



## Certificate of Analysis

Number: 5030-18110072-011A

**Midland Laboratory**  
 3312 Bankhead Highway  
 Midland, TX 79701  
 Phone 432-689-7252

Ethan McMahon  
 Comm Engineering  
 1319 West Pinhook Rd  
 Suite 401  
 Lafayette, LA 70503

Dec. 13, 2018

Station Name: LEA UNIT CTB/TPG  
 Station Location: LEA COUNTY NM  
 Sample Point: HEATER TREATER  
 Analyzed: 11/08/2018 20:32:52 by Administrator

Sampled By: JOSEPH WHITAKER  
 Sample Of: Gas Spot  
 Sample Date: 11/07/2018 07:50  
 Sample Conditions: 35 psig, @ 111 °F  
 Method: GPA 2286

## Analytical Data

| Components       | Mol. %  | Wt. %   | GPM at<br>14.65 psia |                |
|------------------|---------|---------|----------------------|----------------|
| Hydrogen Sulfide | 0.010   | 0.013   |                      | GPM TOTAL C2+  |
| Nitrogen         | 2.745   | 2.844   |                      | GPM TOTAL C3+  |
| Carbon Dioxide   | 3.903   | 6.352   |                      | GPM TOTAL iC5+ |
| Methane          | 58.216  | 34.536  |                      |                |
| Ethane           | 15.145  | 16.841  | 4.050                |                |
| Propane          | 11.467  | 18.699  | 3.159                |                |
| Iso-butane       | 1.474   | 3.168   | 0.482                |                |
| n-Butane         | 4.028   | 8.658   | 1.270                |                |
| Iso-pentane      | 0.867   | 2.313   | 0.317                |                |
| n-Pentane        | 0.904   | 2.412   | 0.328                |                |
| Hexanes Plus     | 1.241   | 4.164   | 0.488                |                |
|                  | 100.000 | 100.000 | 10.094               |                |

| Calculated Physical Properties                                         | Total  | C6+    |
|------------------------------------------------------------------------|--------|--------|
| Relative Density Real Gas                                              | 0.9383 | 3.1036 |
| Calculated Molecular Weight                                            | 27.04  | 89.89  |
| Compressibility Factor                                                 | 0.9943 |        |
| <b>GPA 2172 Calculation:</b>                                           |        |        |
| <b>Calculated Gross BTU per ft<sup>3</sup> @ 14.65 psia &amp; 60°F</b> |        |        |
| Real Gas Dry BTU                                                       | 1458   | 4790   |
| Water Sat. Gas Base BTU                                                | 1433   | 4707   |

Hydrocarbon Laboratory Manager

Quality Assurance: The above analyses are performed in accordance with ASTM, UOP, GPA guidelines for quality assurance, unless otherwise stated.



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|------------------|---------|---------|----------------------|-----------------------|
| Hydrogen Sulfide | 0.010   | 0.013   |                      | GPM TOTAL C2+ 10.0940 |
| Nitrogen         | 2.745   | 2.844   |                      | GPM TOTAL C3+ 6.0440  |
| Methane          | 58.216  | 34.536  |                      | GPM TOTAL iC5+ 1.1330 |
| Carbon Dioxide   | 3.903   | 6.352   |                      |                       |
| Ethane           | 15.145  | 16.841  | 4.050                |                       |
| Propane          | 11.467  | 18.699  | 3.159                |                       |
| Iso-Butane       | 1.474   | 3.168   | 0.482                |                       |
| n-Butane         | 4.028   | 8.658   | 1.270                |                       |
| Iso-Pentane      | 0.867   | 2.313   | 0.317                |                       |
| n-Pentane        | 0.904   | 2.412   | 0.328                |                       |
| Hexanes          | 0.515   | 1.618   | 0.208                |                       |
| Heptanes Plus    | 0.726   | 2.546   | 0.280                |                       |
|                  | 100.000 | 100.000 | 10.094               |                       |

| Calculated Physical Properties                                         | Total  | C7+    |
|------------------------------------------------------------------------|--------|--------|
| Relative Density Real Gas                                              | 0.9383 | 3.2292 |
| Calculated Molecular Weight                                            | 27.04  | 93.53  |
| Compressibility Factor                                                 | 0.9943 |        |
| 26 # Gasoline                                                          | 6.0734 |        |
| <b>GPA 2172 Calculation:</b>                                           |        |        |
| <b>Calculated Gross BTU per ft<sup>3</sup> @ 14.65 psia &amp; 60°F</b> |        |        |
| Real Gas Dry BTU                                                       | 1458.3 | 4890.1 |
| Water Sat. Gas Base BTU                                                | 1432.7 | 4804.6 |

