25x) possible please inform eANALYTICS in advance<br>1 Day (2x) for rush analysis.<br>Same Day (3x)<br>Next Bus. Morning (APC Pricing)  |             |                    |   |  |                 |                     |                    | <b>Record of Custody</b>   |                                |                             |                |                |  |  |  |  |  |  |  |  |  |
| For eANALYTICS Use<br>Samples Received Intact <input checked="" type="checkbox"/> Yes / <input type="checkbox"/> No<br>ived Within Temperature Range (2-6°C) <input checked="" type="checkbox"/> Yes / <input type="checkbox"/> No<br>Sample Preservative <input checked="" type="checkbox"/> None <input type="checkbox"/> Acid <input type="checkbox"/> Other |             |                    |   |  |                 |                     |                    | Relinquished by: <i>[Signature]</i> Date: 5/1/14<br>Company: Tasman Time: 4:30 AM<br>Received by: <i>[Signature]</i> Date: _____<br>Company: _____ Time: _____ AM/PM<br>Relinquished by: _____ Date: _____<br>Company: _____ Time: _____ AM/PM<br>Received by: <i>[Signature]</i> Date: 5/1/14<br>Company: eANALYTICS Time: 4:30 AM/PM |                                |                             |                |                |  |  |  |  |  |  |  |  |  |

WO # 1293

eANALYTICS: Environmental testing made Easy

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eAnalytics Laboratory

1767 Rocky Mountain Avenue Loveland CO 80538



Client: Tasman Geosciences / Anadarko Lab ID: 1293  
 Project: Howard 15-27a  
 Analysis: Volatile Organics Method: EPA8260  
 TPH EPA8260/8015

| Sample Name | Benzene<br>mg/kg | Toluene<br>mg/kg | Ethyl-<br>benzene<br>mg/kg | Total<br>Xylenes<br>mg/kg | TPH                    | TPH                     | TPH                     | Date<br>Sampled | Date<br>Analyzed | Lab ID |
|-------------|------------------|------------------|----------------------------|---------------------------|------------------------|-------------------------|-------------------------|-----------------|------------------|--------|
|             |                  |                  |                            |                           | GRO<br>C6-C10<br>mg/kg | DRO<br>C10-C28<br>mg/kg | ORO<br>C28-C36<br>mg/kg |                 |                  |        |
| W01 @ 3     | < 0.01           | < 0.01           | < 0.01                     | < 0.01                    | < 50                   | < 50                    | < 50                    | 05/01/14        | 05/01/14         | 1293 2 |





Client: Tasman Geosciences / Anadarko Lab ID: 1293  
 Project: Howard 15-27a Method: EPA8260

| Sample Name | Dibromo-<br>fluoromethane<br>% Recovery | 1,2 Dichloro-<br>ethane-D4<br>% Recovery | Toluene-D8<br>% Recovery | Bromo-<br>fluorobenzene<br>% Recovery | Date<br>Sampled | Date<br>Analyzed | Lab ID |
|-------------|---|--|--------------------------|---------------------------------------|-----------------|------------------|--------|
| W01 @ 3     | 87                                      | 99                                       | 87                       | 104                                   | 05/01/14        | 05/01/14         | 1293 2 |



Client: Tasman Geosciences / Anadarko Lab ID: 1293  
 Project: Howard 15-27a Method: EPA8260

| Sample Name | Dibromo-fluoromethane<br>% Recovery | 1,2 Dichloro-ethane-D4<br>% Recovery | Toluene-D8<br>% Recovery | Bromo-fluorobenzene<br>% Recovery | Date Sampled | Date Analyzed | Lab ID |
|-------------|-------------------------------------|--------------------------------------|--------------------------|-----------------------------------|--------------|---------------|--------|
| GW01        | 92                                  | 108                                  | 94                       | 108                               | 05/01/14     | 05/01/14      | 1293 1 |



Client: Tasman Geosciences / Anadarko Lab ID: 1293

Project: Howard 15-27a

Analysis: Volatile Organics Method: EPA8260  
TPH EPA8260/8015

| Sample Name                            | Benzene<br>% Rec | Toluene<br>% Rec | Ethyl-<br>benzene<br>% Rec | Total<br>Xylenes<br>% Rec | TPH<br>GRO<br>C6-C10<br>% Rec | TPH<br>DRO<br>C10-C28<br>% Rec | TPH<br>ORO<br>C28-C36<br>% Rec | Date<br>Analyzed | Lab ID     |
|--|------------------|------------------|----------------------------|---------------------------|-------------------------------|--------------------------------|--------------------------------|------------------|------------|
| Laboratory Control Sample<br>(70-130%) | 89               | 100              | 96                         | 92                        | 103                           | 92                             | 92                             | 05/01/14         | LCS 1293 1 |
| Method Blank                           | < 0.01<br>mg/kg  | < 0.01<br>mg/kg  | < 0.01<br>mg/kg            | < 0.01<br>mg/kg           | < 50<br>mg/kg                 | < 50<br>mg/kg                  | < 50<br>mg/kg                  | 05/01/14         | MB 1293 1  |



