

June 22, 2023

**FESCO, Ltd.**  
**1100 Fesco Ave. - Alice, Texas 78332**

**For:** Santo Petroleum, LLC  
P. O. Box 1020  
Artesia, New Mexico 88210

**Sample:** Barney 404H  
3 Phase Separator  
Spot Gas Sample @ 100 psig & 112 °F

Date Sampled: 05/31/2023

Job Number: 232360.001

**CHROMATOGRAPH EXTENDED ANALYSIS - GPA 2286**

COMPONENT	MOL%	GPM
Hydrogen Sulfide*	< 0.001	
Nitrogen	0.769	
Carbon Dioxide	0.105	
Methane	69.479	
Ethane	14.823	4.063
Propane	8.348	2.357
Isobutane	1.151	0.386
n-Butane	2.781	0.899
2-2 Dimethylpropane	0.020	0.008
Isopentane	0.641	0.240
n-Pentane	0.714	0.265
Hexanes	0.457	0.193
Heptanes Plus	<u>0.712</u>	<u>0.304</u>
Totals	100.000	8.715

**Computed Real Characteristics Of Heptanes Plus:**

Specific Gravity ----- 3.424 (Air=1)  
Molecular Weight ----- 98.67  
Gross Heating Value ----- 5331 BTU/CF

**Computed Real Characteristics Of Total Sample:**

Specific Gravity ----- 0.830 (Air=1)  
Compressibility (Z) ----- 0.9950  
Molecular Weight ----- 23.92  
Gross Heating Value  
Dry Basis ----- 1455 BTU/CF  
Saturated Basis ----- 1430 BTU/CF

\*Hydrogen Sulfide tested on location by: Stain Tube Method (GPA 2377)  
Results: <0.013 Gr/100 CF, <0.2 PPMV or <0.001 Mol %

Base Conditions: 15.025 PSI & 60 Deg F

Sampled By: (14) D. Turner  
Analyst: JS  
Processor: DS  
Cylinder ID: T-2279

Certified: FESCO, Ltd. - Alice, Texas

Conan Pierce 361-661-7015

FESCO, Ltd.

Job Number: 232360.001

**CHROMATOGRAPH EXTENDED ANALYSIS - GPA 2286**  
**TOTAL REPORT**

COMPONENT	MOL %	GPM	WT %
Hydrogen Sulfide*	< 0.001		< 0.001
Nitrogen	0.769		0.901
Carbon Dioxide	0.105		0.193
Methane	69.479		46.597
Ethane	14.823	4.063	18.634
Propane	8.348	2.357	15.390
Isobutane	1.151	0.386	2.797
n-Butane	2.781	0.899	6.758
2,2 Dimethylpropane	0.020	0.008	0.060
Isopentane	0.641	0.240	1.933
n-Pentane	0.714	0.265	2.154
2,2 Dimethylbutane	0.007	0.003	0.025
Cyclopentane	0.000	0.000	0.000
2,3 Dimethylbutane	0.047	0.020	0.169
2 Methylpentane	0.139	0.059	0.501
3 Methylpentane	0.076	0.032	0.274
n-Hexane	0.188	0.079	0.677
Methylcyclopentane	0.093	0.034	0.327
Benzene	0.017	0.005	0.056
Cyclohexane	0.108	0.038	0.380
2-Methylhexane	0.026	0.012	0.109
3-Methylhexane	0.029	0.014	0.121
2,2,4 Trimethylpentane	0.019	0.010	0.091
Other C7's	0.061	0.027	0.253
n-Heptane	0.064	0.030	0.268
Methylcyclohexane	0.100	0.041	0.410
Toluene	0.023	0.008	0.089
Other C8's	0.091	0.043	0.419
n-Octane	0.019	0.010	0.091
Ethylbenzene	0.001	0.000	0.004
M & P Xylenes	0.010	0.004	0.044
O-Xylene	0.002	0.001	0.009
Other C9's	0.035	0.018	0.185
n-Nonane	0.005	0.003	0.027
Other C10's	0.007	0.004	0.041
n-Decane	0.001	0.001	0.006
Undecanes (11)	<u>0.001</u>	<u>0.001</u>	<u>0.007</u>
Totals	100.000	8.715	100.000

