



## Volumetrics Inc.

3710 East Rio Grande St, Victoria, TX-77901

Phone: 361-827-4024

<b>Company:</b>	OXY USA INC	<b>Work Order</b>	4000501489
<b>Field/Location :</b>	NMSW	<b>Sampled by:</b>	OXY/JE
<b>Station Name :</b>	CORRAL COMPRESSOR STA 2 SOUTH FUEL SKID OUTLE	<b>Sample Type :</b>	SPOT-CYLINDER
<b>Station Number :</b>	NA	<b>Sample Temperature (F):</b>	NA
<b>Sample Date:</b>	2/23/22 1:30 PM	<b>Sample Pressure (PSIG):</b>	125
<b>Analysis Date:</b>	3/7/22 11:00 AM	<b>Flow rate (MCF/Day):</b>	NA
<b>Instrument:</b>	INFICON	<b>Ambient Temperature (F):</b>	23
<b>Calibration/Verification Date:</b>	3/7/2022	<b>Sampling method:</b>	FILL & EMPTY
<b>Heat Trace used:</b>	YES	<b>Cylinder Number:</b>	27784

## NATURAL GAS ANALYSIS: GPA 2261

Components	Un-Normalized Mol%	Normalized Mol%	GPM 14.650	GPM 14.730	GPM 15.025
Hydrogen Sulfide	0.0000	0.0000			
Nitrogen	1.3240	1.3598			
Methane	75.6525	77.7008			
Carbon Dioxide	0.1877	0.1928			
Ethane	11.5036	11.8151	3.153	3.170	3.234
Propane	5.8586	6.0172	1.654	1.663	1.696
Isobutane	0.7572	0.7777	0.254	0.255	0.260
N-butane	1.6243	1.6683	0.525	0.528	0.538
Isopentane	0.2101	0.2158	0.079	0.079	0.081
N-Pentane	0.1809	0.1858	0.067	0.068	0.069
Hexanes Plus	0.0650	0.0667	0.029	0.029	0.030
<b>Total</b>	<b>97.3638</b>	<b>100.0000</b>			

Hexanes plus split (60%-30%-10%)

Physical Properties (Calculated)	14.650 psia	14.730 psia	15.025 psia
Total GPM Ethane+	5.761	5.792	5.908
Total GPM Iso-Pentane+	0.175	0.176	0.179
Compressibility (Z)	0.9965	0.9965	0.9964
Specific Gravity ( Air=1 ) @ 60 °F	0.7242	0.7242	0.7243
Molecular Weight	20.911	20.911	20.911
Gross Heating Value	14.650 psia	14.730 psia	15.025 psia
Dry, Real (BTU/Ft <sup>3</sup> )	1244.9	1251.8	1276.9
Wet, Real (BTU/Ft <sup>3</sup> )	1223.3	1230.0	1254.7
Dry, Ideal (BTU/Ft <sup>3</sup> )	1240.6	1247.4	1272.3
Wet, Ideal (BTU/Ft <sup>3</sup> )	1219.0	1225.7	1250.2

Temperature base 60 °F

**Comment:** FIELD H2S =0 PPM

## Verified by

Mostaq Ahammad  
Petroleum Chemist

## Approved by

Deann Friend  
Laboratory Manager

**UPSET FLARING EVENT SPECIFIC JUSTIFICATIONS FORM****Facility:** Corral 2S CS**Flare Date:** 08/08/2022**Duration of event:** 1 Hour 10 Minutes**MCF Flared:** 78**Start Time:** 12:00 PM**End Time:** 01:10 PM**Cause:** Compression Equipment Malfunction > Gas Compressor Unit # 2 > Detonation**Method of Flared Gas Measurement:** Gas Flare Meter**Comments:**

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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. Oxy engages in respectable and good facility operation practices while also maintaining its continuous facility equipment preventative maintenance program. In this case, gas sales compressor unit # 2 suddenly and unexpectedly malfunctioned due to detonation and automatically shut down. 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 detonation occurs, it disrupts the gas compressor's operating manner and cuts off engine power, which in turn, prompts an automatic shutdown of the unit. Detonation occurs without warning and therefore, Oxy is unable to predict, avoid or prevent this type of malfunction from occurring. This malfunctioning event is out of OXY's control. OXY made every effort to control and minimize emissions as much as possible. All other compression at the facility was operating as designed and were running normally prior to this malfunction occurring with sales gas compressor unit #2.

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

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. It is OXY's policy to route its stranded gas to a flare during an unforeseen and unavoidable emergency or malfunction, as the part of the overall process or steps to take to limit duration and magnitude of flaring. Oxy personnel are in the field 24/7 and can physically see when we are flaring which in turn are communicated to additional Oxy field personnel. Internal OXY procedures ensure that upon notice of flaring, malfunction gas compressor unit and/or multiple unit shutdown alarms, increased sensor line pressure alarms, etc., field production technician personnel are promptly notified, and are instructed to assess the issue as soon as possible to take prompt corrective action and minimize emissions. Oxy production technicians must assess whether the issue or circumstance is due to damage and repair is needed, or whether there are other reasons for its cause. In this case, gas sales compressor unit # 2 suddenly and unexpectedly malfunctioned due to detonation and automatically shut down. 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 detonation occurs, it disrupts the gas compressor's operating manner and cuts off engine power, which in turn, prompts an automatic shutdown of the unit. Detonation occurs without warning and therefore, Oxy is unable to predict, avoid or prevent this type of malfunction from occurring. Oxy production techs responded to each facility alarm received as quickly and safely as possible. The additional steps taken to resolve this event was that as soon as field personnel received compression malfunctions alarms, they drove over to the compressor station to inspect and troubleshoot the malfunctioning unit. After several attempts to restart the unit, an Oxy technician called USA Compression to dispatch a compressor mechanic to fix and then began monitoring the facility's optimizer as it was controlling and adjusting flow rates to keep up with field pressure and minimize intermittent flaring instances. A compressor mechanic was in the area and was able to arrive shortly after being dispatched. The compressor mechanic was able to resolve the detonation issue, clear the alarm panels and restart the unit. Once gas compressor unit # 2 reached its optimized working speed, did flaring cease. OXY made every effort to control and minimize emissions as much as possible during this event.