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Sample Conditions: 35 psig, @ 111 °F  
Method: GPA 2286

## Analytical Data

| Components       | Mol. %  | Wt. %   | GPM at<br>14.65 psia |                      |
|------------------|---------|---------|----------------------|----------------------|
| Hydrogen Sulfide | 0.010   | 0.013   |                      | GPM TOTAL C2+ 10.094 |
| Nitrogen         | 2.745   | 2.844   |                      |                      |
| Carbon Dioxide   | 3.903   | 6.352   |                      |                      |
| Methane          | 58.216  | 34.536  |                      |                      |
| Ethane           | 15.145  | 16.841  | 4.050                |                      |
| Propane          | 11.467  | 18.699  | 3.159                |                      |
| Iso-Butane       | 1.474   | 3.168   | 0.482                |                      |
| n-Butane         | 4.028   | 8.658   | 1.270                |                      |
| Iso-Pentane      | 0.867   | 2.313   | 0.317                |                      |
| n-Pentane        | 0.904   | 2.412   | 0.328                |                      |
| i-Hexanes        | 0.333   | 1.036   | 0.133                |                      |
| n-Hexane         | 0.182   | 0.582   | 0.075                |                      |
| Benzene          | 0.098   | 0.282   | 0.028                |                      |
| Cyclohexane      | 0.120   | 0.371   | 0.041                |                      |
| i-Heptanes       | 0.232   | 0.782   | 0.091                |                      |
| n-Heptane        | 0.041   | 0.152   | 0.019                |                      |
| Toluene          | 0.050   | 0.169   | 0.017                |                      |
| i-Octanes        | 0.123   | 0.481   | 0.054                |                      |
| n-Octane         | 0.011   | 0.049   | 0.006                |                      |
| Ethylbenzene     | 0.005   | 0.017   | 0.002                |                      |
| Xylenes          | 0.012   | 0.039   | 0.004                |                      |
| i-Nonanes        | 0.014   | 0.092   | 0.007                |                      |
| n-Nonane         | 0.007   | 0.031   | 0.004                |                      |
| Decane Plus      | 0.013   | 0.081   | 0.007                |                      |
|                  | 100.000 | 100.000 | 10.094               |                      |

| Calculated Physical Properties                                         | Total  | C10+   |
|------------------------------------------------------------------------|--------|--------|
| Calculated Molecular Weight                                            | 27.04  | 128.37 |
| <b>GPA 2172 Calculation:</b>                                           |        |        |
| <b>Calculated Gross BTU per ft<sup>3</sup> @ 14.65 psia &amp; 60°F</b> |        |        |
| Real Gas Dry BTU                                                       | 1458.3 | 6644.4 |
| Water Sat. Gas Base BTU                                                | 1432.7 | 6528.1 |
| Relative Density Real Gas                                              | 0.9383 | 4.4420 |
| Compressibility Factor                                                 | 0.9943 |        |

Hydrocarbon Laboratory Manager

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**New Mexico OCD C-129**

**Calculations or Specific Justification for Volumes**

- **Calculations**  
No calculations of volume of vent/flare necessary. Volumes are metered.
- **Specific Justification for Volumes**  
Metered volumes that were previously sold via pipeline. Must flare gas due to sales pipeline being shut-in.

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**District IV**  
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**State of New Mexico**  
**Energy, Minerals and Natural Resources**  
**Oil Conservation Division**  
**1220 S. St Francis Dr.**  
**Santa Fe, NM 87505**

DEFINITIONS

Action 154697

DEFINITIONS

|                                                                                  |                                                               |
|----------------------------------------------------------------------------------|---------------------------------------------------------------|
| Operator:<br>LEGACY RESERVES OPERATING, LP<br>15 Smith Road<br>Midland, TX 79705 | OGRID:<br>240974                                              |
|                                                                                  | Action Number:<br>154697                                      |
|                                                                                  | Action Type:<br>[C-129] Amend Venting and/or Flaring (C-129A) |