# Test Report

## eANALYTICS LABORATORY

May 8, 2014

Client: Tasman Geosciences / Anadarko  
Project: Howard 15-27  
Lab ID: 1336  
Date Samples Received: 5/7/2014  
Number of Samples: 5  
Sample Condition: Samples arrived intact and in appropriate sample containers  
Sample Temperature: Within acceptable range of 2-6° C, or as specified in EPA Method

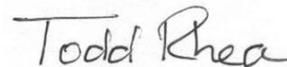
The quality control procedures associated with the requested analyses were satisfactorily passed before the samples were run.

Thank you for allowing eAnalytics Laboratory to provide laboratory services for you.

Sincerely,



Christopher Dieken  
Quality Assurance Manager



Todd Rhea  
Laboratory Manager

**eAnalytics Laboratory**

1767 Rocky Mountain Avenue Loveland CO 80538

Chain of Custody

# eANALYTICS

## LABORATORY

Chain of Custody Form

| eANALYTICS LABORATORY  |             |                    | 1767 Rocky Mountain Avenue Loveland CO 80538   Phone: (970) 667-6975   Fax: (970) 669-0941   www.eAnalyticsLab.com |  |                 |   |                    |                                 |   |                             |                |                |  |  |  |  |  |
|--|-------------|--------------------|--|--|-----------------|---|--------------------|---------------------------------|---|-----------------------------|----------------|----------------|--|--|--|--|--|
| CLIENT INFORMATION<br><small>(*New Clients please fill out completely)</small>   |             |                    | ANALYSIS INFORMATION<br><small>(Select analysis by checking box on corresponding sample line)</small>              |  |                 |   |                    |                                 |   |                             |                |                |  |  |  |  |  |
| Company: Tasman Geosciences / Anadarko   |             |                    | Number of Containers   | Matrix: (S) Soil (W) Water (V) Vapor (O) Other | BTEX (EPA 8260) | BTEX/GRO (EPA 8260)   | DRO/ORO (EPA 8015) | TPH-GRO/DRO/ORO (EPA 8260/8015) | SAR (US Dept of Ag Method 20B)  | EC (US Dept of Ag Method 3) | pH (EPA 9045D) | Other Analysis |  |  |  |  |  |
| Project: Howard 15-27  |             |                    |  |  |                 |   |                    |                                 |   |                             |                |                |  |  |  |  |  |
| Project Manager: Paul Schneider  |             |                    |  |  |                 |   |                    |                                 |   |                             |                |                |  |  |  |  |  |
| Sampler: Jenna Barker  |             |                    |  |  |                 |   |                    |                                 |   |                             |                |                |  |  |  |  |  |
| Phone/Email: 720-987-9717 / JBarker@Tasman-Geo.com   |             |                    |  |  |                 |   |                    |                                 |   |                             |                |                |  |  |  |  |  |
| Address: 6899 Pecos Street, Unit C<br>Denver, CO 80221   |             |                    |  |  |                 |   |                    |                                 |   |                             |                |                |  |  |  |  |  |
| Lab ID   | Sample Name | Sampling Date/Time |  |  |                 |   |                    |                                 |   |                             |                |                |  |  |  |  |  |
| 1  | W0205       | 5/7/14 AM/PM       | 1  | S  |                 | X   | X                  |                                 |   |                             |                |                |  |  |  |  |  |
| 2  | N0105       | 5/7/14 AM/PM       | 1  | S  |                 | X   | X                  |                                 |   |                             |                |                |  |  |  |  |  |
| 3  | S0105       | 5/7/14 AM/PM       | 1  | S  |                 | X   | X                  |                                 |   |                             |                |                |  |  |  |  |  |
| 4  | B0107       | 5/7/14 AM/PM       | 1  | S  |                 | X   | X                  |                                 |   |                             |                |                |  |  |  |  |  |
| 5  | E0105       | 5/7/14 AM/PM       | 1  | S  |                 | X   | X                  |                                 |   |                             |                |                |  |  |  |  |  |
|  |             |                    |  |  |                 |   |                    |                                 |   |                             |                |                |  |  |  |  |  |
|  |             |                    |  |  |                 |   |                    |                                 |   |                             |                |                |  |  |  |  |  |
|  |             |                    |  |  |                 |   |                    |                                 |   |                             |                |                |  |  |  |  |  |
|  |             |                    |  |  |                 |   |                    |                                 |   |                             |                |                |  |  |  |  |  |
|  |             |                    |  |  |                 |   |                    |                                 |   |                             |                |                |  |  |  |  |  |
|  |             |                    |  |  |                 |   |                    |                                 |   |                             |                |                |  |  |  |  |  |
|  |             |                    |  |  |                 |   |                    |                                 |   |                             |                |                |  |  |  |  |  |
|  |             |                    |  |  |                 |   |                    |                                 |   |                             |                |                |  |  |  |  |  |
|  |             |                    |  |  |                 |   |                    |                                 |   |                             |                |                |  |  |  |  |  |
|  |             |                    |  |  |                 |   |                    |                                 |   |                             |                |                |  |  |  |  |  |
| Comments: By 7am 5/8/14 Please   |             |                    |  |  |                 |   |                    |                                 |   |                             |                |                |  |  |  |  |  |
| <b>Turnaround Time (Business Days)</b><br>TAT begins when sample is received by eANALYTICS<br><input type="radio"/> Normal (5-10 Days)<br><input type="radio"/> 3 Day (1.25x)<br><input type="radio"/> 1 Day (2x)<br><input checked="" type="radio"/> Same Day (3x)<br><input type="radio"/> Next Bus. Morning (APC Pricing)                       |             |                    | Rush analysis requires an extra charge. If possible please inform eANALYTICS in advance for rush analysis.         |  |                 | <b>Record of Custody</b><br>Relinquished by: <i>[Signature]</i> Date: 5/7/14<br>Company: Tasman Time: AM/PM<br>Received by: _____ Date: _____<br>Company: _____ Time: _____ |                    |                                 | Relinquished by: _____ Date: _____<br>Company: _____ Time: _____<br>Received by: <i>[Signature]</i> Date: 5/7/14<br>Company: eANALYTICS Time: 5:00 PM |                             |                |                |  |  |  |  |  |
| <b>For eANALYTICS Use</b><br>Samples Received Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No<br>Stored Within Temperature Range (2-6°C): <input checked="" type="radio"/> Yes <input type="radio"/> No<br>Sample Preservative: <input checked="" type="radio"/> None <input type="radio"/> Acid <input type="radio"/> Other |             |                    |  |  |                 |   |                    |                                 |   |                             |                |                |  |  |  |  |  |

