AKM Measurement Services, LLC
Carlsbad, New Mexico

AKM MEASUREMENT SERVICES,LLC. Natural Gas Analysis Report
GPA 2172-09/API 14.5 Report with GPA 2145-16 Physical Properties

	Sample Information
Sample Name	CEDAR CANYON 27 FEDERAL COM 5H
Technician	ANTHONY DOMINGUEZ
Analyzer Make & Model	INFICON MICRO GC
Last Calibration/Validation Date	08-16-2023
Meter Number	14967P
Air temperature	94
Flow Rate (MCF/Day)	1772
Heat Tracing	HEATED HOSE & GASIFIER
Sample description/mtr name	CEDAR CANYON 27 FEDERAL COM 5H
Sampling Method	FILL & EMPTY
Operator	OCCIDENTAL PETROLEUM
State	NEW MEXICO
Region Name	PERMIAN_RESOURCES
Asset	NEW MEXICO
System	CEDAR CANYON
FLOC	OP-L0936-WELLS-WPI-0000004
Sample Sub Type	PRODUCTION
Sample Name Type	WELL
Vendor	AKM MEASUREMENT
Cylinder #	38992
Sampled by	CHANDLER MONTGOMERY
Sample date	8-8-2023
Analyzed date	8-18-2023
Method Name	C9
Injection Date	2023-08-18 11:49:43
Report Date	2023-08-18 11:52:09
EZReporter Configuration File	1-16-2023 OXY GPA C9+ H2S #2.cfgx
Source Data File	a6f9a887-040a-467f-aade-2b21867875dc
NGA Phys. Property Data Source	GPA Standard 2145-16 (FPS)
Data Source	INFICON Fusion Connector

Component Results

Component Name	Peak Area	Raw Amount	Response Factor	Norm Mole%	Gross HV (Dry) (BTU / Ideal cu.ft.)	Relative Gas Density (Dry)	GPM (Dry) (Gal. / 1000 cu.ft.)	
Nitrogen	31610.5	1.8190	0.00005755	1.8220	0.0	0.01762	0.201	
Methane	1034963.5	75.6193	0.00007306	75.7414	766.8	0.41953	12.888	
CO2	28424.8	1.3412	0.00004719	1.3434	0.0	0.02041	0.230	
Ethane	242907.0	11.1391	0.00004586	11.1571	197.9	0.11583	2.995	
H2S	0.0	0.0000	0.00000000	0.0000	0.0	0.00000	0.000	
Propane	167697.1	5.4489	0.00003249	5.4577	137.6	0.08309	1.509	
iso-butane	64743.8	0.7213	0.00001114	0.7225	23.5	0.01450	0.237	
n-Butane	159577.2	1.7700	0.00001109	1.7729	58.0	0.03558	0.561	
iso-pentane	42140.1	0.4169	0.00000989	0.4176	16.7	0.01040	0.153	
n-Pentane	48961.9	0.4640	0.00000948	0.4648	18.7	0.01158	0.169	
hexanes	52865.0	0.4221	0.00000798	0.4228	20.2	0.01258	0.175	
heptanes	63291.0	0.4590	0.00000725	0.4598	25.4	0.01591	0.213	
octanes	27884.0	0.1947	0.00000698	0.1950	12.2	0.00769	0.100	
nonanes+	2936.0	0.0229	0.00000781	0.0230	1.6	0.00102	0.013	
Total:		99.8386		100.0000	1278.6	0.76575	19.445	

Results Summary

Result	Dry	Sat.
Total Un-Normalized Mole%	99.8386	
Pressure Base (psia)	14.730	
Temperature Base (Deg. F)	60.00	
Flowing Temperature (Deg. F)	106.1	

Result	Dry	Sat.
Flowing Pressure (psia)	95.1	
Gross Heating Value (BTU / Ideal cu.ft.)	1278.6	1256.3
Gross Heating Value (BTU / Real cu.ft.)	1283.6	1261.8
Relative Density (G), Real	0.7685	0.7663

Monitored Parameter Report

Parameter	Value	Lower Limit	Upper Limit	Status
Total un-normalized amount	99.8387	97.0000	103.0000	Pass

UPSET VENTING EVENT SPECIFIC JUSTIFICATIONS FORM

Facility: Maris Federal 1 Battery

Vent Date: 09/01/2023

Duration of Event: 16 Hours

MCF Vented: 125

Start Time: 12:00 AM

End Time: 04:00 PM

Cause: Underground Pipeline > Venting Leak > Corrosion

Method of Vented Gas Measurement: Allocation

Comments: This event was discovered on September 01, 2023.

