



## Certificate of Analysis

Number: 6030-21110261-001A

Artesia Laboratory

200 E Main St.

Artesia, NM 88210

Phone 575-746-3481

Chandler Montgomery  
Occidental Petroleum  
1502 W Commerce Dr.  
Carlsbad, NM 88220

Dec. 01, 2021

Field: Sand Dunes  
Station Name: Sand Dunes CTB Production 2  
Station Number: 17012P  
Station Location: CTB  
Sample Point: Meter  
Formation: Monthly  
County: Eddy, NM  
Type of Sample: : Spot-Cylinder  
Heat Trace Used: No  
Sampling Method: : Fill and Purge  
Sampling Company: : SPL

Sampled By: Scott Beasely  
Sample Of: Gas Spot  
Sample Date: 11/23/2021 10:21  
Sample Conditions: 77.7 psig, @ 62.5 °F Ambient: 61 °F  
Effective Date: 11/23/2021 10:21  
Method: GPA-2261M  
Cylinder No: 1111-002678  
Instrument: 70142339 (Inficon GC-MicroFusion)  
Last Inst. Cal.: 11/15/2021 0:00 AM  
Analyzed: 12/01/2021 14:47:44 by ERG

## Analytical Data

Components	Un-normalized Mol %	Mol. %	Wt. %	GPM at 14.65 psia
Hydrogen Sulfide	NIL	NIL	NIL	
Nitrogen	1.720	1.73503	2.237	
Carbon Dioxide	1.746	1.76105	3.568	
Methane	75.250	75.89815	56.047	
Ethane	11.338	11.43562	15.828	3.052
Propane	5.503	5.55083	11.267	1.526
Iso-Butane	0.699	0.70513	1.887	0.230
n-Butane	1.672	1.68661	4.512	0.531
Iso-Pentane	0.353	0.35584	1.182	0.130
n-Pentane	0.377	0.38035	1.263	0.138
Hexanes	0.214	0.21574	0.856	0.089
Heptanes	0.170	0.17177	0.792	0.079
Octanes	0.080	0.08109	0.426	0.041
Nonanes Plus	0.023	0.02279	0.135	0.013
	99.145	100.00000	100.000	5.829

## Calculated Physical Properties

Calculated Molecular Weight	Total	C9+
Compressibility Factor	21.72	128.26
Relative Density Real Gas	0.9963	
	0.7526	4.4283

## GPA 2172 Calculation:

Calculated Gross BTU per ft<sup>3</sup> @ 14.65 psia & 60°F

Real Gas Dry BTU	1243.1	6974.4
Water Sat. Gas Base BTU	1221.9	6852.4
Ideal, Gross HV - Dry at 14.65 psia	1238.5	6974.4
Ideal, Gross HV - Wet	1216.9	6852.4

Comments: H2S Field Content 0 ppm  
Mcf/day 24561.39

*Jesus Escobedo*

*Carly Retana*

Hydrocarbon Laboratory Manager

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

**UPSET VENTING EVENT SPECIFIC JUSTIFICATIONS FORM****Facility:** Silver 33 CTB**Vent Date:** 05/18/2024**Duration of Event:** 24 Hours**MCF Vented:** 74**Start Time:** 12:00 AM**End Time:** 11:59 PM**Cause:** Venting Leak > Underground Pipeline > Corrosion**Method of Vented Gas Measurement:** Allocation

**Comments:** An external flyover report received by Oxy in September 2024 indicated that this event meets the C-129 reporting guidelines, as the estimated daily venting surpasses NMOCD's threshold of 50 MCF/D and may have started earlier than Oxy was aware.

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**1. Reason why this event was beyond Operator's control:**

This emissions event was caused by the unforeseen, unexpected, sudden, and unavoidable breakdown of equipment or process that was beyond the owner/operator's control and did not stem from activity that could have been foreseen and avoided, and could not have been avoided by good design, operation, and preventative maintenance practices. This facility is unmanned, except when OXY production techs are gathering data daily or conducting daily walk-throughs to ensure that there are no problems, circumstances and/or assist other personnel on-site for maintenance purposes. Recently, OXY received an external flyover report and found that venting observations made during an internal flyover conducted May 2024, indicated that venting from the gas injection line might have potentially commenced on or about May 14th, 2024.

