

AKM MEASUREMENT SERVICES

Natural Gas Analysis Report

GPA 2172-09/API 14.5 Report with GPA 2145-16 Physical Properties

Sample Information

Sample Information	
Sample Name	ASTRODOG 233H 5-31-2022
Effective/Start Date	5-1-2022
WELL NAME	
Laboratory	A DOMINGUEZ
Analyzer Type	NAT. GAS ANALYZER
Analyzer Make & Model	INFICON MICRO GC FUSION
Last Calibration/Validation Date	5-3-2022
Sampling Flow Rate	
Air Temperature	74
Heat Tracing	Heated Hose & Gasifier
Type of Sample	SPOT PORTABLE GC
Company Collecting Sample	AKM Measurement
Method Name	C9
Injection Date	2022-05-31 07:20:29
Report Date	2022-05-31 07:34:33
EZReporter Configuration File	BLM Onshore.Extended.GPA 2145-16.FlowCal.H2S.cfgx
Source Data File	8c7b99b6-f5cf-4b52-b97e-36538354ffb9
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	10769.0	0.7489	0.00006955	0.7655	0.0	0.00740	0.000
Methane	855723.7	76.4525	0.00008934	78.1468	791.1	0.43286	0.000
CO2	2211.4	0.1267	0.00005728	0.1295	0.0	0.00197	0.000
Ethane	210942.8	11.6722	0.00005533	11.9308	211.6	0.12387	3.202
H2S	0.0	0.0000	0.00000000	0.0000	0.0	0.00000	0.000
Propane	124829.3	5.0583	0.00004052	5.1704	130.4	0.07872	1.429
iso-butane	46380.0	0.7989	0.00001723	0.8166	26.6	0.01639	0.268
n-Butane	89806.3	1.5535	0.00001730	1.5879	51.9	0.03187	0.502
iso-pentane	26279.0	0.3963	0.00001508	0.4051	16.2	0.01009	0.149
n-Pentane	27658.0	0.4117	0.00001489	0.4208	16.9	0.01048	0.153
hexanes	29182.0	0.3299	0.00001131	0.3372	16.1	0.01003	0.139
heptanes	29161.0	0.2179	0.00000747	0.2227	12.3	0.00770	0.103
octanes	23310.0	0.0599	0.00000257	0.0613	3.8	0.00242	0.032
nonanes+	5914.0	0.0053	0.00000090	0.0054	0.4	0.00024	0.003
Total:		97.8320		100.0000	1277.4	0.73403	5.980

Results Summary

Result	Dry	Sat.
Total Un-Normalized Mole%	97.8320	
Pressure Base (psia)	14.730	
Temperature Base (Deg. F)	60.00	
Flowing Temperature (Deg. F)	0.0	
Flowing Pressure (psia)	0.0	
Gross Heating Value (BTU / Ideal cu.ft.)	1277.4	1255.2
Gross Heating Value (BTU / Real cu.ft.)	1282.2	1260.4
Relative Density (G), Real	0.7365	0.7348

Monitored Parameter Report

Parameter	Value	Lower Limit	Upper Limit	Status
Total un-normalized amount	97.8320	97.0000	103.0000	Pass

Production Date	Site Name	Meter Description	Sum of Volume	Notes
5/27/2022	Rana Salada FC Pad E CTB	RS Pad E LP Flare Meter	236	VRU offline
5/28/2022	Rana Salada FC Pad E CTB	RS Pad E LP Flare Meter	231	VRU offline
5/29/2022	Rana Salada FC Pad E CTB	RS Pad E LP Flare Meter	220	VRU offline
5/30/2022	Astrodog Pad S CTB	FB Flare Meter 1	198	from flowback report - Crestwood compressor outage
5/30/2022	Culebra Bluff CTB 3	LP Flare Meter	100	Issues with Crestwood's compressors
5/30/2022	Rana Salada FC Pad E CTB	RS Pad E LP Flare Meter	243	VRU offline
5/30/2022	Rana Salada FC Pad L CTB	LP Flare Meter	75	
5/31/2022	Astrodog Pad S CTB	FB Flare Meter 1	304	from flowback report - Crestwood compressor outage
5/31/2022	Culebra Bluff CTB 3	LP Flare Meter	108	Issues with Crestwood's compressors
5/31/2022	Rana Salada FC Pad E CTB	RS Pad E LP Flare Meter	240	VRU offline
6/1/2022	Astrodog Pad S CTB	FB Flare Meter 1	4,755	from flowback report - Crestwood compressor outage
6/1/2022	Culebra Bluff CTB 3	LP Flare Meter	145	Issues with Crestwood's compressors
6/1/2022	Rana Salada FC Pad E CTB	RS Pad E LP Flare Meter	245	VRU offline
6/1/2022	Rana Salada FC Pad L CTB	LP Flare Meter	213	
6/2/2022	Astrodog Pad S CTB	FB Flare Meter 1	776	from flowback report - Crestwood compressor outage
6/2/2022	Culebra Bluff CTB 3	LP Flare Meter	94	
6/2/2022	Rana Salada FC Pad A CTB	RS Pad A HP Flare	732	
6/2/2022	Rana Salada FC Pad E CTB	RS Pad E HP Flare Meter	753	
6/2/2022	Rana Salada FC Pad E CTB	RS Pad E LP Flare Meter	248	
6/2/2022	Rana Salada FC Pad L CTB	HP Flare Meter	187	
6/2/2022	Rana Salada FC Pad L CTB	LP Flare Meter	79	
6/3/2022	Astrodog Pad S CTB	FB Flare Meter 1	420	from flowback report - Crestwood compressor outage
6/3/2022	Culebra Bluff CTB 3	LP Flare Meter	113	
6/3/2022	Rana Salada FC Pad A CTB	RS Pad A HP Flare	2,267	
6/3/2022	Rana Salada FC Pad A CTB	RS Pad A LP Flare	79	
6/3/2022	Rana Salada FC Pad E CTB	RS Pad E HP Flare Meter	1,109	
6/3/2022	Rana Salada FC Pad E CTB	RS Pad E LP Flare Meter	249	
6/3/2022	Rana Salada FC Pad L CTB	LP Flare Meter	96	
6/4/2022	Culebra Bluff CTB 3	LP Flare Meter	59	
6/4/2022	Rana Salada FC Pad A CTB	RS Pad A HP Flare	595	
6/4/2022	Rana Salada FC Pad A CTB	RS Pad A LP Flare	79	

