



Element Material Technology  
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**Analysis Report No:** 237804-8 -17

**Date:** 4/17/2018

**For:** COVEYPARK ENERGY  
 Attn: KENT WAKELEY  
 4591 FIRETOWER ROAD  
 GRAND CANE, LA 71032

**Sample Identification:**  
**Company:** COVEYPARK ENERGY  
**Field:** BETHANY LONGSTREET  
**Lease:** SIMONTON 23 H-1  
**STA # :** 0335010081

**Sample Data:** **Date:** 04/12/2018  
**PSIG:** 280

**By:** K. WAKELY  
**Temp:** 80 DEG. F.

**Remarks:** SURFACE CASING

CYL # 1438

**Sample Type:** SPOT

**Effective Date:** 04/01/2018

**SULFUR ANALYSIS (GPA-2199/ASTM-5504)**

<b><u>SULFIDES</u></b>		<b><u>MERCAPTANS</u></b>		<b><u>DISULFIDES</u></b>	
	<b>PPM (WT.)</b>		<b>PPM (WT.)</b>		<b>PPM (WT.)</b>
HYDROGEN	N/D	METHYL	N/D	CARBON	N/D
CARBONYL	N/D	ETHYL	N/D	DIMETHYL	N/D
DIMETHYL	N/D	ISOPROPYL	N/D	METHYL-ETHYL	N/D
METHYL-ETHYL	N/D	N-PROPYL	N/D	DIETHYL	N/D
DIETHYL	N/D	ISOBUTYL	N/D	DIISOPROPYL	N/D
DIISOPROPYL	N/D	SEC-BUTYL	N/D	DI-N-PROPYL	N/D
DI-N-PROPYL	N/D	TERT-BUTYL	N/D	DIISOBUTYL	N/D
DIISOBUTYL	N/D	N-BUTYL	N/D	DI-SEC-BUTYL	N/D
DI-SEC-BUTYL	N/D	ISOAMYL	N/D	DI-TERT-BUTYL	N/D
DI-TERT-BUTYL	N/D	PRI-AMYL	N/D	DI-N-BUTYL	N/D
DI-N-BUTYL	N/D	N-AMYL	N/D		

TOTAL SULFUR (GPA-2199/ASTM-5504)

0.0 PPM BY WT

**OTHERS**

N/D = Non Detected

	<b>PPM (WT.)</b>
THIOPHENE	N/D
UNKNOWN	N/D
SULFUR DIOXIDE	N/D

**SULFUR CONVERSIONS**

TOTAL SULFUR	0.00	ppm mole
TOTAL SULFUR	0.000	grains/100 cuft
HYDROGEN SULFIDE	0.00	ppm vol
HYDROGEN SULFIDE	0.000	grains/100 cuft
"ODORANT" CONCENTRATION	0.00	lbs/Mmcf
CO2 PARTIAL PRESSURE	0.00	psia

Quality Officer:

Tina Venable, Customer Service Representative

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**Gas Analysis Report No:** 237804-7 -6

**Reported Date:** 4/17/2018

**For:** COVEYPARK ENERGY  
 Attn: KENT WAKELEY  
 4591 FIRETOWER ROAD  
 GRAND CANE, LA 71032

**Sample Identification:**  
**Company:** COVEYPARK ENERGY  
**Field:** BETHANY LONGSTREET  
**Lease:** SIMONTON 23 H-1  
**STA # :** 0335010081

**Sample Data:** **Date Collected:** 04/12/2018  
**PSIG:** 280

**Date Received:** 04/13/2018 **By:** K. WAKELY  
**Temp:** 80 DEG. F.

**Remarks:** SURFACE CASING

CYL # 1438

**Sample Type:** SPOT **Effective Date:** 04/01/2018

**Analyst:** GG

**Hydrocarbon Analysis - GPA 2261-13**

Component Name	Mol Percent	GPM @ 14.730 PSIA
Carbon Dioxide (CO2)	0.000	
Nitrogen (N2)	18.935	
Methane (C1)	80.754	
Ethane (C2)	0.264	0.071
Propane (C3)	0.031	0.008
Iso-Butane (IC4)	0.012	0.004
N-Butane (NC4)	0.002	0.001
Iso-Pentane (IC5)	0.001	0.000
N-Pentane (NC5)	0.001	0.000
Hexanes Plus (C6+)	0.000	0.000
<b>Total</b>	<b>100.000</b>	

**Mol Weight:** 18.36  
**BTU/LB:** 16979.72

**Ethane + GPM:** 0.084  
**Propane + GPM:** 0.013  
**Iso-Pentane + GPM:** 0.000

**Compressibility Factor:** 0.9984

**Specific Gravity @ 60 Deg. F. (Air = 1) :** 0.635

BTU/Cuft. (Real) 60 Deg. F. - PSIA:	14.650	14.696	14.730	15.025
<b>Dry:</b>	820.3	822.9	824.8	841.3
<b>Sat:</b>	806.2	808.8	810.6	826.9

Reviewed By:

Tina Venable, Customer Service Representative

Data Reviewer

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Gas Analysis Report No: 237804

237804-7 -22

Date: 4/17/2018

For: COVEYPARK ENERGY  
Attn: KENT WAKELEY  
4591 FIRETOWER ROAD  
GRAND CANE, LA 71032

Sample Identification:  
Company: COVEYPARK ENERGY  
Field: BETHANY LONGSTREET  
Lease: SIMONTON 23 H-1

STA # : 0335010081

237804-7

CAPILLARY ANALYSIS - METHOD GPA 2286-95  
COMPONENT AS % OF TOTAL SAMPLE

COMPONENT NAME	MOL %	WEIGHT %
METHANE	0.0000	0.0000
ETHANE	0.0000	0.0000
PROPANE	0.0000	0.0000
ISO-BUTANE	0.0000	0.0000
N-BUTANE	0.0000	0.0000
2,2-DIMETHYLPROPANE (NEOPENTANE)	0.0000	0.0000
ISOPENTANE	0.0000	0.0000
N-PENTANE	0.0000	0.0000
2,2-DIMETHYLBUTANE (NEOHEXANE)	0.0000	0.0000
2,3-DIMETHYLBUTANE	0.0000	0.0000
CYCLOPENTANE	0.0000	0.0000
2-METHYLPENTANE	0.0000	0.0000
3-METHYLPENTANE	0.0000	0.0000
N-HEXANE	0.0000	0.0000
2,2-DIMETHYLPENTANE	0.0000	0.0000
METHYLCYCLOPENTANE	0.0000	0.0000
2,4-DIMETHYLPENTANE	0.0000	0.0000
2,2,3-TRIMETHYLBUTANE	0.0000	0.0000
BENZENE	0.0000	0.0000
3,3-DIMETHYLPENTANE	0.0000	0.0000
CYCLOHEXANE	0.0000	0.0000
2-METHYLHEXANE	0.0000	0.0000
2,3-DIMETHYLPENTANE	0.0000	0.0000
1,1-DIMETHYLCYCLOPENTANE	0.0000	0.0000
3-METHYLHEXANE	0.0000	0.0000