DEFINITIONS

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| For the sake of brevity and completeness, please allow for the following in all groups of questions and for the rest of this application: <ul style="list-style-type: none"><li>• this application's operator, hereinafter "this operator";</li><li>• venting and/or flaring, hereinafter "vent or flare";</li><li>• any notification or report(s) of the C-129 form family, hereinafter "any C-129 forms";</li><li>• the statements in (and/or attached to) this, hereinafter "the statements in this";</li><li>• and the past tense will be used in lieu of mixed past/present tense questions and statements.</li></ul> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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QUESTIONS

Action 154697

QUESTIONS

|                                                                                  |                                                               |
|----------------------------------------------------------------------------------|---------------------------------------------------------------|
| Operator:<br>LEGACY RESERVES OPERATING, LP<br>15 Smith Road<br>Midland, TX 79705 | OGRID:<br>240974                                              |
|                                                                                  | Action Number:<br>154697                                      |
|                                                                                  | Action Type:<br>[C-129] Amend Venting and/or Flaring (C-129A) |

QUESTIONS

**Prerequisites**  
*Any messages presented in this section, will prevent submission of this application. Please resolve these issues before continuing with the rest of the questions.*

|                   |                                           |
|-------------------|-------------------------------------------|
| Incident Operator | [240974] LEGACY RESERVES OPERATING, LP    |
| Incident Type     | Flare                                     |
| Incident Status   | Closure Not Approved                      |
| Incident Well     | Unavailable.                              |
| Incident Facility | [fAPP2202735715] Lea Unit CTB/TPG BT20445 |

*Only valid Vent, Flare or Vent with Flaring incidents (selected above in the Application Details section) that are assigned to your current operator can be amended with this C-129A application.*

**Determination of Reporting Requirements**  
*Answer all questions that apply. The Reason(s) statements are calculated based on your answers and may provide additional guidance.*

|                                                                                                            |                                                   |
|------------------------------------------------------------------------------------------------------------|---------------------------------------------------|
| Was this vent or flare caused by an emergency or malfunction                                               | Yes                                               |
| Did this vent or flare last eight hours or more cumulatively within any 24-hour period from a single event | Yes                                               |
| Is this considered a submission for a vent or flare event                                                  | Yes, major venting and/or flaring of natural gas. |

*An operator shall file a form C-141 instead of a form C-129 for a release that, includes liquid during venting and/or flaring that is or may be a major or minor release under 19.15.29.7 NMAC.*

|                                                                                                                                                                                                                                                                                            |     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| Was there <b>at least 50 MCF</b> of natural gas vented and/or flared during this event                                                                                                                                                                                                     | Yes |
| Did this vent or flare result in the release of <b>ANY</b> liquids (not fully and/or completely flared) that reached (or has a chance of reaching) the ground, a surface, a watercourse, or otherwise, with reasonable probability, endanger public health, the environment or fresh water | No  |
| Was the vent or flare within an incorporated municipal boundary or withing 300 feet from an occupied permanent residence, school, hospital, institution or church in existence                                                                                                             | No  |

**Equipment Involved**

|                                                           |               |
|-----------------------------------------------------------|---------------|
| Primary Equipment Involved                                | Not answered. |
| Additional details for Equipment Involved. Please specify | Not answered. |

**Representative Compositional Analysis of Vented or Flared Natural Gas**  
*Please provide the mole percent for the percentage questions in this group.*

|                                                              |    |
|--------------------------------------------------------------|----|
| Methane (CH4) percentage                                     | 58 |
| Nitrogen (N2) percentage, if greater than one percent        | 3  |
| Hydrogen Sulfide (H2S) PPM, rounded up                       | 0  |
| Carbon Dioxide (C02) percentage, if greater than one percent | 4  |
| Oxygen (O2) percentage, if greater than one percent          | 0  |

*If you are venting and/or flaring because of Pipeline Specification, please provide the required specifications for each gas.*

|                                                     |               |
|-----------------------------------------------------|---------------|
| Methane (CH4) percentage quality requirement        | Not answered. |
| Nitrogen (N2) percentage quality requirement        | Not answered. |
| Hydrogen Sufide (H2S) PPM quality requirement       | Not answered. |
| Carbon Dioxide (C02) percentage quality requirement | Not answered. |
| Oxygen (O2) percentage quality requirement          | Not answered. |

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Action 154697

QUESTIONS (continued)

|                                                                                  |                                                               |
|----------------------------------------------------------------------------------|---------------------------------------------------------------|
| Operator:<br>LEGACY RESERVES OPERATING, LP<br>15 Smith Road<br>Midland, TX 79705 | OGRID:<br>240974                                              |
|                                                                                  | Action Number:<br>154697                                      |
|                                                                                  | Action Type:<br>[C-129] Amend Venting and/or Flaring (C-129A) |