6/4/2022	Rana Salada FC Pad E CTB	RS Pad E HP Flare Meter	359
6/4/2022	Rana Salada FC Pad E CTB	RS Pad E LP Flare Meter	251
6/4/2022	Rana Salada FC Pad L CTB	LP Flare Meter	106
6/5/2022	Culebra Bluff CTB 3	LP Flare Meter	140
6/5/2022	Rana Salada FC Pad A CTB	RS Pad A HP Flare	280
6/5/2022	Rana Salada FC Pad A CTB	RS Pad A LP Flare	132
6/5/2022	Rana Salada FC Pad E CTB	RS Pad E HP Flare Meter	317
6/5/2022	Rana Salada FC Pad E CTB	RS Pad E LP Flare Meter	262
6/5/2022	Rana Salada FC Pad L CTB	LP Flare Meter	139
6/6/2022	Astrodog Pad S CTB	FB Flare Meter 1	301 from flowback report - Crestwood compressor outage
6/6/2022	Culebra Bluff CTB 3	LP Flare Meter	127
6/6/2022	Rana Salada FC Pad A CTB	RS Pad A HP Flare	1,255
6/6/2022	Rana Salada FC Pad A CTB	RS Pad A LP Flare	92
6/6/2022	Rana Salada FC Pad E CTB	RS Pad E HP Flare Meter	577
6/6/2022	Rana Salada FC Pad E CTB	RS Pad E LP Flare Meter	281
6/6/2022	Rana Salada FC Pad L CTB	LP Flare Meter	131
6/7/2022	Rana Salada FC Pad A CTB	RS Pad A HP Flare	1,129
6/7/2022	Rana Salada FC Pad E CTB	RS Pad E HP Flare Meter	523
6/7/2022	Rana Salada FC Pad E CTB	RS Pad E LP Flare Meter	276
6/8/2022	Rana Salada FC Pad E CTB	RS Pad E HP Flare Meter	209
6/8/2022	Rana Salada FC Pad E CTB	RS Pad E LP Flare Meter	280
6/8/2022	Rana Salada FC Pad L CTB	LP Flare Meter	73

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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 118399

DEFINITIONS

Operator: NOVO OIL & GAS NORTHERN DELAWARE, LLC 1001 West Wilshire Blvd Oklahoma City, OK 73116	OGRID: 372920
	Action Number: 118399
	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 118399

QUESTIONS

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	Action Number: 118399
	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	[fAPP2216747738] ASTRODOG PAD S CTB 4

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 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	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	77
Nitrogen (N2) percentage, if greater than one percent	0
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 118399

QUESTIONS (continued)

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	Action Number: 118399
	Action Type: [C-129] Venting and/or Flaring (C-129)

QUESTIONS

Date(s) and Time(s)	
Date vent or flare was discovered or commenced	06/02/2022
Time vent or flare was discovered or commenced	08:00 AM
Time vent or flare was terminated	08:00 AM
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 Emergency Maintenance Gas Compressor Station Natural Gas Flared Released: 776 Mcf Recovered: 0 Mcf Lost: 776 Mcf
Other Released Details	Not answered.
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	[282301] CRESTWOOD NEW MEXICO PIPELINE LLC
Date notified of downstream activity requiring this vent or flare	06/02/2022
Time notified of downstream activity requiring this vent or flare	08:00 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	crestwood compressor issues
Steps taken to limit the duration and magnitude of vent or flare	monitored
Corrective actions taken to eliminate the cause and reoccurrence of vent or flare	wait on crestwood repair

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ACKNOWLEDGMENTS

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	Action Number: 118399
	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 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

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	Action Number: 118399
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CONDITIONS

Created By	Condition	Condition Date
bwheaton	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.	6/17/2022