**CAPILLARY ANALYSIS - METHOD GPA 2286-95  
COMPONENT AS % OF TOTAL SAMPLE**

COMPONENT NAME	MOL %	WEIGHT %
1,t3-DIMETHYLCYCLOPENTANE	0.0000	0.0000
1,c3-DIMETHYLCYCLOPENTANE 3-ETHYLPENTANE	0.0000	0.0000
1,t2-DIMETHYLCYCLOPENTANE 2,2,4-TRIMETHYLPENTANE	0.0000	0.0000
N-HEPTANE	0.0000	0.0000
METHYLCYCLOHEXANE 1,1,3-TRIMETHYLCYCLOPENTANE 2,2-DIMETHYLHEXANE	0.0000	0.0000
1,C2-DIMETHYLCYCLOPENTANE	0.0000	0.0000
2,5-DIMETHYLHEXANE	0.0000	0.0000
2,4-DIMETHYLHEXANE 2,2,3-TRIMETHYLPENTANE ETHYLCYCLOPENTANE	0.0000	0.0000
1,t2,c4-TRIMETHYLCYCLOPENTANE 3,3-DIMETHYLHEXANE	0.0000	0.0000
1,t2,C3-TRIMETHYLCYCLOPENTANE	0.0000	0.0000
2,3,4-TRIMETHYLPENTANE	0.0000	0.0000
TOLUENE	0.0000	0.0000
2,3-DIMETHYLHEXANE	0.0000	0.0000
1,1,2-TRIMETHYLCYCLOPENTANE	0.0000	0.0000
2-METHYLHEPTANE	0.0000	0.0000
4-METHYLHEPTANE	0.0000	0.0000
3,4-DIMETHYLHEXANE	0.0000	0.0000
3-METHYLHEPTANE 3-ETHYLHEXANE	0.0000	0.0000
1,c3-DIMETHYLCYCLOHEXANE 1,c2,t3-TRIMETHYLCYCLOPENTANE 1,c2,t4-TRIMETHYLCYCLOPENTANE	0.0000	0.0000
1,t4-DIMETHYLCYCLOHEXANE	0.0000	0.0000
2,2,5-TRIMETHYLHEXANE	0.0000	0.0000
1,1-DIMETHYLCYCLOHEXANE 1,methyl-t3-ETHYLCYCLOPENTANE	0.0000	0.0000
1-methyl-C3-ETHYLCYCLOPENTANE	0.0000	0.0000
1-methyl-t2-ETHYLCYCLOPENTANE 2,2,4-TRIMETHYLHEXANE	0.0000	0.0000
1-methyl-1-ETHYLCYCLOPENTANE CYCLOHEPTANE	0.0000	0.0000
N-OCTANE		
1,T2-DIMETHYLCYCLOCHEXANE	0.0000	0.0000
UNKNOWN	0.0000	0.0000
1,t3-DIMETHYLCYCLOHEXANE 1,c4-DIMETHYLCYCLOHEXANE 1,c2,c3-TRIMETHYLCYCLOPENTANE	0.0000	0.0000
2,4,4-TRIMETHYLHEXANE	0.0000	0.0000
ISOPROPYLCYCLOPENTANE	0.0000	0.0000

**CAPILLARY ANALYSIS - METHOD GPA 2286-95  
COMPONENT AS % OF TOTAL SAMPLE**

COMPONENT NAME	MOL %	WEIGHT %
UNKNOWN	0.0000	0.0000
2,2-DIMETHYLHEPTANE	0.0000	0.0000
2,4-DIMETHYLHEPTANE	0.0000	0.0000
1-methyl-c2-ETHYLCYCLOPENTANE		
2,2,3-TRIMETHYLHEXANE	0.0000	0.0000
1,c2-DIMETHYLCYCLOHEXANE	0.0000	0.0000
2,6-DIMETHYLHEPTANE		
N-PROPYLCYCLOPENTANE	0.0000	0.0000
1,c3,c5-TRIMETHYLCYCLOHEXANE		
2,5-DIMETHYLHEPTANE	0.0000	0.0000
3,5-DIMETHYLHEPTANE		
ETHYLCYCLOHEXANE		
1,1,3-TRIMETHYLCYCLOHEXANE	0.0000	0.0000
2,3,3-TRIMETHYLHEXANE		
3,3-DIMETHYLHEPTANE		
1,1,4-TRIMETHYLCYCLOHEXANE	0.0000	0.0000
UNKNOWN	0.0000	0.0000
2,3,4-TRIMETHYLHEXANE	0.0000	0.0000
ETHYLBENZENE	0.0000	0.0000
1,t2,t4-TRIMETHYLCYCLOHEXANE	0.0000	0.0000
1,c3,t5-TRIMETHYLCYCLOHEXANE		
2,3-DIMETHYLHEPTANE		
M-XYLENE	0.0000	0.0000
P-XYLENE		
3,4-DIMETHYLHEPTANE		
2-METHYLOCTANE	0.0000	0.0000
4-METHYLOCTANE		
UNKNOWN	0.0000	0.0000
3-METHYLOCTANE	0.0000	0.0000
UNKNOWN	0.0000	0.0000
1,t2,c3-TRIMETHYLCYCLOHEXANE	0.0000	0.0000
1,t2,c4-TRIMETHYLCYCLOHEXANE		
O-XYLENE	0.0000	0.0000
1,1,2-TRIMETHYLCYCLOHEXANE	0.0000	0.0000
UNKNOWN	0.0000	0.0000
ISOBUTYLCYCLOPENTANE	0.0000	0.0000
N-NONANE	0.0000	0.0000
UNKNOWN	0.0000	0.0000
1,c2,c3-TRIMETHYLCYCLOHEXANE	0.0000	0.0000
1,c2,t3-TRIMETHYLCYCLOHEXANE		
UNKNOWN	0.0000	0.0000
ISOPROPYLBENZENE	0.0000	0.0000
2,2-DIMETHYLOCTANE	0.0000	0.0000
ISOPROPYLCYCLOHEXANE	0.0000	0.0000
CYCLOOCTANE		
UNKNOWN	0.0000	0.0000

