# 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	CORRAL 2 SOUTH STATION INLET
Technician	ANTHONY DOMINGUEZ
Analyzer Make & Model	INFICON MICRO GC
Last Calibration/Validation Date	11-03-2023
Meter Number	NA
Air temperature	63
Flow Rate (MCF/Day)	
Heat Tracing	HEATED HOSE & GASIFIER
Sample description/mtr name	CORRAL 2 SOUTH STATION INLET
Sampling Method	FILL & EMPTY
Operator	OCCIDENTAL PETROLEUM, OXY USA INC
State	NEW MEXICO
Region Name	PERMIAN_RESOURCES
Asset	NEW MEXICO
System	RANCH
FLOC	OP-L2100-CS005
Sample Sub Type	COMP STATION
Sample Name Type	METER
Vendor	AKM MEASUREMENT
Cylinder #	38905
Sampled by	CHANDLER MONTGOMERY
Sample date	11-1-2023
Analyzed date	11-03-2023
Method Name	C9
Injection Date	2023-11-03 11:59:19
Report Date	2023-11-03 12:01:14
EZReporter Configuration File	1-16-2023 OXY GPA C9+ H2S #2.cfgx
Source Data File	661cfdda-b53d-4ae9-a028-b52f2b3db2d4
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	16421.8	0.9478	0.00005772	0.9428	0.0	0.00912	0.104	
Methane	975051.0	71.3657	0.00007319	70.9859	718.6	0.39319	12.090	
CO2	2427.5	0.1159	0.00004774	0.1153	0.0	0.00175	0.020	
Ethane	291974.2	13.4774	0.00004616	13.4057	237.8	0.13918	3.602	
H2S	0.0	0.0000	0.00000000	0.0000	0.0	0.00000	0.000	
Propane	229342.5	7.5131	0.00003276	7.4731	188.5	0.11378	2.068	
iso-butane	104612.2	1.1718	0.00001120	1.1656	38.0	0.02339	0.383	
n-Butane	254085.4	2.8254	0.00001112	2.8104	91.9	0.05640	0.890	
iso-pentane	73025.7	0.7231	0.00000990	0.7193	28.8	0.01792	0.264	
n-Pentane	95662.5	0.9104	0.00000952	0.9055	36.4	0.02256	0.330	
hexanes	87528.0	0.8740	0.00000999	0.8693	41.4	0.02587	0.359	
heptanes	71956.0	0.4426	0.00000615	0.4403	24.3	0.01523	0.204	
octanes	28646.0	0.1573	0.00000549	0.1565	9.8	0.00617	0.081	
nonanes+	3123.0	0.0104	0.00000332	0.0103	0.7	0.00046	0.006	
Total:		100.5349		100.0000	1416.2	0.82501	20.401	

# **Results Summary**

Result	Dry	Sat.
Total Un-Normalized Mole%	100.5349	
Pressure Base (psia)	14.730	
Temperature Base (Deg. F)	60.00	
Released to Tempeintyre 3/24/2024 10:13:35	<i>PM</i> 0.0	

Received by OCD: 3/10/2024 10:08:34 PM	Dry	Sat.	Pa
Flowing Pressure (psia)	49.3		
Gross Heating Value (BTU / Ideal cu.ft.)	1416.2	1391.6	
Gross Heating Value (BTU / Real cu.ft.)	1423.2	1399.0	
Relative Density (G), Real	0.8287	0.8255	

# **Monitored Parameter Report**

Parameter	Value	Lower Limit	Upper Limit	Status	
Total un-normalized amount	100.5349	97.0000	103.0000	Pass	

#### **UPSET FLARING EVENT SPECIFIC JUSTIFICATIONS FORM**

Facility: Corral 2S CS Flare Date: 01/20/2024

**Duration of Event:** 2 Hours 10 Minutes **MCF Flared:** 52

Start Time: 11:05 AM End Time: 01:15 PM

**Cause:** Emergency Flare > Multiple Compression Equipment Issues

Method of Flared Gas Measurement: Gas Flare Meter

### 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. Oxy engages in respectable and good facility operation practices while also maintaining its continuous facility equipment preventative maintenance program. In this case, there was a sudden and simultaneous unexpected compression equipment malfunctions, which in turn, then prompted high field pressure to occur, which then triggered a flaring event to occur. This event is out of OXY's control yet OXY made every effort to control and minimize emissions as much as possible.