This exceedance of NMOCD's threshold of 50 MCF/D was not known to OXY and its operations personnel until an external flyover report was received in September 2024. This submittal is in response to the findings provided to Oxy during the September 2024 flyover. Previously in May 2024, Oxy operations had performed their own internal area flyover, which in turn, prompted an OXY emissions technician to physically verify the finding with a FLIR camera and found that the gas injection line was indeed venting, from underground. The affected section of the gas injection line was then isolated, and the appropriate wells were shut down to facilitate immediate repairs. It was determined that the sudden, unforeseen failure of the gas injection line, had developed a small hole due to corrosion, which caused the venting leak. The venting leak was isolated, repaired, and thoroughly tested to ensure it did not recur. Based on the May 2024 vent leak investigation, Oxy initially estimated that the gas released was below the NMOCD threshold of 50 MCF/D. After reviewing the findings of the September 2024 flyover report, it was determined that the initial estimated volume of vented gas was incorrect and 74 MCF is the correct volume of gas emitted. This venting circumstance was beyond OXY's control, yet, OXY took all possible measures to reduce emissions effectively.

**2. Steps Taken to limit duration and magnitude of venting or flaring:**

It is OXY's policy to route all stranded gas to a flare rather than vent during an unforeseen and unavoidable emergency or malfunction, that is beyond OXY's control to avoid, prevent or foresee, to minimize emissions as much as possible as part of the overall steps taken to limit duration and magnitude of venting or flaring. Recently, OXY received an external flyover report and found that venting observations made during an internal flyover conducted May 2024, indicated that venting from the gas injection line might have potentially commenced on or about May 14th, 2024.

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### **3. Corrective Actions taken to eliminate the cause and reoccurrence of venting or flaring:**

OXY's ability to address and prevent recurrence of vent leaks from injection lines due to corrosion is limited as these types of vent leaks can be sudden, unpredictable, and happen without any prior warning. OXY cannot predict or foresee when vent leaks will occur in underground gas injection pipelines, but OXY is committed to detecting, isolating, and halting such vent emissions whenever possible and when identified. The limited actions that OXY can do in these types of circumstances is to resolve the vent leak issues, should they occur, in a timely manner and continue with its area flyover surveying as part of its overall positive operation and maintenance programs.

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**District III**  
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**District IV**  
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Phone:(505) 476-3470 Fax:(505) 476-3462

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

DEFINITIONS

Action 386829

DEFINITIONS

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 386829
	Action Type: [C-129] Venting and/or Flaring (C-129)

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 386829

QUESTIONS

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID:	16696
	Action Number:	386829
	Action Type:	[C-129] Venting and/or Flaring (C-129)

QUESTIONS

<b>Prerequisites</b> 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 Well	Unavailable.
Incident Facility	[fAPP2213360538] SILVER NC 33 & 26 OGS

<b>Determination of Reporting Requirements</b> 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, minor 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 at least 50 MCF of natural gas vented and/or flared during this event	Yes
Did this vent or flare result in the release of ANY 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

<b>Equipment Involved</b>	
Primary Equipment Involved	Other (Specify)
Additional details for Equipment Involved. Please specify	Venting Leak > Underground Pipeline > Corrosion

<b>Representative Compositional Analysis of Vented or Flared Natural Gas</b> Please provide the mole percent for the percentage questions in this group.	
Methane (CH4) percentage	76
Nitrogen (N2) percentage, if greater than one percent	2
Hydrogen Sulfide (H2S) PPM, rounded up	0
Carbon Dioxide (C02) percentage, if greater than one percent	2
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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QUESTIONS, Page 2

Action 386829

QUESTIONS (continued)

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 386829
	Action Type: [C-129] Venting and/or Flaring (C-129)

QUESTIONS

Date(s) and Time(s)	
Date vent or flare was discovered or commenced	05/18/2024
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	Cause: Other   Other (Specify)   Natural Gas Vented   Released: 74 Mcf   Recovered: 0 Mcf   Lost: 74 Mcf.
Natural Gas Flared (Mcf) Details	Not answered.
Other Released Details	Not answered.
Additional details for Measured or Estimated Volume(s). Please specify	Allocation
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	No
Was notification of downstream activity received by this operator	Not answered.
Downstream OGRID that should have notified this operator	Not answered.
Date notified of downstream activity requiring this vent or flare	Not answered.
Time notified of downstream activity requiring this vent or flare	Not answered.