WO # 1336

eANALYTICS: Environmental testing made Easy

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### eAnalytics Laboratory

1767 Rocky Mountain Avenue Loveland CO 80538



Client: Tasman Geosciences / Anadarko Lab ID: 1336

Project: Howard 15-27

Analysis: Volatile Organics Method: EPA8260  
TPH EPA8260/8015

| Sample Name | Benzene<br>mg/kg | Toluene<br>mg/kg | Ethyl-<br>benzene<br>mg/kg | Total<br>Xylenes<br>mg/kg | TPH                    | TPH                     | TPH                     | Date<br>Sampled | Date<br>Analyzed | Lab ID |
|-------------|------------------|------------------|----------------------------|---------------------------|------------------------|-------------------------|-------------------------|-----------------|------------------|--------|
|             |                  |                  |                            |                           | GRO<br>C6-C10<br>mg/kg | DRO<br>C10-C28<br>mg/kg | ORO<br>C28-C36<br>mg/kg |                 |                  |        |
| W02 @ 5     | < 0.01           | <b>0.052</b>     | < 0.01                     | <b>0.062</b>              | < 50                   | < 50                    | < 50                    | 05/07/14        | 05/07/14         | 1336 1 |
| N01 @ 5     | < 0.01           | < 0.01           | < 0.01                     | < 0.01                    | < 50                   | < 50                    | < 50                    | 05/07/14        | 05/07/14         | 1336 2 |
| S01 @ 5     | < 0.01           | < 0.01           | < 0.01                     | < 0.01                    | < 50                   | < 50                    | < 50                    | 05/07/14        | 05/07/14         | 1336 3 |
| B01 @ 7     | < 0.01           | < 0.01           | < 0.01                     | <b>0.014</b>              | < 50                   | < 50                    | < 50                    | 05/07/14        | 05/07/14         | 1336 4 |
| E01 @ 5     | < 0.01           | < 0.01           | <b>0.202</b>               | <b>0.402</b>              | <b>52.2</b>            | < 50                    | < 50                    | 05/07/14        | 05/07/14         | 1336 5 |