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

It is OXY's policy to route its stranded gas to a flare 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 flaring. The flare at this facility has a 98% combustion efficiency to lessen emissions as much as possible. In this case, there was a sudden and simultaneous unexpected compression equipment malfunctions, which in turn, then prompted high field pressure to occur, which then triggered a flaring event to occur. As soon as flaring occurred, the facility's well optimizer adjusted injection rates and field personnel manually shut-in wells to mitigate and subsequently cease flaring. Notwithstanding proper gas compressor design and operation, various forms of mechanical or technical issues can be sudden, reasonably unforeseeable and unexpected which can cause compressor unit malfunctions to occur without warning or advance notice. Compressor engines are designed to operate in a precise manner and when malfunctions occur, it disrupts the compression unit's operating manner and robs the compression engine of power, thus, causing an automatic shutdown of the unit. This event is out of OXY's control yet OXY made every effort to control and minimize emissions as much as possible.

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

Oxy is limited in the corrective actions available to them to eliminate the cause and potential reoccurrence of compressor malfunctions as notwithstanding compressor engine design and operation, compressors are inherently dynamic and even the smallest alarms, false or true, can be sudden, reasonably unforeseeable and unexpected which can cause compression malfunctions to occur, thereby, triggering the unit's sensors to automatically shut down the unit to avoid catastrophic damage to the internal engine components. Oxy continually strives to maintain and operate all its equipment in a manner consistent with good practices for minimizing emissions and reducing the number of emission events. Oxy has a strong and positive equipment preventative maintenance program in place.

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

District II

811 S. First St., Artesia, NM 88210 Phone:(575) 748-1283 Fax:(575) 748-9720 District III 1000 Rio Brazos Rd., Aztec, NM 87410

Phone:(505) 334-6178 Fax:(505) 334-6170 1220 S. St Francis Dr., Santa Fe, NM 87505 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 321950

#### **DEFINITIONS**

Operator:	OGRID:
OXY USA INC	16696
P.O. Box 4294	Action Number:
Houston, TX 772104294	321950
	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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1000 Rio Brazos Rd., Aztec, NM 87410 Phone:(505) 334-6178 Fax:(505) 334-6170