**CAPILLARY ANALYSIS - METHOD GPA 2286-95  
COMPONENT AS % OF TOTAL SAMPLE**

<b>COMPONENT NAME</b>	<b>MOL %</b>	<b>WEIGHT %</b>
N-BUTYLCYCLOPENTANE N-PROPYLCYCLOHEXANE	0.0000	0.0000
3,3-DIMETHYLOCTANE	0.0000	0.0000
UNKNOWN	0.0000	0.0000
N-PROPYLBENZENE	0.0000	0.0000
UNKNOWN	0.0000	0.0000
M-ETHYLTOLUENE	0.0000	0.0000
P-ETHYLTOLUENE 2,3-DIMETHYLOCTANE	0.0000	0.0000
4-METHYLNONANE 5-METHYLNONANE	0.0000	0.0000
1,3,5-TRIMETHYLBENZENE		
2-METHYLNONANE	0.0000	0.0000
3-ETHYLOCTANE	0.0000	0.0000
O-ETHYLTOLUENE 3-METHYLNONANE	0.0000	0.0000
UNKNOWN	0.0000	0.0000
1,2,4-TRIMETHYLBENZENE t-BUTYLBENZENE	0.0000	0.0000
METHYLCYCLOOCTANE tert-BUTYLCYCLOHEXANE	0.0000	0.0000
ISO-BUTYLCYCLOHEXANE	0.0000	0.0000
N-DECANE	0.0000	0.0000
ISOBUTYLBENZENE	0.0000	0.0000
sec-BUTYLBENZENE	0.0000	0.0000
UNKNOWN	0.0000	0.0000
1-METHYL-3-ISOPROPYLBENZENE	0.0000	0.0000
1,2,3-TRIMETHYLBENZENE 1-METHYL-4-ISOPROPYLBENZENE	0.0000	0.0000
UNKNOWN	0.0000	0.0000
1-METHYL-2-ISOPROPYLBENZENE	0.0000	0.0000
UNKNOWN	0.0000	0.0000
N-BUTYLCYCLOHEXANE	0.0000	0.0000
UNKNOWN	0.0000	0.0000
1,3-DIETHYLBENZENE 1-METHYL-3-PROPYLBENZENE	0.0000	0.0000
1,2-DIETHYLBENZENE N-BUTYLBENZENE	0.0000	0.0000
1-METHYL-4-PROPYLBENZENE		
1,4-DIETHYLBENZENE	0.0000	0.0000
1-METHYL-2-PROPYLBENZENE	0.0000	0.0000
1,4-DIMETHYL-2-ETHYLBENZENE	0.0000	0.0000
UNKNOWN	0.0000	0.0000

**CAPILLARY ANALYSIS - METHOD GPA 2286-95  
COMPONENT AS % OF TOTAL SAMPLE**

<b>COMPONENT NAME</b>	<b>MOL %</b>	<b>WEIGHT %</b>
1,2-DIMETHYL-4-ETHYLBENZENE	0.0000	0.0000
1,3-DIMETHYL-2-ETHYLBENZENE	0.0000	0.0000
UNKNOWN	0.0000	0.0000
1,2-DIMETHYL-3-ETHYLBENZENE	0.0000	0.0000
UNKNOWN	0.0000	0.0000
N-UNDECANE	0.0000	0.0000
UNKNOWN	0.0000	0.0000
1,2,4,5-TETRAMETHYLBENZENE	0.0000	0.0000
1,2,3,5-TETRAMETHYLBENZENE	0.0000	0.0000
UNKNOWN	0.0000	0.0000
1,2,3,4-TETRAMETHYLBENZENE	0.0000	0.0000
CYCLODECANE	0.0000	0.0000
UNKNOWN	0.0000	0.0000
NAPHTHALENE	0.0000	0.0000
N-DODECANE	0.0000	0.0000
ISOTRIDECANES PLUS	0.0000	0.0000
<b>Total:</b>	0.0000	0.0000

TOTAL HEXANES		
TOTAL HEPTANES	0.0000	0.0000
TOTAL OCTANES	0.0000	0.0000
TOTAL NONANES	0.0000	0.0000
TOTAL DECANES PLUS	0.0000	0.0000

**BTEX COMPONENTS**

N-HEXANE		
BENZENE		
TOLUENE	0.0000	0.0000
ETHYLBENZENE	0.0000	0.0000
XYLENE	0.0000	0.0000



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**Analysis Report No:** 237804-6 -5

**Date:** 4/17/2018

**For:** COVEYPARK ENERGY  
 Attn: KENT WAKELEY  
 4591 FIRETOWER ROAD  
 GRAND CANE, LA 71032

**Sample Identification:**  
**Company:** COVEYPARK ENERGY  
**Field:** BETHANY LONGSTREET  
**Lease:** BAGLEY 35H-1  
**STA # :** 0335010075

**Sample Data:** **Date:** 04/12/2018  
**PSIG:** 320

**By:** K. WAKELY  
**Temp:** 80 DEG. F.

**Remarks:** SURFACE CASING

CYL # 2791

**Sample Type:** SPOT

**Effective Date:** 04/01/2018

**SULFUR ANALYSIS (GPA-2199/ASTM-5504)**

<u>SULFIDES</u>		<u>MERCAPTANS</u>		<u>DISULFIDES</u>	
	PPM (WT.)		PPM (WT.)		PPM (WT.)
HYDROGEN	N/D	METHYL	N/D	CARBON	N/D
CARBONYL	N/D	ETHYL	N/D	DIMETHYL	N/D
DIMETHYL	N/D	ISOPROPYL	N/D	METHYL-ETHYL	N/D
METHYL-ETHYL	N/D	N-PROPYL	N/D	DIETHYL	N/D
DIETHYL	N/D	ISOBUTYL	N/D	DIISOPROPYL	N/D
DIISOPROPYL	N/D	SEC-BUTYL	N/D	DI-N-PROPYL	N/D
DI-N-PROPYL	N/D	TERT-BUTYL	N/D	DIISOBUTYL	N/D
DIISOBUTYL	N/D	N-BUTYL	N/D	DI-SEC-BUTYL	N/D
DI-SEC-BUTYL	N/D	ISOAMYL	N/D	DI-TERT-BUTYL	N/D
DI-TERT-BUTYL	N/D	PRI-AMYL	N/D	DI-N-BUTYL	N/D
DI-N-BUTYL	N/D	N-AMYL	N/D		

TOTAL SULFUR (GPA-2199/ASTM-5504)

0.0 PPM BY WT

**OTHERS**

N/D = Non Detected

	PPM (WT.)
THIOPHENE	N/D
UNKNOWN	N/D
SULFUR DIOXIDE	N/D

**SULFUR CONVERSIONS**

TOTAL SULFUR	0.00	ppm mole
TOTAL SULFUR	0.000	grains/100 cuft
HYDROGEN SULFIDE	0.00	ppm vol
HYDROGEN SULFIDE	0.000	grains/100 cuft
"ODORANT" CONCENTRATION	0.00	lbs/Mmcf
CO2 PARTIAL PRESSURE	0.00	psia

Quality Officer:

Tina Venable, Customer Service Representative

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**Gas Analysis Report No:** 237804-5-18

**Reported Date:** 4/17/2018

**For:** COVEYPARK ENERGY  
 Attn: KENT WAKELEY  
 4591 FIRETOWER ROAD  
 GRAND CANE, LA 71032

**Sample Identification:**  
**Company:** COVEYPARK ENERGY  
**Field:** BETHANY LONGSTREET  
**Lease:** BAGLEY 35H-1  
**STA # :** 0335010075

**Sample Data:** **Date Collected:** 04/12/2018  
**PSIG:** 320

**Date Received:** 04/13/2018 **By:** K. WAKELY  
**Temp:** 80 **DEG. F.**

**Remarks:** SURFACE CASING

CYL # 2791

**Sample Type:** SPOT **Effective Date:** 04/01/2018

**Analyst:** GG

**Hydrocarbon Analysis - GPA 2261-13**

Component Name	Mol Percent	GPM @ 14.730 PSIA
Carbon Dioxide (CO2)	0.000	
Nitrogen (N2)	3.878	
Methane (C1)	94.174	
Ethane (C2)	1.365	0.366
Propane (C3)	0.390	0.108
Iso-Butane (IC4)	0.097	0.032
N-Butane (NC4)	0.059	0.019
Iso-Pentane (IC5)	0.016	0.006
N-Pentane (NC5)	0.007	0.003
Hexanes Plus (C6+)	0.014	0.006
<b>Total</b>	<b>100.000</b>	