Client: Tasman Geosciences / Anadarko

Lab ID: 1336

Project: Howard 15-27

Method: EPA8260

| Sample Name | Dibromo-<br>fluoromethane<br>% Recovery | 1,2 Dichloro-<br>ethane-D4<br>% Recovery | Toluene-D8<br>% Recovery | Bromo-<br>fluorobenzene<br>% Recovery | Date<br>Sampled | Date<br>Analyzed | Lab ID |
|-------------|---|--|--------------------------|---------------------------------------|-----------------|------------------|--------|
| W02 @ 5     | 111                                     | 99                                       | 96                       | 96                                    | 05/07/14        | 05/07/14         | 1336 1 |
| N01 @ 5     | 96                                      | 93                                       | 110                      | 88                                    | 05/07/14        | 05/07/14         | 1336 2 |
| S01 @ 5     | 104                                     | 93                                       | 107                      | 94                                    | 05/07/14        | 05/07/14         | 1336 3 |
| B01 @ 7     | 108                                     | 95                                       | 111                      | 93                                    | 05/07/14        | 05/07/14         | 1336 4 |
| E01 @ 5     | 91                                      | 103                                      | 86                       | 95                                    | 05/07/14        | 05/07/14         | 1336 5 |

**eANALYTICS**  
LABORATORY

Client: Tasman Geosciences / Anadarko Lab ID: 1336

Project: Howard 15-27

Analysis: Volatile Organics Method: EPA8260  
TPH EPA8260/8015

| Sample Name                            | Benzene<br>% Rec | Toluene<br>% Rec | Ethyl-<br>benzene<br>% Rec | Total<br>Xylenes<br>% Rec | TPH<br>GRO<br>C6-C10<br>% Rec | TPH<br>DRO<br>C10-C28<br>% Rec | TPH<br>ORO<br>C28-C36<br>% Rec | Date<br>Analyzed | Lab ID     |
|--|------------------|------------------|----------------------------|---------------------------|-------------------------------|--------------------------------|--------------------------------|------------------|------------|
| Laboratory Control Sample<br>(70-130%) | 99               | 89               | 94                         | 100                       | 93                            | 102                            | 95                             | 05/07/14         | LCS 1336 1 |
| Method Blank                           | < 0.01<br>mg/kg  | < 0.01<br>mg/kg  | < 0.01<br>mg/kg            | < 0.01<br>mg/kg           | < 50<br>mg/kg                 | < 50<br>mg/kg                  | < 50<br>mg/kg                  | 05/07/14         | MB 1336 1  |

**eAnalytics Laboratory**

1767 Rocky Mountain Avenue Loveland CO 80538

November 26, 2014

Tasman Geosciences

Christine Wasko

6899 Pecos Street, Unit C

Denver CO 80211

Project Name - Howard 15-27a

Project Number - [none]

Attached are your analytical results for Howard 15-27a received by Origins Laboratory, Inc. November 20, 2014. This project is associated with Origins project number X411223-01.

The analytical results in the following report were analyzed under the guidelines of EPA Methods. These methods are identified as follows; "SW" are defined in SW-846, "EPA" are defined in 40CFR part 136 and "SM" are defined in the most current revision of Standard Methods For the Examination of Water and Wastewater.

The analytical results apply specifically to the samples and analyses specified per the attached Chain of Custody. As such, this report shall not be reproduced except in full, without the written approval of Origin's laboratory.

Unless otherwise noted, the analytical results for all soil samples are reported on a wet weight basis. All analytical analyses were performed under NELAP guidelines unless noted by a data qualifier.

Any holding time exceedances, deviations from the method specifications or deviations from Origins Laboratory's Standard Operating Procedures are outlined in the case narrative.

Thank you for selecting Origins for your analytical needs. Please contact us with any questions concerning this report, or if we can help with anything at all.