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

QUESTIONS

Action 321950

Cyconter  OXY USA INC P O Box 4294 Houston, TX 772104294  Atter Nacion 32 1960 Autor Nacion Auto	Phone:(505) 476-3470 Fax:(505) 476-3462	•	
Correction  OXY USA INC PLO Box 4264 Position 17 772104294  COURT 150009 Action Number 201500 Action Number Court 150009 Action N	٥	UESTIONS	
OVY USA NIC. P.O. Box 4294 Houston, TX 772104294 Author Type Control Co		,	OGRID:
Action Type:    Column   Colum			
DUESTIONS  Prerequisites  Accessed by Ventiling and/or Flaving (C-126) Ventiling and/or Flaving (C-			
C-129  Vertiling and/or Flairing (C-129)	Housion, 17/1/2104254		
Prerequisites  Assumes against the section, will prevent automission of this application. Please resolve these issues before continuing with the rest of the questions.  Incident Mell  Unavailable.  Incident Facility  Incident Facility  Incident Reporting Requirements  Account of Reporting Requir			
Incident Facility [IAPP2128640958] CORRAL #2 SOUTH COMP STATION    Particular	QUESTIONS		
Incident Well  Incident Facility  Incident Facility	Prerequisites		
Incident Facility    Incident Facility   Incid	Any messages presented in this section, will prevent submission of this application. Please resolve	these issues before continuing w	ith the rest of the questions.
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  Did this vent or flare caused by an emergency or malfunction  Yes  No  Is this considered a submission for a vent or flare event  An operator shall file a from C-141 instead of a form C-128 for a release that, includes liquid during venting and/or flaring of natural gas.  An operator shall file a from C-141 instead of a form C-128 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 MMAC.  Was there at least 50 MCF or natural gas vented and/or flared during this event  Did this vent or flare result in the release of AMY liquids (not fully and/or completely laterly that reached for has a charge of reaching the ground is surface, a waterourse, or otherwise, with reasonable probability, endanger public health, the environment or fresh water  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  Equipment Involved  Primary Equipment Involved. Please specify  Emergency Flare > Multiple Compression Equipment Issues  Representative Compositional Analysis of Vented or Flared Natural Gas  Passas provide the mole percent for the percentage questions in this group.  Methanic (CH4) percentage  And State (CH2) percentage (Flared Than one percent)  Hydrogen Sulfide (H2S) PPM, rounded up  Occarbon Dioxide (CO2) percentage, if greater than one percent  O Corbon Glovide (Flared Plane) figure flared than one percent  Of your are venting and/or flaring because of Pipeline Specification, please provide the required specifications for each gas.  Methane (CH4) percentage (Flared Than one percent  O Corbon Dioxide (CD2) percentage, if greater than one percent  O Carbon Dioxide (CD2) percentage, if greater than	Incident Well	Unavailable.	
As shis vent or flare caused by an emergency or malfunction  Was this vent or flare caused by an emergency or malfunction  Did this vent or flare last eight hours or more cumulatively within any 24-hour period from a single event  Is this considered a submission for a vent or flare event  An operator shalf file a form C-141 instead of a form C-126 for a release that, includes liquid quing venting and/or flaring final tis or may be a major or minor release under 19.15.29.7 MMAC.  Was there at least 50 MCF of natural gas vented and/or flared during this event  Did this vent or flare result in the release of AMY liquids (not fully and/or completely flared) that reached or has a chance of reaching the ground, a sufficiency and the flaring that is or may be a major or minor release under 19.15.29.7 MMAC.  Was there at least 50 MCF of natural gas vented and/or flared during this event  Did this vent or flare result in the release of AMY liquids (not fully and/or completely flared) that reached or has a chance of reaching the ground, a sufficiency and the process of the release of AMY liquids (not fully and/or completely flared) that reached or has a chance of reaching the ground, a sufficiency and the process of the release of the reached or has a chance of reaching the ground, a sufficiency and the process of the release of the reached or has a chance of reaching the ground as under completely flared that the reached or has a chance of reaching the ground and release the reached or has a chance of reaching the reached or has a chance of reaching the reached or has a chance of the reaching that the reached or has a chance of the reached process or has a chance of the reached process or has a chance or has a chance or has a chance or has a chance of the reached process or ha	Incident Facility	[fAPP2126640958] CORRA	AL #2 SOUTH COMP STATION
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Equipment Involved  Primary Equipment Involved  Additional details for Equipment Involved. Please specify  Emergency Flare > Multiple Compression Equipment Issues  Representative Compositional Analysis of Vented or Flared Natural Gas  Please provide the mole percent for the percentage questions in this group.  Methane (CH4) percentage  T1  Nitrogen (N2) percentage, if greater than one percent  Hydrogen Sulfide (H2S) PPM, rounded up  Carbon Dioxide (CO2) percentage, if greater than one percent  Oxygen (02) percentage, if greater than one percent  It 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 Suffide (H2S) PPM quality requirement  Not answered.	· · · · · · · · · · · · · · · · · · ·	No	
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Additional details for Equipment Involved. Please specify  Emergency Flare > Multiple Compression Equipment Issues  Representative Compositional Analysis of Vented or Flared Natural Gas  Please provide the mole percent for the percentage questions in this group.  Methane (CH4) percentage  71  Nitrogen (N2) percentage, if greater than one percent  1 Hydrogen Sulfide (H2S) PPM, rounded up  Carbon Dioxide (C02) percentage, if greater than one percent  0 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.  Not answered.  Hydrogen Sulfide (H2S) PPM quality requirement  Not answered.			
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Representative Compositional Analysis of Vented or Flared Natural Gas  Please provide the mole percent for the percentage questions in this group.  Methane (CH4) percentage 71  Nitrogen (N2) percentage, if greater than one percent 1  Hydrogen Sulfide (H2S) PPM, rounded up 0  Carbon Dioxide (C02) percentage, if greater than one percent 0  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.			
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Carbon Dioxide (C02) percentage, if greater than one percent  Oxygen (02) percentage, if greater than one percent  O yygen (02) percentage, if greater than one percent  O was eventing 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.		1	
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	Carbon Dioxide (C02) percentage quality requirement	Not answered.	