**Mol Weight:** 16.90  
**BTU/LB:** 22275.32

**Ethane + GPM:** 0.540  
**Propane + GPM:** 0.174  
**Iso-Pentane + GPM:** 0.015

**Compressibility Factor:** 0.9980  
**Specific Gravity @ 60 Deg. F. (Air = 1) :** 0.584

BTU/Cuft. (Real) 60 Deg. F. - PSIA:	14.650	14.696	14.730	15.025
<b>Dry:</b>	990.7	993.8	996.1	1016.1
<b>Sat:</b>	973.7	976.8	979.1	998.7

Reviewed By:   
 Tina Venable, Customer Service Representative  
 Data Reviewer

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Gas Analysis Report No: 237804

237804-5 -22

Date: 4/17/2018

For: COVEYPARK ENERGY  
Attn: KENT WAKELEY  
4591 FIRETOWER ROAD  
GRAND CANE, LA 71032

Sample Identification:  
Company: COVEYPARK ENERGY  
Field: BETHANY LONGSTREET  
Lease: BAGLEY 35H-1

STA # : 0335010075

237804-5

CAPILLARY ANALYSIS - METHOD GPA 2286-95  
COMPONENT AS % OF TOTAL SAMPLE

COMPONENT NAME	MOL %	WEIGHT %
METHANE	0.0000	0.0000
ETHANE	0.0000	0.0000
PROPANE	0.0000	0.0000
ISO-BUTANE	0.0000	0.0000
N-BUTANE	0.0000	0.0000
2,2-DIMETHYLPROPANE (NEOPENTANE)	0.0000	0.0000
ISOPENTANE	0.0000	0.0000
N-PENTANE	0.0000	0.0000
2,2-DIMETHYLBUTANE (NEOHEXANE)	0.0009	0.0038
2,3-DIMETHYLBUTANE	0.0006	0.0023
CYCLOPENTANE		
2-METHYLPENTANE	0.0026	0.0115
3-METHYLPENTANE	0.0010	0.0043
N-HEXANE	0.0014	0.0061
2,2-DIMETHYLPENTANE	0.0002	0.0008
METHYLCYCLOPENTANE	0.0000	0.0002
2,4-DIMETHYLPENTANE	0.0002	0.0009
2,2,3-TRIMETHYLBUTANE	0.0000	0.0001
BENZENE	0.0001	0.0002
3,3-DIMETHYLPENTANE	0.0000	0.0002
CYCLOHEXANE	0.0000	0.0002
2-METHYLHEXANE	0.0004	0.0023
2,3-DIMETHYLPENTANE	0.0001	0.0005
1,1-DIMETHYLCYCLOPENTANE	0.0003	0.0017
3-METHYLHEXANE		

**CAPILLARY ANALYSIS - METHOD GPA 2286-95  
COMPONENT AS % OF TOTAL SAMPLE**

COMPONENT NAME	MOL %	WEIGHT %
1,t3-DIMETHYLCYCLOPENTANE	0.0000	0.0001
1,c3-DIMETHYLCYCLOPENTANE 3-ETHYLPENTANE	0.0000	0.0001
1,t2-DIMETHYLCYCLOPENTANE 2,2,4-TRIMETHYLPENTANE	0.0000	0.0001
N-HEPTANE	0.0004	0.0019
METHYLCYCLOHEXANE 1,1,3-TRIMETHYLCYCLOPENTANE 2,2-DIMETHYLHEXANE	0.0002	0.0008
1,C2-DIMETHYLCYCLOPENTANE	0.0000	0.0001
2,5-DIMETHYLHEXANE	0.0001	0.0003
2,4-DIMETHYLHEXANE 2,2,3-TRIMETHYLPENTANE ETHYLCYCLOPENTANE	0.0001	0.0004
1,t2,c4-TRIMETHYLCYCLOPENTANE 3,3-DIMETHYLHEXANE	0.0000	0.0002
1,t2,C3-TRIMETHYLCYCLOPENTANE	0.0000	0.0000
2,3,4-TRIMETHYLPENTANE	0.0000	0.0000
TOLUENE	0.0001	0.0003
2,3-DIMETHYLHEXANE	0.0000	0.0001
1,1,2-TRIMETHYLCYCLOPENTANE	0.0000	0.0000
2-METHYLHEPTANE	0.0002	0.0013
4-METHYLHEPTANE	0.0001	0.0003
3,4-DIMETHYLHEXANE	0.0000	0.0001
3-METHYLHEPTANE 3-ETHYLHEXANE	0.0001	0.0009
1,c3-DIMETHYLCYCLOHEXANE 1,c2,t3-TRIMETHYLCYCLOPENTANE 1,c2,t4-TRIMETHYLCYCLOPENTANE	0.0001	0.0005
1,t4-DIMETHYLCYCLOHEXANE	0.0000	0.0002
2,2,5-TRIMETHYLHEXANE	0.0000	0.0000
1,1-DIMETHYLCYCLOHEXANE 1,methyl-t3-ETHYLCYCLOPENTANE	0.0000	0.0001
1-methyl-C3-ETHYLCYCLOPENTANE	0.0000	0.0000
1-methyl-t2-ETHYLCYCLOPENTANE 2,2,4-TRIMETHYLHEXANE	0.0000	0.0001
1-methyl-1-ETHYLCYCLOPENTANE CYCLOHEPTANE	0.0004	0.0025
N-OCTANE		
1,T2-DIMETHYLCYCLOCHEXANE	0.0001	0.0004
UNKNOWN	0.0000	0.0000
1,t3-DIMETHYLCYCLOHEXANE 1,c4-DIMETHYLCYCLOHEXANE 1,c2,c3-TRIMETHYLCYCLOPENTANE	0.0000	0.0003
2,4,4-TRIMETHYLHEXANE	0.0000	0.0000
ISOPROPYLCYCLOPENTANE	0.0000	0.0001