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	This emissions event was caused by the unforeseen, unexpected, sudden, and unavoidable breakdown of equipment or process that was beyond the owner/operator's control and did not stem from activity that could have been foreseen and avoided, and could not have been avoided by good design, operation, and preventative maintenance practices. This facility is unmanned, except when OXY production techs are gathering data daily or conducting daily walk-throughs to ensure that there are no problems, circumstances and/or assist other personnel on-site for maintenance purposes. Recently, OXY received an external flyover report and found that venting observations made during an internal flyover conducted May 2024, indicated that venting from the gas injection line might have potentially commenced on or about May 14th, 2024. This exceedance of NMOCD's threshold of 50 MCF/D was not known to OXY and its operations personnel until an external flyover report was received in September 2024. This submittal is in response to the findings provided to Oxy during the September 2024 flyover. Previously in May 2024, Oxy operations had performed their own internal area flyover, which in turn, prompted an OXY emissions technician to physically verify the finding with a FLIR camera and found that the gas injection line was indeed venting, from underground. The affected section of the gas injection line was then isolated, and the appropriate wells were shut down to facilitate immediate repairs. It was determined that the sudden, unforeseen failure of the gas injection line, had developed a small hole due to corrosion, which caused the venting leak. The venting leak was isolated, repaired, and thoroughly tested to ensure it did not recur. Based on the May 2024 vent leak investigation,

	<p>Oxy initially estimated that the gas released was below the NMOC threshold of 50 MCF/D. After reviewing the findings of the September 2024 flyover report, it was determined that the initial estimated volume of vent</p>
Steps taken to limit the duration and magnitude of vent or flare	<p>It is OXY's policy to route all stranded gas to a flare rather than vent during an unforeseen and unavoidable emergency or malfunction, that is beyond OXY's control to avoid, prevent or foresee, to minimize emissions as much as possible as part of the overall steps taken to limit duration and magnitude of venting or flaring. Recently, OXY received an external flyover report and found that venting observations made during an internal flyover conducted May 2024, indicated that venting from the gas injection line might have potentially commenced on or about May 14th, 2024. This exceedance of NMOC threshold of 50 MCF/D was not known to OXY and its operations personnel until an external flyover report was received in September 2024. This submittal is in response to the findings provided to Oxy during the September 2024 flyover. Previously in May 2024, Oxy operations had performed their own internal area flyover, which in turn, prompted an OXY emissions technician to physically verify the finding with a FLIR camera and found that the gas injection line was indeed venting, from underground. The affected section of the gas injection line was then isolated, and the appropriate wells were shut down to facilitate immediate repairs. It was determined that the sudden, unforeseen failure of the gas injection line, had developed a small hole due to corrosion, which caused the venting leak. The venting leak was isolated, repaired, and thoroughly tested to ensure it did not recur. Based on the May 2024 vent leak investigation, Oxy initially estimated that the gas released was below the NMOC threshold of 50 MCF/D. After reviewing the findings of the September 2024 flyover report, it was determined that the initial estimated volume of vented gas was incorrect and 74 MCF is the correct volume of gas emitted. This venting circumstance was beyond OXY's control, yet, OXY took all possible measures to reduce emissions effectively.</p>
Corrective actions taken to eliminate the cause and reoccurrence of vent or flare	<p>OXY's ability to address and prevent recurrence of vent leaks from injection lines due to corrosion is limited as these types of vent leaks can be sudden, unpredictable, and happen without any prior warning. OXY cannot predict or foresee when vent leaks will occur in underground gas injection pipelines, but OXY is committed to detecting, isolating, and halting such vent emissions whenever possible and when identified. The limited actions that OXY can do in these types of circumstances is to resolve the vent leak issues, should they occur, in a timely manner and continue with its area flyover surveying as part of its overall positive operation and maintenance programs.</p>

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ACKNOWLEDGMENTS

Action 386829

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	Action Number: 386829
	Action Type: [C-129] Venting and/or Flaring (C-129)

ACKNOWLEDGMENTS

<input checked="" type="checkbox"/>	I acknowledge that I am authorized to submit a <i>Venting and/or Flaring</i> (C-129) report on behalf of this operator and understand that this report can be a <b>complete</b> C-129 submission per 19.15.27.8 and 19.15.28.8 NMAC.
<input checked="" type="checkbox"/>	I acknowledge that upon submitting this application, I will be creating a new incident file (assigned to this operator) to track any C-129 forms, pursuant to 19.15.27.7 and 19.15.28.8 NMAC and understand that this submission meets the notification requirements of Paragraph (1) of Subsection G and F respectively.
<input checked="" type="checkbox"/>	I hereby certify the statements in this 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

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CONDITIONS

Created By	Condition	Condition Date
shelbyschoepf	If the information provided in this report requires an amendment, submit a [C-129] Amend Venting and/or Flaring Incident (C-129A), utilizing your incident number from this event.	9/25/2024