QUESTIONS

| Date(s) and Time(s)                            |            |
|------------------------------------------------|------------|
| Date vent or flare was discovered or commenced | 10/17/2022 |
| Time vent or flare was discovered or commenced | 12:00 AM   |
| Time vent or flare was terminated              | 11:59 PM   |
| Cumulative hours during this event             | 24         |

| Measured or Estimated Volume of Vented or Flared Natural Gas              |                                                                                                                                     |
|---------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| Natural Gas Vented (Mcf) Details                                          | Not answered.                                                                                                                       |
| Natural Gas Flared (Mcf) Details                                          | Cause: Midstream Scheduled Maintenance   Separator   Natural Gas Flared   Released: 1,602 Mcf   Recovered: 0 Mcf   Lost: 1,602 Mcf. |
| Other Released Details                                                    | Cause:     Other (Specify)   Released: 0 (Unknown Released Amount)   Recovered: 0   Lost: 0 .                                       |
| Additional details for Measured or Estimated Volume(s). Please specify    | Not answered.                                                                                                                       |
| Is this a gas only submission (i.e. only significant Mcf values reported) | Yes, according to supplied volumes this appears to be a "gas only" report.                                                          |

| Venting or Flaring Resulting from Downstream Activity             |                                        |
|-------------------------------------------------------------------|----------------------------------------|
| Was this vent or flare a result of downstream activity            | Yes                                    |
| Was notification of downstream activity received by this operator | Yes                                    |
| Downstream OGRID that should have notified this operator          | [172163] VERSADO GAS PROCESSORS L.L.C. |
| Date notified of downstream activity requiring this vent or flare | 10/17/2022                             |
| Time notified of downstream activity requiring this vent or flare | 12:00 AM                               |

| Steps and Actions to Prevent Waste                                                                                              |                                                                         |
|---------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
| For this event, this operator could not have reasonably anticipated the current event and it was beyond this operator's control | True                                                                    |
| Please explain reason for why this event was beyond this operator's control                                                     | Versado is performing downstream third-party plant maintenance.         |
| Steps taken to limit the duration and magnitude of vent or flare                                                                | Communicate with sales pipeline for anticipated date of return service. |
| Corrective actions taken to eliminate the cause and reoccurrence of vent or flare                                               | Communicate with sales pipeline for anticipated date of return service. |

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ACKNOWLEDGMENTS

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|                                                                                  |                                                               |
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|                                                                                  | Action Number:<br>154697                                      |
|                                                                                  | Action Type:<br>[C-129] Amend Venting and/or Flaring (C-129A) |

**ACKNOWLEDGMENTS**

|                                     |                                                                                                                                                                                                                                                                                                     |
|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> | I acknowledge that with this application I will be amending an existing incident file (assigned to this operator) for a vent or flare event, pursuant to 19.15.27 and 19.15.28 NMAC.                                                                                                                |
| <input checked="" type="checkbox"/> | I acknowledge that amending an incident file does not replace original submitted application(s) or information and understand that any C-129 forms submitted to the OCD will be logged and stored as public record.                                                                                 |
| <input checked="" type="checkbox"/> | I hereby certify the statements in this amending report are true and correct to the best of my knowledge and acknowledge that any false statement may be subject to civil and criminal penalties under the Oil and Gas Act.                                                                         |
| <input checked="" type="checkbox"/> | I acknowledge that the acceptance of any C-129 forms by the OCD does not relieve this operator of liability should their operations have failed to adequately investigate, report, and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment. |
| <input checked="" type="checkbox"/> | I acknowledge that OCD acceptance of any C-129 forms does not relieve this operator of responsibility for compliance with any other applicable federal, state, or local laws and/or regulations.                                                                                                    |



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CONDITIONS

Action 154697

**CONDITIONS**

|                                                                                  |                                                               |
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|                                                                                  | Action Number:<br>154697                                      |
|                                                                                  | Action Type:<br>[C-129] Amend Venting and/or Flaring (C-129A) |

**CONDITIONS**

| Created By | Condition                                                                                                                                                                                  | Condition Date |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| reyesm01   | If the information provided in this report requires further amendment(s), submit a [C-129] Amend Venting and/or Flaring Incident (C-129A), utilizing your incident number from this event. | 10/28/2022     |