**CAPILLARY ANALYSIS - METHOD GPA 2286-95**  
**COMPONENT AS % OF TOTAL SAMPLE**

COMPONENT NAME	MOL %	WEIGHT %
UNKNOWN	0.0000	0.0001
2,2-DIMETHYLHEPTANE	0.0000	0.0002
2,4-DIMETHYLHEPTANE	0.0001	0.0003
1-methyl-c2-ETHYLCYCLOPENTANE		
2,2,3-TRIMETHYLHEXANE	0.0000	0.0000
1,c2-DIMETHYLCYCLOHEXANE	0.0001	0.0007
2,6-DIMETHYLHEPTANE		
N-PROPYLCYCLOPENTANE	0.0000	0.0001
1,c3,c5-TRIMETHYLCYCLOHEXANE		
2,5-DIMETHYLHEPTANE	0.0002	0.0011
3,5-DIMETHYLHEPTANE		
ETHYLCYCLOHEXANE		
1,1,3-TRIMETHYLCYCLOHEXANE	0.0001	0.0005
2,3,3-TRIMETHYLHEXANE		
3,3-DIMETHYLHEPTANE		
1,1,4-TRIMETHYLCYCLOHEXANE	0.0000	0.0001
UNKNOWN	0.0000	0.0000
2,3,4-TRIMETHYLHEXANE	0.0000	0.0000
ETHYLBENZENE	0.0000	0.0001
1,t2,t4-TRIMETHYLCYCLOHEXANE	0.0001	0.0008
1,c3,t5-TRIMETHYLCYCLOHEXANE		
2,3-DIMETHYLHEPTANE		
M-XYLENE	0.0001	0.0003
P-XYLENE		
3,4-DIMETHYLHEPTANE		
2-METHYLOCTANE	0.0003	0.0017
4-METHYLOCTANE		
UNKNOWN	0.0000	0.0000
3-METHYLOCTANE	0.0002	0.0013
UNKNOWN	0.0000	0.0000
1,t2,c3-TRIMETHYLCYCLOHEXANE	0.0000	0.0002
1,t2,c4-TRIMETHYLCYCLOHEXANE		
O-XYLENE	0.0000	0.0001
1,1,2-TRIMETHYLCYCLOHEXANE	0.0001	0.0004
UNKNOWN	0.0001	0.0004
ISOBUTYLCYCLOPENTANE	0.0000	0.0002
N-NONANE	0.0005	0.0032
UNKNOWN	0.0000	0.0000
1,c2,c3-TRIMETHYLCYCLOHEXANE	0.0000	0.0001
1,c2,t3-TRIMETHYLCYCLOHEXANE		
UNKNOWN	0.0000	0.0000
ISOPROPYLBENZENE	0.0000	0.0001
2,2-DIMETHYLOCTANE	0.0001	0.0006
ISOPROPYLCYCLOHEXANE	0.0001	0.0004
CYCLOOCTANE		
UNKNOWN	0.0000	0.0000

**CAPILLARY ANALYSIS - METHOD GPA 2286-95**  
**COMPONENT AS % OF TOTAL SAMPLE**

COMPONENT NAME	MOL %	WEIGHT %
N-BUTYLCYCLOPENTANE	0.0001	0.0006
N-PROPYLCYCLOHEXANE		
3,3-DIMETHYLOCTANE	0.0000	0.0001
UNKNOWN	0.0000	0.0000
N-PROPYLBENZENE	0.0002	0.0014
UNKNOWN	0.0001	0.0005
M-ETHYLTOLUENE	0.0000	0.0003
P-ETHYLTOLUENE	0.0001	0.0006
2,3-DIMETHYLOCTANE		
4-METHYLNONANE	0.0001	0.0007
5-METHYLNONANE		
1,3,5-TRIMETHYLBENZENE		
2-METHYLNONANE	0.0001	0.0007
3-ETHYLOCTANE	0.0001	0.0004
O-ETHYLTOLUENE	0.0001	0.0006
3-METHYLNONANE		
UNKNOWN	0.0000	0.0001
1,2,4-TRIMETHYLBENZENE	0.0001	0.0004
t-BUTYLBENZENE		
METHYLCYCLOOCTANE		
tert-BUTYLCYCLOHEXANE	0.0001	0.0010
ISO-BUTYLCYCLOHEXANE	0.0000	0.0002
N-DECANE	0.0003	0.0023
ISOBUTYLBENZENE	0.0000	0.0000
sec-BUTYLBENZENE	0.0000	0.0000
UNKNOWN	0.0001	0.0007
1-METHYL-3-ISOPROPYLBENZENE	0.0001	0.0005
1,2,3-TRIMETHYLBENZENE	0.0001	0.0005
1-METHYL-4-ISOPROPYLBENZENE		
UNKNOWN	0.0000	0.0003
1-METHYL-2-ISOPROPYLBENZENE	0.0000	0.0002
UNKNOWN	0.0000	0.0000
N-BUTYLCYCLOHEXANE	0.0001	0.0005
UNKNOWN	0.0000	0.0002
1,3-DIETHYLBENZENE	0.0000	0.0002
1-METHYL-3-PROPYLBENZENE		
1,2-DIETHYLBENZENE	0.0000	0.0003
N-BUTYLBENZENE		
1-METHYL-4-PROPYLBENZENE		
1,4-DIETHYLBENZENE	0.0000	0.0002
1-METHYL-2-PROPYLBENZENE	0.0000	0.0002
1,4-DIMETHYL-2-ETHYLBENZENE	0.0001	0.0004
UNKNOWN	0.0000	0.0001

237804-5

**CAPILLARY ANALYSIS - METHOD GPA 2286-95  
COMPONENT AS % OF TOTAL SAMPLE**

<b>COMPONENT NAME</b>	<b>MOL %</b>	<b>WEIGHT %</b>
1,2-DIMETHYL-4-ETHYLBENZENE	0.0000	0.0000
1,3-DIMETHYL-2-ETHYLBENZENE	0.0000	0.0001
UNKNOWN	0.0000	0.0000
1,2-DIMETHYL-3-ETHYLBENZENE	0.0000	0.0000
UNKNOWN	0.0000	0.0000
N-UNDECANE	0.0001	0.0010
UNKNOWN	0.0000	0.0000
1,2,4,5-TETRAMETHYLBENZENE	0.0000	0.0001
1,2,3,5-TETRAMETHYLBENZENE	0.0000	0.0002
UNKNOWN	0.0000	0.0000
1,2,3,4-TETRAMETHYLBENZENE	0.0000	0.0001
CYCLODECANE		
UNKNOWN	0.0000	0.0002
NAPHTHALENE	0.0000	0.0001
N-DODECANE	0.0000	0.0003
ISOTRIDECANES PLUS	0.0000	0.0001
<b>Total:</b>	0.0140	0.0754

TOTAL HEXANES	0.0063	0.0279
TOTAL HEPTANES	0.0018	0.0092
TOTAL OCTANES	0.0015	0.0086
TOTAL NONANES	0.0019	0.0122
TOTAL DECANES PLUS	0.0025	0.0175