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

Oxy is limited in the corrective actions to eliminate this type of cause and potential reoccurrence of flaring as 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. Oxy continually strives to maintain and operate all its facility locations equipment in a manner consistent with good practices for minimizing emissions and reducing the number of emission events. Oxy has a strong and positive compression equipment preventative maintenance program in place. The only actions that Oxy can take and handle that is within its control, is to continue with its compression equipment preventative maintenance program for all its facilities and continually work with its compression rental owners to resolve those issues in a timely manner, should they occur suddenly and without warning.

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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 136878

DEFINITIONS

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 136878
	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 136878

**QUESTIONS**

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 136878
	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	Not answered.
Incident Facility	[fAPP2126640958] CORRAL #2 SOUTH COMP STATION

**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	No
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 <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	Other (Specify)
Additional details for Equipment Involved. Please specify	Emergency Flare > Compression Equipment Malfunction > Gas Compressor Unit # 2 > Detonation

**Representative Compositional Analysis of Vented or Flared Natural Gas**

Please provide the mole percent for the percentage questions in this group.

Methane (CH4) percentage	78
Nitrogen (N2) percentage, if greater than one percent	1
Hydrogen Sulfide (H2S) PPM, rounded up	0
Carbon Dioxide (CO2) percentage, if greater than one percent	0
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 Sulfide (H2S) PPM quality requirement	Not answered.
Carbon Dioxide (CO2) percentage quality requirement	Not answered.
Oxygen (O2) percentage quality requirement	Not answered.

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QUESTIONS, Page 2

Action 136878

QUESTIONS (continued)

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	Action Number: 136878
	Action Type: [C-129] Venting and/or Flaring (C-129)

QUESTIONS

Date(s) and Time(s)	
Date vent or flare was discovered or commenced	08/08/2022
Time vent or flare was discovered or commenced	12:00 PM
Time vent or flare was terminated	01:10 PM
Cumulative hours during this event	1

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: 78 Mcf   Recovered: 0 Mcf   Lost: 78 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	<p>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, gas sales compressor unit # 2 suddenly and unexpectedly malfunctioned due to detonation and automatically shut down. 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 detonation occurs, it disrupts the gas compressor's operating manner and cuts off engine power, which in turn, prompts an automatic shutdown of the unit. Detonation occurs without warning and therefore, Oxy is unable to predict, avoid or prevent this type of malfunction from occurring. This malfunctioning event is out of OXY's control. OXY made every effort to control and minimize emissions as much as possible. All other compression at the facility was operating as designed and were running normally prior to this malfunction occurring with sales gas compressor unit #2.</p>
Steps taken to limit the duration and magnitude of vent or flare	<p>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. It is OXY's policy to route its stranded gas to a flare during an unforeseen and unavoidable emergency or malfunction, as the part of the overall process or steps to take to limit duration and magnitude of flaring. Oxy personnel are in the field 24/7 and can physically see when we are flaring which in turn are communicated to additional Oxy field personnel. Internal OXY procedures ensure that upon notice of flaring, malfunction gas compressor unit and/or multiple unit shutdown alarms, increased sensor line pressure alarms, etc., field production technician personnel are promptly notified, and are instructed to assess the issue as soon as possible to take prompt corrective action and minimize emissions. Oxy production technicians must assess whether the issue or circumstance is due to damage and repair is needed, or whether there are other reasons for its cause. In this case, gas sales compressor unit # 2 suddenly and unexpectedly malfunctioned due to detonation and automatically shut down. 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 detonation occurs, it disrupts the gas compressor's operating manner and cuts off engine power, which in turn, prompts an automatic shutdown of the unit. Detonation occurs without warning and therefore, Oxy is unable to predict, avoid or prevent this type of malfunction from occurring. Oxy production techs responded to each facility alarm received as quickly and safely as possible.</p>
Corrective actions taken to eliminate the cause and reoccurrence of vent or flare	<p>Oxy is limited in the corrective actions to eliminate this type of cause and potential reoccurrence of flaring as 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. Oxy continually strives to maintain and operate all its facility locations equipment in a manner consistent with good practices for minimizing emissions and reducing the number of emission events. Oxy has a strong and positive compression equipment preventative maintenance program in place. The only actions that Oxy can take and handle that is within its control, is to continue with its compression equipment preventative maintenance program for all its facilities and continually work with its compression rental owners to resolve those issues in a timely manner, should they occur suddenly and without warning.</p>

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ACKNOWLEDGMENTS

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**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

Action 136878

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	Action Number: 136878
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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.	8/23/2022