Origins Laboratory, Inc.  
303.433.1322  
o-squad@oelabinc.com



Tasman Geosciences  
6899 Pecos Street, Unit C  
Denver CO 80211

Christine Wasko  
Project Number: [none]  
Project: Howard 15-27a

CROSS REFERENCE REPORT

| Sample ID   | Laboratory ID | Matrix | Date Sampled            | Date Received    |
|-------------|---------------|--------|-------------------------|------------------|
| BH01-112014 | X411223-01    | Water  | November 20, 2014 14:40 | 11/20/2014 17:20 |
| BH02-112014 | X411223-02    | Water  | November 20, 2014 14:35 | 11/20/2014 17:20 |
| BH03-112014 | X411223-03    | Water  | November 20, 2014 14:30 | 11/20/2014 17:20 |

Origins Laboratory, Inc.



*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Tasman Geosciences  
 6899 Pecos Street, Unit C  
 Denver CO 80211

Christine Wasko  
 Project Number: [none]  
 Project: Howard 15-27a

Origins Laboratory

F-012207-01-R1  
 Effective Date: 01/09/12

Sample Receipt Checklist

Origins Work Order: X411223

Client: Tasman

Client Project ID: Howard 15-27a

Checklist Completed by: Jen Pellegrini

Shipped Via: Pick Up

(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Date/time completed: 11-21-14

Airbill #: NA

Matrix(s) Received: (Check all that apply):  Soil/Solid  Water  Other: \_\_\_\_\_

Cooler Number/Temperature: 1 10.6 °C 1 °C 1 °C (Describe)

Thermometer ID: T003

| Requirement Description   | Yes | No | N/A | Comments (if any)                                       |
|---|-----|----|-----|---|
| If samples require cooling, was the temperature between 0°C to ≤ 6°C <sup>(1)</sup> ?   | X   |    |     |   |
| Is there ice present (document if blue ice is used)   | X   |    |     |   |
| Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)   |     | X  |     |   |
| Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)  |     | X  |     |   |
| Were all samples received intact <sup>(1)</sup> ?   | X   |    |     |   |
| Was adequate sample volume provided <sup>(1)</sup> ?  | X   |    |     |   |
| Are short holding time analytes or samples with HTs due within 48 hours present <sup>(1)</sup> ?  |     | X  |     |   |
| Is a chain-of-custody (COC) present and filled out completely <sup>(1)</sup> ?  | X   |    |     |   |
| Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?   | X   |    |     |   |
| Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?   | X   |    |     |   |
| Is the COC properly relinquished by the client with date and time recorded <sup>(1)</sup> ?   | X   |    |     |   |
| For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.  | X   |    |     | <u>11/21/14</u><br><u>X00</u><br><u>BHO3-116014 (C)</u> |
| Are samples preserved that require preservation and was it checked <sup>(1)</sup> ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH <2 for samples preserved with HNO3, HCl, H2SO4) / (pH >10 for samples preserved with NaAsO2+NaOH, ZnAc+NaOH) | X   |    |     | <u>HCL</u>  |
| Additional Comments (if any):   |     |    |     |   |

<sup>(1)</sup>If NO, then contact the client before proceeding with analysis and note date/time and person contacted as well as the corrective action to in the additional comments (above) and the case narrative.

Jen Pellegrini  
 Reviewed by (Project Manager)

11/21/14  
 Date/Time Reviewed

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences  
 6899 Pecos Street, Unit C  
 Denver CO 80211

Christine Wasko  
 Project Number: [none]  
 Project: Howard 15-27a

**BH01-112014**

**11/20/2014 2:40:00PM**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Notes |
|---------|--------|-----------------|-------|----------|-------|----------|----------|-------|
|---------|--------|-----------------|-------|----------|-------|----------|----------|-------|

**Origins Laboratory, Inc.**  
**X411223-01 (Water)**

**BTEX by EPA 8260C**

|   |        |          |      |   |         |            |            |  |
|---|--------|----------|------|---|---------|------------|------------|--|
| Benzene                                 | ND     | 1.0      | ug/L | 1 | 4K21008 | 11/21/2014 | 11/25/2014 |  |
| Toluene                                 | ND     | 1.0      | "    | " | "       | "          | "          |  |
| Ethylbenzene                            | ND     | 1.0      | "    | " | "       | "          | "          |  |
| Xylenes, total                          | ND     | 1.0      | "    | " | "       | "          | "          |  |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | 109 %  | 87.3-113 |      |   | "       | "          | "          |  |
| <i>Surrogate: Toluene-d8</i>            | 99.2 % | 90.9-108 |      |   | "       | "          | "          |  |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | 97.1 % | 88.6-111 |      |   | "       | "          | "          |  |

Origins Laboratory, Inc.