**BTEX COMPONENTS**

N-HEXANE	0.0014	0.0061
BENZENE	0.0001	0.0002
TOLUENE	0.0001	0.0003
ETHYLBENZENE	0.0000	0.0001
XYLENE	0.0001	0.0004

**237804-5**
**CAPILLARY ANALYSIS - METHOD GPA 2286-95  
 HEAVY END FRACTION**

COMPONENT NAME	MOL %	WEIGHT %
METHANE	0.000	0.000
ETHANE	0.000	0.000
PROPANE	0.000	0.000
ISO-BUTANE	0.000	0.000
N-BUTANE	0.000	0.000
2,2-DIMETHYLPROPANE (NEOPENTANE)	0.000	0.000
ISOPENTANE	0.000	0.000
N-PENTANE	0.000	0.000
2,2-DIMETHYLBUTANE (NEOHEXANE)	6.086	5.035
2,3-DIMETHYLBUTANE	4.053	3.041
CYCLOPENTANE		
2-METHYLPENTANE	18.485	15.292
3-METHYLPENTANE	6.815	5.638
N-HEXANE	9.726	8.046
2,2-DIMETHYLPENTANE	1.091	1.050
METHYLCYCLOPENTANE	0.350	0.283
2,4-DIMETHYLPENTANE	1.300	1.250
2,2,3-TRIMETHYLBUTANE	0.186	0.179
BENZENE	0.382	0.287
3,3-DIMETHYLPENTANE	0.260	0.250
CYCLOHEXANE	0.257	0.207
2-METHYLHEXANE	3.165	3.045
2,3-DIMETHYLPENTANE	0.689	0.662
1,1-DIMETHYLCYCLOPENTANE	2.287	2.196
3-METHYLHEXANE		
1,1,3-DIMETHYLCYCLOPENTANE	0.070	0.066
1,3-DIMETHYLCYCLOPENTANE	0.145	0.137
3-ETHYLPENTANE		
1,1,2-DIMETHYLCYCLOPENTANE	0.142	0.136
2,2,4-TRIMETHYLPENTANE		
N-HEPTANE	2.556	2.458
METHYLCYCLOHEXANE	1.108	1.060
1,1,3-TRIMETHYLCYCLOPENTANE		

**CAPILLARY ANALYSIS - METHOD GPA 2286-95**  
**HEAVY END FRACTION**

COMPONENT NAME	MOL %	WEIGHT %
2,2-DIMETHYLHEXANE		
1,C2-DIMETHYLCYCLOPENTANE	0.080	0.076
2,5-DIMETHYLHEXANE	0.417	0.457
2,4-DIMETHYLHEXANE	0.599	0.592
2,2,3-TRIMETHYLPENTANE		
ETHYLCYCLOPENTANE		
1,t2,c4-TRIMETHYLCYCLOPENTANE	0.225	0.242
3,3-DIMETHYLHEXANE		
1,t2,C3-TRIMETHYLCYCLOPENTANE	0.000	0.000
2,3,4-TRIMETHYLPENTANE	0.000	0.000
TOLUENE	0.379	0.336
2,3-DIMETHYLHEXANE	0.148	0.163
1,1,2-TRIMETHYLCYCLOPENTANE	0.000	0.000
2-METHYLHEPTANE	1.569	1.720
4-METHYLHEPTANE	0.415	0.455
3,4-DIMETHYLHEXANE	0.061	0.066
3-METHYLHEPTANE	1.049	1.150
3-ETHYLHEXANE		
1,c3-DIMETHYLCYCLOHEXANE	0.665	0.717
1,c2,t3-TRIMETHYLCYCLOPENTANE		
1,c2,t4-TRIMETHYLCYCLOPENTANE		
1,t4-DIMETHYLCYCLOHEXANE	0.252	0.272
2,2,5-TRIMETHYLHEXANE	0.014	0.017
1,1-DIMETHYLCYCLOHEXANE	0.143	0.154
1,methyl-t3-ETHYLCYCLOPENTANE		
1-methyl-C3-ETHYLCYCLOPENTANE	0.054	0.058
1-methyl-t2-ETHYLCYCLOPENTANE	0.107	0.124
2,2,4-TRIMETHYLHEXANE		
1-methyl-1-ETHYLCYCLOPENTANE	2.970	3.257
CYCLOHEPTANE		
N-OCTANE		
1,T2-DIMETHYLCYCLOCHEXANE	0.433	0.466
UNKNOWN	0.000	0.000
1,t3-DIMETHYLCYCLOHEXANE	0.339	0.365
1,c4-DIMETHYLCYCLOHEXANE		
1,c2,c3-TRIMETHYLCYCLOPENTANE		
2,4,4-TRIMETHYLHEXANE	0.000	0.000
ISOPROPYLCYCLOPENTANE	0.076	0.082
UNKNOWN	0.118	0.145
2,2-DIMETHYLHEPTANE	0.164	0.201
2,4-DIMETHYLHEPTANE	0.368	0.425
1-methyl-c2-ETHYLCYCLOPENTANE		
2,2,3-TRIMETHYLHEXANE	0.000	0.000



**CAPILLARY ANALYSIS - METHOD GPA 2286-95**  
**HEAVY END FRACTION**

COMPONENT NAME	MOL %	WEIGHT %
1,c2-DIMETHYLCYCLOHEXANE	0.815	0.903
2,6-DIMETHYLHEPTANE		
N-PROPYLCYCLOPENTANE	0.142	0.163
1,c3,c5-TRIMETHYLCYCLOHEXANE		
2,5-DIMETHYLHEPTANE	1.383	1.511
3,5-DIMETHYLHEPTANE		
ETHYLCYCLOHEXANE		
1,1,3-TRIMETHYLCYCLOHEXANE	0.500	0.611
2,3,3-TRIMETHYLHEXANE		
3,3-DIMETHYLHEPTANE		
1,1,4-TRIMETHYLCYCLOHEXANE	0.109	0.132
UNKNOWN	0.000	0.000
2,3,4-TRIMETHYLHEXANE	0.032	0.040
ETHYLBENZENE	0.195	0.198
1,t2,t4-TRIMETHYLCYCLOHEXANE	0.852	1.032
1,c3,t5-TRIMETHYLCYCLOHEXANE		
2,3-DIMETHYLHEPTANE		
M-XYLENE	0.364	0.372
P-XYLENE		
3,4-DIMETHYLHEPTANE		
2-METHYLOCTANE	1.819	2.240
4-METHYLOCTANE		
UNKNOWN	0.045	0.061
3-METHYLOCTANE	1.399	1.722
UNKNOWN	0.000	0.000
1,t2,c3-TRIMETHYLCYCLOHEXANE	0.247	0.299
1,t2,c4-TRIMETHYLCYCLOHEXANE		
O-XYLENE	0.164	0.168
1,1,2-TRIMETHYLCYCLOHEXANE	0.459	0.556
UNKNOWN	0.373	0.510
ISOBUTYLCYCLOPENTANE	0.195	0.236
N-NONANE	3.451	4.249
UNKNOWN	0.000	0.000
1,c2,c3-TRIMETHYLCYCLOHEXANE	0.089	0.108
1,c2,t3-TRIMETHYLCYCLOHEXANE		
UNKNOWN	0.000	0.000
ISOPROPYLBENZENE	0.121	0.140
2,2-DIMETHYLOCTANE	0.566	0.774
ISOPROPYLCYCLOHEXANE	0.412	0.471
CYCLOOCTANE		
UNKNOWN	0.000	0.000
N-BUTYLCYCLOPENTANE	0.653	0.791
N-PROPYLCYCLOHEXANE		
3,3-DIMETHYLOCTANE	0.063	0.086