Not answered.

Oxygen (02) percentage quality requirement

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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** 

QUESTIONS, Page 2

Action 321950

#### **QUESTIONS** (continued)

Operator:	OGRID:
OXY USA INC	16696
P.O. Box 4294	Action Number:
Houston, TX 772104294	321950
	Action Type:
	[C-129] Venting and/or Flaring (C-129)

#### QUESTIONS

Date(s) and Time(s)		
Date vent or flare was discovered or commenced	01/20/2024	
Time vent or flare was discovered or commenced	11:05 AM	
Time vent or flare was terminated	01:15 PM	
Cumulative hours during this event	2	

Measured or Estimated Volume of Vented or Flared Natural Gas				
Natural Gas Vented (Mcf) Details	Not answered.			
Natural Gas Flared (Mcf) Details	Cause: Other   Other (Specify)   Natural Gas Flared   Released: 52 Mcf   Recovered: 0 Mcf   Lost: 52 Mcf.			
Other Released Details	Not answered.			
Additional details for Measured or Estimated Volume(s). Please specify	Gas Flare Meter			
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. Oxy engages in respectable and good facility operation practices while also maintaining its continuous facility equipment preventative maintenance program. In this case, there was a sudden and simultaneous unexpected compression equipment malfunctions, which in turn, then prompted high field pressure to occur, which then triggered a flaring event to occur. This event is out of OXY's control yet OXY made every effort to control and minimize emissions as much as possible.
Steps taken to limit the duration and magnitude of vent or flare	It is OXY's policy to route its stranded gas to a flare 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 flaring. The flare at this facility has a 98% combustion efficiency to lessen emissions as much as possible. In this case, there was a sudden and simultaneous unexpected compression equipment malfunctions, which in turn, then prompted high field pressure to occur, which then triggered a flaring event to occur. As soon as flaring occurred, the facility's well optimizer adjusted injection rates and field personnel manually shut-in wells to mitigate and subsequently cease flaring. Notwithstanding proper gas compressor design and operation, various forms of mechanical or technical issues can be sudden, reasonably

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	unforeseeable and unexpected which can cause compressor unit malfunctions to occur without warning or advance notice. Compressor engines are designed to operate in a precise manner and when malfunctions occur, it disrupts the compression unit's operating manner and robs the compression engine of power, thus, causing an automatic shutdown of the unit. This event is out of OXY's control yet OXY made every effort to control and minimize emissions as much as possible.
Corrective actions taken to eliminate the cause and reoccurrence of vent or flare	Oxy is limited in the corrective actions available to them to eliminate the cause and potential reoccurrence of compressor malfunctions as notwithstanding compressor engine design and operation, compressors are inherently dynamic and even the smallest alarms, false or true, can be sudden, reasonably unforeseeable and unexpected which can cause compression malfunctions to occur, thereby, triggering the unit's sensors to automatically shut down the unit to avoid catastrophic damage to the internal engine components. Oxy continually strives to maintain and operate all its equipment in a manner consistent with good practices for minimizing emissions and reducing the number of emission events. Oxy has a strong and positive equipment preventative maintenance program in place.

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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**

ACKNOWLEDGMENTS

Action 321950

#### **ACKNOWLEDGMENTS**

Operator:	OGRID:
OXY USA INC	16696
P.O. Box 4294	Action Number:
Houston, TX 772104294	321950
	Action Type:
	[C-129] Venting and/or Flaring (C-129)

#### **ACKNOWLEDGMENTS**

⊽	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 <b>a complete</b> C-129 submission per 19.15.27.8 and 19.15.28.8 NMAC.
V	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.
V	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.
V	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.
V	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 321950

#### **CONDITIONS**

Operator:	OGRID:
OXY USA INC	16696
P.O. Box 4294	Action Number:
Houston, TX 772104294	321950
	Action Type:
	[C-129] Venting and/or Flaring (C-129)

#### CONDITIONS

Created By	Condition	Condition Date
marialuna2	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.	3/10/2024