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Tasman Geosciences  
 6899 Pecos Street, Unit C  
 Denver CO 80211

Christine Wasko  
 Project Number: [none]  
 Project: Howard 15-27a

**BH02-112014**

**11/20/2014 2:35:00PM**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Notes |
|---------|--------|-----------------|-------|----------|-------|----------|----------|-------|
|---------|--------|-----------------|-------|----------|-------|----------|----------|-------|

**Origins Laboratory, Inc.**  
**X411223-02 (Water)**

**BTEX by EPA 8260C**

|                                  |        |          |      |   |         |            |            |  |
|----------------------------------|--------|----------|------|---|---------|------------|------------|--|
| Benzene                          | ND     | 1.0      | ug/L | 1 | 4K21008 | 11/21/2014 | 11/25/2014 |  |
| Toluene                          | ND     | 1.0      | "    | " | "       | "          | "          |  |
| Ethylbenzene                     | ND     | 1.0      | "    | " | "       | "          | "          |  |
| Xylenes, total                   | ND     | 1.0      | "    | " | "       | "          | "          |  |
| Surrogate: 1,2-Dichloroethane-d4 | 107 %  | 87.3-113 |      |   | "       | "          | "          |  |
| Surrogate: Toluene-d8            | 99.3 % | 90.9-108 |      |   | "       | "          | "          |  |
| Surrogate: 4-Bromofluorobenzene  | 97.2 % | 88.6-111 |      |   | "       | "          | "          |  |

Origins Laboratory, Inc.



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Tasman Geosciences  
6899 Pecos Street, Unit C  
Denver CO 80211

Christine Wasko  
Project Number: [none]  
Project: Howard 15-27a

**BH03-112014**

**11/20/2014 2:30:00PM**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Notes |
|---------|--------|-----------------|-------|----------|-------|----------|----------|-------|
|---------|--------|-----------------|-------|----------|-------|----------|----------|-------|

**Origins Laboratory, Inc.**  
**X411223-03 (Water)**

**BTEX by EPA 8260C**

|                                  |        |          |      |   |         |            |            |  |
|----------------------------------|--------|----------|------|---|---------|------------|------------|--|
| Benzene                          | ND     | 1.0      | ug/L | 1 | 4K21008 | 11/21/2014 | 11/25/2014 |  |
| Toluene                          | ND     | 1.0      | "    | " | "       | "          | "          |  |
| Ethylbenzene                     | ND     | 1.0      | "    | " | "       | "          | "          |  |
| Xylenes, total                   | ND     | 1.0      | "    | " | "       | "          | "          |  |
| Surrogate: 1,2-Dichloroethane-d4 | 108 %  | 87.3-113 |      |   | "       | "          | "          |  |
| Surrogate: Toluene-d8            | 98.5 % | 90.9-108 |      |   | "       | "          | "          |  |
| Surrogate: 4-Bromofluorobenzene  | 95.9 % | 88.6-111 |      |   | "       | "          | "          |  |

Origins Laboratory, Inc.



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Tasman Geosciences  
 6899 Pecos Street, Unit C  
 Denver CO 80211

Christine Wasko  
 Project Number: [none]  
 Project: Howard 15-27a

**Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control**  
**Origins Laboratory, Inc.**

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|
|---------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|

**Batch 4K21008 - EPA 5030B (Water)**

**Blank (4K21008-BLK1)**

Prepared: 11/21/2014 Analyzed: 11/24/2014

|                                  |    |     |      |      |      |  |          |  |  |  |
|----------------------------------|----|-----|------|------|------|--|----------|--|--|--|
| Benzene                          | ND | 1.0 | ug/L |      |      |  |          |  |  |  |
| Toluene                          | ND | 1.0 | "    |      |      |  |          |  |  |  |
| Ethylbenzene                     | ND | 1.0 | "    |      |      |  |          |  |  |  |
| Xylenes, total                   | ND | 1.0 | "    |      |      |  |          |  |  |  |
| Surrogate: 1,2-Dichloroethane-d4 | 62 |     | "    | 62.5 | 99.2 |  | 87.3-113 |  |  |  |
| Surrogate: Toluene-d8            | 62 |     | "    | 62.5 | 99.9 |  | 90.9-108 |  |  |  |
| Surrogate: 4-Bromofluorobenzene  | 56 |     | "    | 62.5 | 90.2 |  | 88.6-111 |  |  |  |

Origins Laboratory, Inc.