**CAPILLARY ANALYSIS - METHOD GPA 2286-95  
HEAVY END FRACTION**

COMPONENT NAME	MOL %	WEIGHT %
UNKNOWN	0.000	0.000
N-PROPYLBENZENE	1.618	1.866
UNKNOWN	0.472	0.608
M-ETHYLTOLUENE	0.343	0.396
P-ETHYLTOLUENE	0.735	0.848
2,3-DIMETHYLOCTANE		
4-METHYLNONANE	0.729	0.904
5-METHYLNONANE		
1,3,5-TRIMETHYLBENZENE		
2-METHYLNONANE	0.654	0.893
3-ETHYLOCTANE	0.373	0.509
O-ETHYLTOLUENE	0.660	0.831
3-METHYLNONANE		
UNKNOWN	0.096	0.124
1,2,4-TRIMETHYLBENZENE	0.399	0.479
t-BUTYLBENZENE		
METHYLCYCLOOCTANE		
tert-BUTYLCYCLOHEXANE	1.015	1.367
ISO-BUTYLCYCLOHEXANE	0.234	0.315
N-DECANE	2.267	3.097
ISOBUTYLBENZENE	0.000	0.000
sec-BUTYLBENZENE	0.000	0.000
UNKNOWN	0.616	0.925
1-METHYL-3-ISOPROPYLBENZENE	0.474	0.610
1,2,3-TRIMETHYLBENZENE	0.576	0.692
1-METHYL-4-ISOPROPYLBENZENE		
UNKNOWN	0.228	0.341
1-METHYL-2-ISOPROPYLBENZENE	0.244	0.315
UNKNOWN	0.000	0.000
N-BUTYLCYCLOHEXANE	0.458	0.616
UNKNOWN	0.157	0.235
1,3-DIETHYLBENZENE	0.247	0.318
1-METHYL-3-PROPYLBENZENE		
1,2-DIETHYLBENZENE	0.265	0.341
N-BUTYLBENZENE		
1-METHYL-4-PROPYLBENZENE		
1,4-DIETHYLBENZENE	0.251	0.324
1-METHYL-2-PROPYLBENZENE	0.251	0.323
1,4-DIMETHYL-2-ETHYLBENZENE	0.363	0.467
UNKNOWN	0.050	0.075
1,2-DIMETHYL-4-ETHYLBENZENE	0.000	0.000

**CAPILLARY ANALYSIS - METHOD GPA 2286-95  
HEAVY END FRACTION**

COMPONENT NAME	MOL %	WEIGHT %
1,3-DIMETHYL-2-ETHYLBENZENE	0.052	0.066
UNKNOWN	0.000	0.000
1,2-DIMETHYL-3-ETHYLBENZENE	0.000	0.000
UNKNOWN	0.000	0.000
N-UNDECANE	0.886	1.329
UNKNOWN	0.027	0.044
1,2,4,5-TETRAMETHYLBENZENE	0.136	0.176
1,2,3,5-TETRAMETHYLBENZENE	0.200	0.258
UNKNOWN	0.000	0.000
1,2,3,4-TETRAMETHYLBENZENE	0.096	0.127
CYCLODECANE		
UNKNOWN	0.144	0.236
NAPHTHALENE	0.114	0.140
N-DODECANE	0.231	0.378
ISOTRIDECANES PLUS	0.095	0.193
<b>Total:</b>	<b>100.000</b>	<b>100.000</b>

<b>Specific Gravity @ 60 Deg. F. (Air = 1)</b>	3.5824
<b>Molecular Weight</b>	104.26
<b>Compressibility Factor</b>	0.8362
<b>Summation Factor</b>	0.1056
<b>Cu. Ft. Vapor/Gal @ 14.696 &amp; 60 Deg. F.</b>	22.317
<b>Cu. Ft. Vapor/Gal @ 14.730 &amp; 60 Deg. F.</b>	22.265
<b>Cu. Ft. Vapor/Gal @ 14.650 &amp; 60 Deg. F.</b>	22.387
<b>Btu/cu. Ft. @ 14.696 PSIA, Dry</b>	5630.50
<b>Btu/cu. Ft. @ 14.730 PSIA, Dry</b>	5643.53
<b>BTU/LB</b>	20575



**Analysis Report No:** 237804-4 -17

**Date:** 4/17/2018

**For:** COVEYPARK ENERGY  
 Attn: KENT WAKELEY  
 4591 FIRETOWER ROAD  
 GRAND CANE, LA 71032

**Sample Identification:**  
**Company:** COVEYPARK ENERGY  
**Field:** BETHANY LONGSTREET  
**Lease:** GLEASON 15H-1  
**STA # :** 0335010073

**Sample Data:** **Date:** 04/13/2018  
**PSIG:** 280

**By:** K. WAKELY  
**Temp:** 75 DEG. F.

**Remarks:** SURFACE CASING

CYL # 2017

**Sample Type:** SPOT

**Effective Date:** 04/01/2018

**SULFUR ANALYSIS (GPA-2199/ASTM-5504)**

<u>SULFIDES</u>		<u>MERCAPTANS</u>		<u>DISULFIDES</u>	
	PPM (WT.)		PPM (WT.)		PPM (WT.)
HYDROGEN	N/D	METHYL	N/D	CARBON	N/D
CARBONYL	N/D	ETHYL	N/D	DIMETHYL	N/D
DIMETHYL	N/D	ISOPROPYL	N/D	METHYL-ETHYL	N/D
METHYL-ETHYL	N/D	N-PROPYL	N/D	DIETHYL	N/D
DIETHYL	N/D	ISOBUTYL	N/D	DIISOPROPYL	N/D
DIISOPROPYL	N/D	SEC-BUTYL	N/D	DI-N-PROPYL	N/D
DI-N-PROPYL	N/D	TERT-BUTYL	N/D	DIISOBUTYL	N/D
DIISOBUTYL	N/D	N-BUTYL	N/D	DI-SEC-BUTYL	N/D
DI-SEC-BUTYL	N/D	ISOAMYL	N/D	DI-TERT-BUTYL	N/D
DI-TERT-BUTYL	N/D	PRI-AMYL	N/D	DI-N-BUTYL	N/D
DI-N-BUTYL	N/D	N-AMYL	N/D		

TOTAL SULFUR (GPA-2199/ASTM-5504)

0.0 PPM BY WT

**OTHERS**

N/D = Non Detected

PPM (WT.)