Computed Real Characteristics of Total Sample

Specific Gravity -----	0.830	(Air=1)
Compressibility (Z) -----	0.9950	
Molecular Weight -----	23.92	
Gross Heating Value		
Dry Basis -----	1455	BTU/CF
Saturated Basis -----	1430	BTU/CF

June 22, 2023

**FESCO, Ltd.**  
**1100 Fesco Ave. - Alice, Texas 78332**

**Sample:** Barney 404H  
 3 Phase Separator  
 Spot Gas Sample @ 100 psig & 112 °F

Date Sampled: 05/31/2023

Job Number: 232360.001

**GLYCALC FORMAT**

COMPONENT	MOL%	GPM	Wt %
Carbon Dioxide	0.105		0.193
Hydrogen Sulfide	< 0.001		< 0.001
Nitrogen	0.769		0.901
Methane	69.479		46.597
Ethane	14.823	4.063	18.634
Propane	8.348	2.357	15.390
Isobutane	1.151	0.386	2.797
n-Butane	2.801	0.906	6.818
Isopentane	0.641	0.240	1.933
n-Pentane	0.714	0.265	2.154
Cyclopentane	0.000	0.000	0.000
n-Hexane	0.188	0.079	0.677
Cyclohexane	0.108	0.038	0.380
Other C6's	0.269	0.114	0.969
Heptanes	0.273	0.117	1.078
Methylcyclohexane	0.100	0.041	0.410
2,2,4 Trimethylpentane	0.019	0.010	0.091
Benzene	0.017	0.005	0.056
Toluene	0.023	0.008	0.089
Ethylbenzene	0.001	0.000	0.004
Xylenes	0.012	0.005	0.053
Octanes Plus	<u>0.159</u>	<u>0.080</u>	<u>0.776</u>
Totals	100.000	8.715	100.000

**Real Characteristics Of Octanes Plus:**

Specific Gravity ----- 4.047 (Air=1)  
 Molecular Weight ----- 116.65  
 Gross Heating Value ----- 6109 BTU/CF

**Real Characteristics Of Total Sample:**

Specific Gravity ----- 0.830 (Air=1)  
 Compressibility (Z) ----- 0.9950  
 Molecular Weight ----- 23.92  
 Gross Heating Value  
   Dry Basis ----- 1455 BTU/CF  
   Saturated Basis ----- 1430 BTU/CF

June 26, 2023

**FESCO, Ltd.**  
**1100 FESCO Avenue - Alice, Texas 78332**

**For:** Santo Petroleum, LLC  
P. O. Box 1020  
Artesia, New Mexico 88210

**Sample:** Barney 404H  
3 Phase Separator Hydrocarbon Liquid  
Sampled @ 100 psig & 112 °F

Date Sampled: 05/31/2023

Job Number: 232360.002

**CHROMATOGRAPH EXTENDED ANALYSIS - GPA 2186-M**

COMPONENT	MOL %	LIQ VOL %	WT %
Nitrogen	0.038	0.007	0.007
Carbon Dioxide	0.014	0.004	0.004
Methane	2.588	0.738	0.286
Ethane	2.907	1.309	0.603
Propane	5.092	2.362	1.549
Isobutane	1.527	0.841	0.612
n-Butane	5.180	2.750	2.077
2,2 Dimethylpropane	0.090	0.058	0.045
Isopentane	2.791	1.719	1.389
n-Pentane	4.024	2.456	2.003
2,2 Dimethylbutane	0.070	0.049	0.041
Cyclopentane	0.000	0.000	0.000
2,3 Dimethylbutane	0.589	0.407	0.350
2 Methylpentane	1.805	1.261	1.073
3 Methylpentane	1.077	0.740	0.640
n-Hexane	3.327	2.304	1.978
Heptanes Plus	<u>68.881</u>	<u>82.993</u>	<u>87.340</u>
Totals:	100.000	100.000	100.000