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

This venting leak event was caused by a sudden and unexpected malfunction of the steel piping of the gas line which developed a pin sized hole due to corrosion on the pipeline. The pipeline runs underground through the Maris Federal 1 Battery which is a plugged and abandoned facility. The pipeline leak was discovered by Oxy while performing a voluntary flyover to survey the area on September 01, 2023. Within a few hours after identifying the underground pipeline's leak's location, Oxy operations dispatched a field crew to immediately identify, isolate, and cap the leak to cease venting on September 01, 2023. Oxy has initiated a root cause analysis to determine how the underground pipeline became corroded and how Oxy can prevent this type of event from happening in the future.

Once the venting leak was identified, isolated, and brought to an end, Oxy's Operations group transitioned its attention on conducting an extensive review to determine a potential daily leak rate and the duration of the pipeline malfunction. Conservatively, it was determined that the leak from the corroded hole of the buried pipeline, may have caused gas to leak starting on August 16, 2023, and ending on September 01, 2023. The timeline was established using best engineering knowledge, pressure data, and historical gas production data to conservatively estimate the daily leak rate, duration and total volume that was potentially lost. Based on the timeline, Oxy has conservatively estimated that a total of 4,426 mcf of gas may have potentially leaked from the underground gas pipeline over a total of nineteen (19) days. Therefore, Oxy is reporting to the NMOCD the estimated potential daily leak rate relating to this underground pipeline malfunction starting on September 07, 2023, and will submit 19 C-129's to account for each 24-hour period in which gas may have been lost from the buried piping.

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. In this case, the leak event was caused by a sudden and unexpected malfunction of buried steel piping which had developed a pin sized hole due to corrosion. Additionally, since the piping was buried and the leak occurred at a facility that was plugged and

abandoned permanently, the area was not regularly inspected by Oxy personnel for leaks by Audio, Visual and Olfactory (AVOs) methods. Oxy employs voluntary flyovers on a semiannually basis to check for unsuspecting leaks from buried piping and pipelines in remote areas of its operations that are unmanned. As soon as the leak was identified, isolated, and brought to an end, Oxy's Operations group then transitioned its attention on conducting a root cause analysis of the event and to conservatively estimate a daily leak rate and duration of the malfunction.

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

The leak was discovered, verified, and stopped on September 1, 2023. The leak was caused by a pin-sized hole in the steel piping of a buried pipeline The type of damage on this type of gas line is not a common occurrence and was not anticipated. We believe the leak was a sudden, unavoidable failure beyond Oxy's reasonable control. While this type of failure on this type of line is infrequent, Oxy has initiated a root cause analysis to determine why the leak may have occurred and how Oxy can prevent this type of event from happening in the future.

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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

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 265068
	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:

- this application's operator, hereinafter "this operator";
- venting and/or flaring, hereinafter "vent or flare";
- any notification or report(s) of the C-129 form family, hereinafter "any C-129 forms";
- the statements in (and/or attached to) this, hereinafter "the statements in this";
- and the past tense will be used in lieu of mixed past/present tense questions and statements.

