To: Rafael Reynosa  
Sr. Enforcement Manager  
Compliance & Enforcement

Laboratory No. 1822720-01
Requested By Eduardo Esparza
Rule No. NA
ST No. NA
Report Created 08/28/2018

Analytical Work Performed, Method of Analysis, and Results

Total Gaseous Non-Methane Non-Ethane Organic Carbon by SCAQMD Method 25.1 (GC-TCA)

See attached results and sample information.

Comments: COC requested H2S analysis, however sample was in a canister and H2S analysis was not possible. TCA and PAMS analyses were assigned to provide relatability/traceability to other ambient samples.
Comments: Blank subtraction performed.

Reviewed By: Brad Parrack  
Principal A.Q. Chemist  
Laboratory Services

Date Reviewed: 08/28/18

Approved By: Aaron Katzenstein, Ph.D.  
Senior Manager  
Laboratory Services  
(909) 396-2219

Date Approved: 8/29/18

Form 2.0
**Laboratory No.** 1822720-01  
**Sample Description** SUMMA Canister 54579

**Sample Date** 08/15/2018  **Received Date** 08/15/2018  **Analyzed Date** 08/16/2018

**Total Gaseous Non-Methane Non-Ethane Organic Carbon by SCAQMD Method 25.1 (GC-TCA)**

<table>
<thead>
<tr>
<th>Analyte, Unit</th>
<th>Result</th>
<th>MDL</th>
<th>MRL</th>
</tr>
</thead>
<tbody>
<tr>
<td>CH4, ppmvC</td>
<td>2</td>
<td>0.2</td>
<td>1</td>
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<tr>
<td>CO2, ppmvC</td>
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<td>0.1</td>
<td>2</td>
</tr>
<tr>
<td>Ethane, ppmvC</td>
<td>&lt;1</td>
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<td>1</td>
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<td>NMNEOC, ppmvC</td>
<td>5</td>
<td>0.2</td>
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## QUALITY CONTROL SUMMARY

### CCV1 (CC106783)

<table>
<thead>
<tr>
<th>Analyte, Unit</th>
<th>Measured</th>
<th>Theoretical</th>
<th>Percent Error</th>
<th>Absolute Difference</th>
<th>QC Limit ±5% or ±1</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO, ppmvC</td>
<td>1.87</td>
<td>1.92</td>
<td>2.81</td>
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<tr>
<td>CH₄, ppmvC</td>
<td>1.94</td>
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<td>4.15</td>
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<td>CO₂, ppmvC</td>
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<td>36.39</td>
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<td>Ethane, ppmvC</td>
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<td>NMNEOC, ppmvC</td>
<td>1.75</td>
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<td>13.71</td>
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### CCV2 (CC68431)

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<th>Percent Error</th>
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<th>QC Limit ±5% or ±1</th>
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</thead>
<tbody>
<tr>
<td>CO, ppmvC</td>
<td>1022</td>
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<td>2.18</td>
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<tr>
<td>CH₄, ppmvC</td>
<td>1028</td>
<td>1000</td>
<td>2.77</td>
<td>27.70</td>
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<tr>
<td>CO₂, ppmvC</td>
<td>1030</td>
<td>1000</td>
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<td>Ethane, ppmvC</td>
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<tr>
<td>NMNEOC, ppmvC</td>
<td>1009</td>
<td>1000</td>
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### CCV3 (CC106783)

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<th>Percent Error</th>
<th>Absolute Difference</th>
<th>QC Limit ±5% or ±1</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO, ppmvC</td>
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<td>1.92</td>
<td>4.37</td>
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<td>CH₄, ppmvC</td>
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<td>CO₂, ppmvC</td>
<td>2.10</td>
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<td>NMNEOC, ppmvC</td>
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### CCV4 (CC68431)

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<th>Percent Error</th>
<th>Absolute Difference</th>
<th>QC Limit ±5% or ±1</th>
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</thead>
<tbody>
<tr>
<td>CO, ppmvC</td>
<td>1022</td>
<td>1000</td>
<td>2.17</td>
<td>21.67</td>
<td>PASS</td>
</tr>
<tr>
<td>CH₄, ppmvC</td>
<td>1027</td>
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<tr>
<td>CO₂, ppmvC</td>
<td>1029</td>
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<td>29.49</td>
<td>PASS</td>
</tr>
<tr>
<td>Ethane, ppmvC</td>
<td>1028</td>
<td>1000</td>
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</tr>
<tr>
<td>NMNEOC, ppmvC</td>
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<td>1000</td>
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<td>13.10</td>
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</table>
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
SAMPLE ANALYSIS REQUEST

TO: SCAQMD LAB: ☐ OTHER: ☐

SOURCE NAME: Gem No. 1
I.D. No. ________________________

Source Address: W. Pier D street
City: Long Beach 90802

Mailing Address: ________________________
City: ________________________ Zip: ________________________

Contact Person: ________________________ Title: ________________________
Tel: ________________________

Analysis Requested by: Eduardo Esparza Date: 08/15/18

Approved by: ________________________ Office: C & E
Budget #: 50-375

REASON REQUESTED:
Court/Hearing Board ☐ Permit Pending ☐ Hazardous/Toxic Spill ☐
Suspected Violation ☐ Rule(s) ☐ Other ☐ H2S

Sample Collected by: Eduardo Esparza Date: 08/15/18 Time: 1005hrs

Specify the description and location where the sample was collected:
Air sample taken downwind from Gem No. 1 tanker while docked at T121.

Analysis Requested: H2S

<table>
<thead>
<tr>
<th>Relinquished by</th>
<th>Received by</th>
<th>Firm/Agency</th>
<th>Date</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eduardo Esparza</td>
<td>Ilana Garcia</td>
<td>SCAQMD Lab</td>
<td>08/15/18</td>
<td>10:17</td>
</tr>
</tbody>
</table>

Remarks: Part of offshore odors surveillance.