**Characteristics of Heptanes Plus:**

Specific Gravity -----	0.8139 (Water=1)
°API Gravity -----	42.35 @ 60°F
Molecular Weight -----	183.8
Vapor Volume -----	13.70 CF/Gal
Weight -----	6.78 Lbs/Gal

**Characteristics of Total Sample:**

Specific Gravity -----	0.7734 (Water=1)
°API Gravity -----	51.46 @ 60°F
Molecular Weight -----	144.9
Vapor Volume -----	16.51 CF/Gal
Weight -----	6.44 Lbs/Gal

Base Conditions: 15.025 PSI &amp; 60 °F

Certified: FESCO, Ltd. - Alice, Texas

Sampled By: (14) D. Turner  
Analyst: JL  
Processor: ANBdjv  
Cylinder ID: W-0449

Conan Pierce 361-661-7015

FESCO, Ltd.

Job Number: 232360.002

**TANKS DATA INPUT REPORT - GPA 2186-M**

COMPONENT	Mol %	LiqVol %	Wt %
Carbon Dioxide	0.014	0.004	0.004
Nitrogen	0.038	0.007	0.007
Methane	2.588	0.738	0.286
Ethane	2.907	1.309	0.603
Propane	5.092	2.362	1.549
Isobutane	1.527	0.841	0.612
n-Butane	5.270	2.808	2.122
Isopentane	2.791	1.719	1.389
n-Pentane	4.024	2.456	2.003
Other C-6's	3.541	2.457	2.105
Heptanes	8.759	6.053	5.639
Octanes	11.486	8.834	8.457
Nonanes	5.695	5.173	4.979
Decanes Plus	39.253	60.508	65.658
Benzene	0.246	0.116	0.132
Toluene	0.849	0.479	0.539
E-Benzene	0.455	0.295	0.333
Xylenes	1.500	0.976	1.099
n-Hexane	3.327	2.304	1.978
2,2,4 Trimethylpentane	<u>0.638</u>	<u>0.559</u>	<u>0.503</u>
Totals:	100.000	100.000	100.000

**Characteristics of Total Sample:**

Specific Gravity -----	0.7734	(Water=1)
°API Gravity -----	51.46	@ 60°F
Molecular Weight -----	144.9	
Vapor Volume -----	16.51	CF/Gal
Weight -----	6.44	Lbs/Gal

**Characteristics of Decanes (C10) Plus:**

Specific Gravity -----	0.8392	(Water=1)
Molecular Weight -----	242.4	

**Characteristics of Atmospheric Sample:**

°API Gravity -----	47.53	@ 60°F
Reid Vapor Pressure Equivalent (D-6377) -----	9.63	psi

QUALITY CONTROL CHECK			
	Sampling Conditions	Test Samples	
Cylinder Number	-----	W-0449	-----
Pressure, PSIG	100	100	-----
Skin Temperature, °F	112	112	-----

\* Sample used for analysis

FESCO, Ltd.