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QUESTIONS

Action 265068

QUESTIONS

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	Action Number: 265068
	Action Type: [C-129] Venting and/or Flaring (C-129)

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 Well	*Unavailable.*
Incident Facility	**[fAPP2126635771] MARIS FED #1 BATTERY**

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

Equipment Involved	
Primary Equipment Involved	Pipeline (Any)
Additional details for Equipment Involved. Please specify	Underground Pipeline > Venting Leak > Corrosion

Representative Compositional Analysis of Vented or Flared Natural Gas	
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	1
Oxygen (02) 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 (02) percentage quality requirement	*Not answered.*

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QUESTIONS (continued)

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	Action Number: 265068
	Action Type: [C-129] Venting and/or Flaring (C-129)

QUESTIONS

Date(s) and Time(s)	
Date vent or flare was discovered or commenced	09/01/2023
Time vent or flare was discovered or commenced	12:00 AM
Time vent or flare was terminated	04:00 PM
Cumulative hours during this event	16

Measured or Estimated Volume of Vented or Flared Natural Gas	
Natural Gas Vented (Mcf) Details	Cause: Corrosion | Pipeline (Any) | Natural Gas Vented | Released: 125 Mcf | Recovered: 0 Mcf | Lost: 125 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 venting leak event was caused by a sudden and unexpected malfunction of the steel piping of the gas line which developed a pin sized hole due to corrosion on the pipeline. The pipeline runs underground through the Maris Federal 1 Battery which is a plugged and abandoned facility. The pipeline leak was discovered by Oxy while performing a voluntary flyover to survey the area on September 01, 2023. Within a few hours after identifying the underground pipeline's leak's location, Oxy operations dispatched a field crew to immediately identify, isolate, and cap the leak to cease venting on September 01, 2023. Oxy has initiated a root cause analysis to determine how the underground pipeline became corroded and how Oxy can prevent this type of event from happening in the future. Once the venting leak was identified, isolated, and brought to an end, Oxy's Operations group transitioned its attention on conducting an extensive review to determine a potential daily leak rate and the duration of the pipeline malfunction. Conservatively, it was determined that the leak from the corroded hole of the buried pipeline, may have caused gas to leak starting on August 16, 2023, and ending on September 01, 2023. The timeline was established using best engineering knowledge, pressure data, and historical gas production data to conservatively estimate the daily leak rate, duration and total volume that was potentially lost. Based on the timeline, Oxy has conservatively estimated that a total of 4,426 mcf of gas may have potentially leaked from the underground gas pipeline over a total of nineteen (19) days. Therefore, Oxy is reporting to the NMOCD the estimated potential daily leak rate relating to this underground pipeline malfunction starting on September 07, 2023, and will submit 19 C-

	129's to account for each 24-hour period in which gas may have been lost from the buried piping.
Steps taken to limit the duration and magnitude of vent or flare	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. In this case, the leak event was caused by a sudden and unexpected malfunction of buried steel piping which had developed a pin sized hole due to corrosion. Additionally, since the piping was buried and the leak occurred at a facility that was plugged and abandoned permanently, the area was not regularly inspected by Oxy personnel for leaks by Audio, Visual and Olfactory (AVOs) methods. Oxy employs voluntary flyovers on a semiannually basis to check for unsuspecting leaks from buried piping and pipelines in remote areas of its operations that are unmanned. As soon as the leak was identified, isolated, and brought to an end, Oxy's Operations group then transitioned its attention on conducting a root cause analysis of the event and to conservatively estimate a daily leak rate and duration of the malfunction.
Corrective actions taken to eliminate the cause and reoccurrence of vent or flare	The leak was discovered, verified, and stopped on September 1, 2023. The leak was caused by a pin-sized hole in the steel piping of a buried pipeline The type of damage on this type of gas line is not a common occurrence and was not anticipated. We believe the leak was a sudden, unavoidable failure beyond Oxy's reasonable control. While this type of failure on this type of line is infrequent, Oxy has initiated a root cause analysis to determine why the leak may have occurred and how Oxy can prevent this type of event from happening in the future.

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ACKNOWLEDGMENTS

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ACKNOWLEDGMENTS

☑	I acknowledge that I am authorized to submit a *Venting and/or Flaring* (C-129) report on behalf of this operator and understand that this report can be **a complete** C-129 submission per 19.15.27.8 and 19.15.28.8 NMAC.
☑	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.
☑	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.
☑	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.
☑	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 265068

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	Action Number: 265068
	Action Type: [C-129] Venting and/or Flaring (C-129)

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.	9/13/2023