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Tasman Geosciences  
 6899 Pecos Street, Unit C  
 Denver CO 80211

Christine Wasko  
 Project Number: [none]  
 Project: Howard 15-27a

**Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control**  
**Origins Laboratory, Inc.**

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|
|---------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|

**Batch 4K21008 - EPA 5030B (Water)**

**LCS (4K21008-BS1)**

Prepared: 11/21/2014 Analyzed: 11/24/2014

|                                  |      |     |      |      |  |      |          |  |  |  |
|----------------------------------|------|-----|------|------|--|------|----------|--|--|--|
| Benzene                          | 47.3 | 1.0 | ug/L | 50.0 |  | 94.6 | 75-126   |  |  |  |
| Toluene                          | 50.1 | 1.0 | "    | 50.0 |  | 100  | 78.7-126 |  |  |  |
| Ethylbenzene                     | 53.2 | 1.0 | "    | 50.0 |  | 106  | 81-130   |  |  |  |
| m,p-Xylene                       | 101  | 2.0 | "    | 100  |  | 101  | 77.2-133 |  |  |  |
| o-Xylene                         | 49.5 | 1.0 | "    | 50.0 |  | 99.0 | 77.9-126 |  |  |  |
| Surrogate: 1,2-Dichloroethane-d4 | 58   |     | "    | 62.5 |  | 92.4 | 87.3-113 |  |  |  |
| Surrogate: Toluene-d8            | 62   |     | "    | 62.5 |  | 99.2 | 90.9-108 |  |  |  |
| Surrogate: 4-Bromofluorobenzene  | 57   |     | "    | 62.5 |  | 90.6 | 88.6-111 |  |  |  |

Origins Laboratory, Inc.



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Tasman Geosciences  
 6899 Pecos Street, Unit C  
 Denver CO 80211

Christine Wasko  
 Project Number: [none]  
 Project: Howard 15-27a

**Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control**  
**Origins Laboratory, Inc.**

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|
|---------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|

**Batch 4K21008 - EPA 5030B (Water)**

| <b>Matrix Spike (4K21008-MS1)</b> | <b>Source: X411218-09</b> |     |      | <b>Prepared: 11/21/2014 Analyzed: 11/24/2014</b> |    |      |          |  |  |  |
|-----------------------------------|---------------------------|-----|------|--|----|------|----------|--|--|--|
| Benzene                           | 50.5                      | 1.0 | ug/L | 50.0   | ND | 101  | 74-130   |  |  |  |
| Toluene                           | 52.4                      | 1.0 | "    | 50.0   | ND | 105  | 73-131   |  |  |  |
| Ethylbenzene                      | 56.5                      | 1.0 | "    | 50.0   | ND | 113  | 76-132   |  |  |  |
| m,p-Xylene                        | 108                       | 2.0 | "    | 100  | ND | 108  | 69-139   |  |  |  |
| o-Xylene                          | 52.9                      | 1.0 | "    | 50.0   | ND | 106  | 74-131   |  |  |  |
| Surrogate: 1,2-Dichloroethane-d4  | 58                        |     | "    | 62.5   |    | 92.7 | 87.3-113 |  |  |  |
| Surrogate: Toluene-d8             | 62                        |     | "    | 62.5   |    | 98.6 | 90.9-108 |  |  |  |
| Surrogate: 4-Bromofluorobenzene   | 58                        |     | "    | 62.5   |    | 93.0 | 88.6-111 |  |  |  |

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Tasman Geosciences  
 6899 Pecos Street, Unit C  
 Denver CO 80211

Christine Wasko  
 Project Number: [none]  
 Project: Howard 15-27a

**Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control**  
**Origins Laboratory, Inc.**

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|
|---------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|

**Batch 4K21008 - EPA 5030B (Water)**

| <b>Matrix Spike (4K21008-MS2)</b> | <b>Source: X411210-05</b> |     |      | <b>Prepared: 11/21/2014 Analyzed: 11/24/2014</b> |     |      |          |  |  |  |
|-----------------------------------|---------------------------|-----|------|--|-----|------|----------|--|--|--|
| Benzene                           | 49.3                      | 1.0 | ug/L | 50.0   | 0.4 | 97.8 | 74-130   |  |  |  |
| Toluene                           | 50.7                      | 1.0 | "    | 50.0   | 0.1 | 101  | 73-131   |  |  |  |
| Ethylbenzene                      | 54.4                      | 1.0 | "    | 50.0   | ND  | 109  | 76-132   |  |  |  |
| m,p-Xylene                        | 105                       | 2.0 | "    | 100  | 1.4 | 103  | 69-139   |  |  |  |
| o-Xylene                          | 51.2                      | 1.0 | "    | 50.0   | ND  | 102  | 74-131   |  |  |  |
| Surrogate: 1,2-Dichloroethane-d4  | 57                        |     | "    | 62.5   |     | 91.3 | 87.3-113 |  |  |  |
| Surrogate: Toluene-d8             | 61                        |     | "    | 62.5   |     | 98.1 | 90.9-108 |  |  |  |
| Surrogate: 4-Bromofluorobenzene   | 57                        |     | "    | 62.5   |     | 90.4 | 88.6-111 |  |  |  |