Job Number: 232360.002

## TOTAL EXTENDED REPORT - GPA 2186-M

COMPONENT	Mol %	LiqVol %	Wt %
Nitrogen	0.038	0.007	0.007
Carbon Dioxide	0.014	0.004	0.004
Methane	2.588	0.738	0.286
Ethane	2.907	1.309	0.603
Propane	5.092	2.362	1.549
Isobutane	1.527	0.841	0.612
n-Butane	5.180	2.750	2.077
2,2 Dimethylpropane	0.090	0.058	0.045
Isopentane	2.791	1.719	1.389
n-Pentane	4.024	2.456	2.003
2,2 Dimethylbutane	0.070	0.049	0.041
Cyclopentane	0.000	0.000	0.000
2,3 Dimethylbutane	0.589	0.407	0.350
2 Methylpentane	1.805	1.261	1.073
3 Methylpentane	1.077	0.740	0.640
n-Hexane	3.327	2.304	1.978
Methylcyclopentane	1.512	0.901	0.878
Benzene	0.246	0.116	0.132
Cyclohexane	2.181	1.250	1.267
2-Methylhexane	0.867	0.679	0.599
3-Methylhexane	0.840	0.649	0.581
2,2,4 Trimethylpentane	0.638	0.559	0.503
Other C-7's	1.134	0.845	0.776
n-Heptane	2.225	1.728	1.538
Methylcyclohexane	3.988	2.700	2.702
Toluene	0.849	0.479	0.539
Other C-8's	5.535	4.442	4.209
n-Octane	1.962	1.693	1.546
E-Benzene	0.455	0.295	0.333
M & P Xylenes	1.184	0.773	0.867
O-Xylene	0.317	0.203	0.232
Other C-9's	4.354	3.903	3.793
n-Nonane	1.341	1.271	1.187
Other C-10's	4.680	4.610	4.562
n-decane	1.037	1.072	1.018
Undecanes(11)	4.484	4.532	4.548
Dodecanes(12)	3.370	3.679	3.744
Tridecanes(13)	3.368	3.942	4.066
Tetradecanes(14)	2.832	3.551	3.713
Pentadecanes(15)	2.408	3.235	3.423
Hexadecanes(16)	1.859	2.668	2.848
Heptadecanes(17)	1.694	2.571	2.770
Octadecanes(18)	1.576	2.518	2.729
Nonadecanes(19)	1.393	2.319	2.527
Eicosanes(20)	1.086	1.879	2.061
Heneicosanes(21)	0.935	1.702	1.877
Docosanes(22)	0.802	1.523	1.689
Tricosanes(23)	0.724	1.425	1.589
Tetracosanes(24)	0.613	1.249	1.400
Pentacosanes(25)	0.548	1.158	1.303
Hexacosanes(26)	0.487	1.067	1.206
Heptacosanes(27)	0.458	1.040	1.182
Octacosanes(28)	0.383	0.900	1.026
Nonacosanes(29)	0.338	0.821	0.939
Triacotanes(30)	0.291	0.728	0.836
Hentriacotanes Plus(31+)	<u>3.884</u>	<u>12.318</u>	<u>14.605</u>
Total	100.000	100.000	100.000

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Volumes associated with this C-129 filing are estimations and may be subject to change as data is reconciled. The operator's current practice consists of metering volumes and report in accordance with NMAC 19.15.27.

For inquiries regarding this filing, please contact the operator.

Sante Fe Main Office  
Phone: (505) 476-3441

General Information  
Phone: (505) 629-6116

Online Phone Directory  
<https://www.emnrd.nm.gov/ocd/contact-us>

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

DEFINITIONS

Action 409609

DEFINITIONS

Operator: Permian Resources Operating, LLC 300 N. Marienfeld St Ste 1000 Midland, TX 79701	OGRID: 372165
	Action Number: 409609
	Action Type: [C-129] Amend Venting and/or Flaring (C-129A)

DEFINITIONS

<p>For the sake of brevity and completeness, please allow for the following in all groups of questions and for the rest of this application:</p> <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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**State of New Mexico**  
**Energy, Minerals and Natural Resources**  
**Oil Conservation Division**  
**1220 S. St Francis Dr.**  
**Santa Fe, NM 87505**

QUESTIONS

Action 409609

**QUESTIONS**

Operator: Permian Resources Operating, LLC 300 N. Marienfeld St Ste 1000 Midland, TX 79701	OGRID: 372165
	Action Number: 409609
	Action Type: [C-129] Amend Venting and/or Flaring (C-129A)

**QUESTIONS**

<b>Prerequisites</b> <i>Any messages presented in this section, will prevent submission of this application. Please resolve these issues before continuing with the rest of the questions.</i>	
Incident ID (n#)	Unavailable.
Incident Name	Unavailable.
Incident Type	Flare
Incident Status	Unavailable.
Incident Facility	[fAPP2130655643] BARNEY CTB
Only valid Vent, Flare or Vent with Flaring incidents (selected above in the Application Details section) that are assigned to your current operator can be amended with this C-129A application.	

<b>Determination of Reporting Requirements</b> <i>Answer all questions that apply. The Reason(s) statements are calculated based on your answers and may provide additional guidance.</i>	
Was this vent or flare caused by an emergency or malfunction	No
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 within 300 feet from an occupied permanent residence, school, hospital, institution or church in existence	No

<b>Equipment Involved</b>	
Primary Equipment Involved	Not answered.
Additional details for Equipment Involved. Please specify	Not answered.

<b>Representative Compositional Analysis of Vented or Flared Natural Gas</b> <i>Please provide the mole percent for the percentage questions in this group.</i>	
Methane (CH4) percentage	69
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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**Energy, Minerals and Natural Resources**  
**Oil Conservation Division**  
**1220 S. St Francis Dr.**  
**Santa Fe, NM 87505**

QUESTIONS, Page 2

Action 409609

**QUESTIONS (continued)**

Operator: Permian Resources Operating, LLC 300 N. Marienfeld St Ste 1000 Midland, TX 79701	OGRID: 372165
	Action Number: 409609
	Action Type: [C-129] Amend Venting and/or Flaring (C-129A)

**QUESTIONS**

Date(s) and Time(s)	
Date vent or flare was discovered or commenced	11/29/2024
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	Not answered.
Natural Gas Flared (Mcf) Details	Cause: Equipment Failure   Pipeline (Any)   Natural Gas Flared   Released: 591 Mcf   Recovered: 0 Mcf   Lost: 591 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	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	
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	Wellhead choke failed during comp maintenance, Wellhead choke failed during comp maintenance
Steps taken to limit the duration and magnitude of vent or flare	Open valves to divert gas to a second midstream company to relive pressure off the line
Corrective actions taken to eliminate the cause and reoccurrence of vent or flare	Clear consistent communication with midstream provider



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Oil Conservation Division  
1220 S. St Francis Dr.  
Santa Fe, NM 87505

ACKNOWLEDGMENTS

Action 409609

ACKNOWLEDGMENTS

Operator: Permian Resources Operating, LLC 300 N. Marienfeld St Ste 1000 Midland, TX 79701	OGRID: 372165
	Action Number: 409609
	Action Type: [C-129] Amend Venting and/or Flaring (C-129A)

ACKNOWLEDGMENTS

<input checked="" type="checkbox"/>	I acknowledge that with this application I will be amending an existing incident file (assigned to this operator) for a vent or flare event, pursuant to 19.15.27 and 19.15.28 NMAC.
<input checked="" type="checkbox"/>	I acknowledge that amending an incident file does not replace original submitted application(s) or information and understand that any C-129 forms submitted to the OCD will be logged and stored as public record.
<input checked="" type="checkbox"/>	I hereby certify the statements in this amending 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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Energy, Minerals and Natural Resources  
Oil Conservation Division  
1220 S. St Francis Dr.  
Santa Fe, NM 87505

CONDITIONS

Action 409609

CONDITIONS

Operator: Permian Resources Operating, LLC 300 N. Marienfeld St Ste 1000 Midland, TX 79701	OGRID: 372165
	Action Number: 409609
	Action Type: [C-129] Amend Venting and/or Flaring (C-129A)

CONDITIONS

Created By	Condition	Condition Date
cmevans	If the information provided in this report requires further amendment(s), submit a [C-129] Amend Venting and/or Flaring Incident (C-129A), utilizing your incident number from this event.	12/7/2024