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Tasman Geosciences  
 6899 Pecos Street, Unit C  
 Denver CO 80211

Christine Wasko  
 Project Number: [none]  
 Project: Howard 15-27a

**Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control**  
**Origins Laboratory, Inc.**

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|
|---------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|

**Batch 4K21008 - EPA 5030B (Water)**

| Matrix Spike Dup (4K21008-MSD1)  | Source: X411218-09 |     |      | Prepared: 11/21/2014 Analyzed: 11/24/2014 |    |      |          |      |    |  |
|----------------------------------|--------------------|-----|------|---|----|------|----------|------|----|--|
| Benzene                          | 49.3               | 1.0 | ug/L | 50.0                                      | ND | 98.7 | 74-130   | 2.24 | 20 |  |
| Toluene                          | 50.7               | 1.0 | "    | 50.0                                      | ND | 101  | 73-131   | 3.16 | 20 |  |
| Ethylbenzene                     | 54.4               | 1.0 | "    | 50.0                                      | ND | 109  | 76-132   | 3.68 | 20 |  |
| m,p-Xylene                       | 105                | 2.0 | "    | 100                                       | ND | 105  | 69-139   | 3.41 | 20 |  |
| o-Xylene                         | 51.2               | 1.0 | "    | 50.0                                      | ND | 102  | 74-131   | 3.34 | 20 |  |
| Surrogate: 1,2-Dichloroethane-d4 | 57                 |     | "    | 62.5                                      |    | 91.3 | 87.3-113 |      |    |  |
| Surrogate: Toluene-d8            | 61                 |     | "    | 62.5                                      |    | 98.1 | 90.9-108 |      |    |  |
| Surrogate: 4-Bromofluorobenzene  | 57                 |     | "    | 62.5                                      |    | 90.4 | 88.6-111 |      |    |  |

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Tasman Geosciences  
 6899 Pecos Street, Unit C  
 Denver CO 80211

Christine Wasko  
 Project Number: [none]  
 Project: Howard 15-27a

**Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control**  
**Origins Laboratory, Inc.**

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|
|---------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|

**Batch 4K21008 - EPA 5030B (Water)**

| Matrix Spike Dup (4K21008-MSD2)  | Source: X411210-05 |     |      | Prepared: 11/21/2014 Analyzed: 11/24/2014 |     |      |          |       |    |  |
|----------------------------------|--------------------|-----|------|---|-----|------|----------|-------|----|--|
| Benzene                          | 49.8               | 1.0 | ug/L | 50.0                                      | 0.4 | 98.7 | 74-130   | 0.928 | 20 |  |
| Toluene                          | 51.9               | 1.0 | "    | 50.0                                      | 0.1 | 104  | 73-131   | 2.22  | 20 |  |
| Ethylbenzene                     | 55.5               | 1.0 | "    | 50.0                                      | ND  | 111  | 76-132   | 1.89  | 20 |  |
| m,p-Xylene                       | 107                | 2.0 | "    | 100                                       | 1.4 | 106  | 69-139   | 2.60  | 20 |  |
| o-Xylene                         | 52.2               | 1.0 | "    | 50.0                                      | ND  | 104  | 74-131   | 1.95  | 20 |  |
| Surrogate: 1,2-Dichloroethane-d4 | 58                 |     | "    | 62.5                                      |     | 92.1 | 87.3-113 |       |    |  |
| Surrogate: Toluene-d8            | 63                 |     | "    | 62.5                                      |     | 101  | 90.9-108 |       |    |  |
| Surrogate: 4-Bromofluorobenzene  | 59                 |     | "    | 62.5                                      |     | 94.6 | 88.6-111 |       |    |  |

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Tasman Geosciences  
6899 Pecos Street, Unit C  
Denver CO 80211

Christine Wasko  
Project Number: [none]  
Project: Howard 15-27a

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**Notes and Definitions**

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported at a wet weight basis.

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President