THIOPHENE	N/D
UNKNOWN	N/D
SULFUR DIOXIDE	N/D

**SULFUR CONVERSIONS**

TOTAL SULFUR	0.00	ppm mole
TOTAL SULFUR	0.000	grains/100 cuft
HYDROGEN SULFIDE	0.00	ppm vol
HYDROGEN SULFIDE	0.000	grains/100 cuft
"ODORANT" CONCENTRATION	0.00	lbs/Mmcf
CO2 PARTIAL PRESSURE	0.00	psia

Quality Officer:

Tina Venable, Customer Service Representative

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**Gas Analysis Report No:** 237804-3-25

**Reported Date:** 4/17/2018

**For:** COVEYPARK ENERGY  
 Attn: KENT WAKELEY  
 4591 FIRETOWER ROAD  
 GRAND CANE, LA 71032

**Sample Identification:**  
**Company:** COVEYPARK ENERGY  
**Field:** BETHANY LONGSTREET  
**Lease:** GLEASON 15H-1  
**STA # :** 0335010073

**Sample Data:** **Date Collected:** 04/13/2018  
**PSIG:** 280

**Date Received:** 04/13/2018 **By:** K. WAKELY  
**Temp:** 75 DEG. F.

**Remarks:** SURFACE CASING

CYL # 2017

**Sample Type:** SPOT **Effective Date:** 04/01/2018

**Analyst:** GG

**Hydrocarbon Analysis - GPA 2261-13**

Component Name	Mol Percent	GPM @ 14.730 PSIA
Carbon Dioxide (CO2)	0.000	
Nitrogen (N2)	6.881	
Methane (C1)	92.307	
Ethane (C2)	0.642	0.172
Propane (C3)	0.112	0.031
Iso-Butane (IC4)	0.034	0.011
N-Butane (NC4)	0.017	0.005
Iso-Pentane (IC5)	0.005	0.002
N-Pentane (NC5)	0.002	0.001
Hexanes Plus (C6+)	0.000	0.000
<b>Total</b>	<b>100.000</b>	

**Mol Weight:** 17.01  
**BTU/LB:** 21154.55

**Ethane + GPM:** 0.222  
**Propane + GPM:** 0.050  
**Iso-Pentane + GPM:** 0.003

**Compressibility Factor:** 0.9981

**Specific Gravity @ 60 Deg. F. (Air = 1) :** 0.588

BTU/Cuft. (Real) 60 Deg. F. - PSIA:	14.650	14.696	14.730	15.025
<b>Dry:</b>	947.2	950.2	952.4	971.5
<b>Sat:</b>	931.0	933.9	936.1	954.9

Reviewed By:   
 Tina Venable, Customer Service Representative  
 Data Reviewer

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Gas Analysis Report No: 237804

237804-3 -22

Date: 4/17/2018

For: COVEYPARK ENERGY  
Attn: KENT WAKELEY  
4591 FIRETOWER ROAD  
GRAND CANE, LA 71032

**Sample Identification:**  
**Company:** COVEYPARK ENERGY  
**Field:** BETHANY LONGSTREET  
**Lease:** GLEASON 15H-1

STA # : 0335010073

237804-3

**CAPILLARY ANALYSIS - METHOD GPA 2286-95**  
**COMPONENT AS % OF TOTAL SAMPLE**

COMPONENT NAME	MOL %	WEIGHT %
METHANE	0.0000	0.0000
ETHANE	0.0000	0.0000
PROPANE	0.0000	0.0000
ISO-BUTANE	0.0000	0.0000
N-BUTANE	0.0000	0.0000
2,2-DIMETHYLPROPANE (NEOPENTANE)	0.0000	0.0000
ISOPENTANE	0.0000	0.0000
N-PENTANE	0.0000	0.0000
2,2-DIMETHYLBUTANE (NEOHEXANE)	0.0000	0.0000
2,3-DIMETHYLBUTANE	0.0000	0.0000
CYCLOPENTANE	0.0000	0.0000
2-METHYLPENTANE	0.0000	0.0000
3-METHYLPENTANE	0.0000	0.0000
N-HEXANE	0.0000	0.0000
2,2-DIMETHYLPENTANE	0.0000	0.0000
METHYLCYCLOPENTANE	0.0000	0.0000
2,4-DIMETHYLPENTANE	0.0000	0.0000
2,2,3-TRIMETHYLBUTANE	0.0000	0.0000
BENZENE	0.0000	0.0000
3,3-DIMETHYLPENTANE	0.0000	0.0000
CYCLOHEXANE	0.0000	0.0000
2-METHYLHEXANE	0.0000	0.0000
2,3-DIMETHYLPENTANE	0.0000	0.0000
1,1-DIMETHYLCYCLOPENTANE	0.0000	0.0000
3-METHYLHEXANE	0.0000	0.0000

**CAPILLARY ANALYSIS - METHOD GPA 2286-95**  
**COMPONENT AS % OF TOTAL SAMPLE**

COMPONENT NAME	MOL %	WEIGHT %
1,t3-DIMETHYLCYCLOPENTANE	0.0000	0.0000
1,c3-DIMETHYLCYCLOPENTANE 3-ETHYLPENTANE	0.0000	0.0000
1,t2-DIMETHYLCYCLOPENTANE 2,2,4-TRIMETHYLPENTANE	0.0000	0.0000
N-HEPTANE	0.0000	0.0000
METHYLCYCLOHEXANE 1,1,3-TRIMETHYLCYCLOPENTANE 2,2-DIMETHYLHEXANE	0.0000	0.0000
1,C2-DIMETHYLCYCLOPENTANE	0.0000	0.0000
2,5-DIMETHYLHEXANE	0.0000	0.0000
2,4-DIMETHYLHEXANE 2,2,3-TRIMETHYLPENTANE ETHYLCYCLOPENTANE	0.0000	0.0000
1,t2,c4-TRIMETHYLCYCLOPENTANE 3,3-DIMETHYLHEXANE	0.0000	0.0000
1,t2,C3-TRIMETHYLCYCLOPENTANE	0.0000	0.0000
2,3,4-TRIMETHYLPENTANE	0.0000	0.0000
TOLUENE	0.0000	0.0000
2,3-DIMETHYLHEXANE	0.0000	0.0000
1,1,2-TRIMETHYLCYCLOPENTANE	0.0000	0.0000
2-METHYLHEPTANE	0.0000	0.0000
4-METHYLHEPTANE	0.0000	0.0000
3,4-DIMETHYLHEXANE	0.0000	0.0000
3-METHYLHEPTANE 3-ETHYLHEXANE	0.0000	0.0000
1,c3-DIMETHYLCYCLOHEXANE 1,c2,t3-TRIMETHYLCYCLOPENTANE 1,c2,t4-TRIMETHYLCYCLOPENTANE	0.0000	0.0000
1,t4-DIMETHYLCYCLOHEXANE	0.0000	0.0000
2,2,5-TRIMETHYLHEXANE	0.0000	0.0000
1,1-DIMETHYLCYCLOHEXANE 1,methyl-t3-ETHYLCYCLOPENTANE	0.0000	0.0000
1-methyl-C3-ETHYLCYCLOPENTANE	0.0000	0.0000
1-methyl-t2-ETHYLCYCLOPENTANE 2,2,4-TRIMETHYLHEXANE	0.0000	0.0000
1-methyl-1-ETHYLCYCLOPENTANE CYCLOHEPTANE	0.0000	0.0000
N-OCTANE		
1,T2-DIMETHYLCYCLOCHEXANE	0.0000	0.0000
UNKNOWN	0.0000	0.0000
1,t3-DIMETHYLCYCLOHEXANE 1,c4-DIMETHYLCYCLOHEXANE 1,c2,c3-TRIMETHYLCYCLOPENTANE	0.0000	0.0000
2,4,4-TRIMETHYLHEXANE	0.0000	0.0000
ISOPROPYLCYCLOPENTANE	0.0000	0.0000

**CAPILLARY ANALYSIS - METHOD GPA 2286-95**  
**COMPONENT AS % OF TOTAL SAMPLE**

COMPONENT NAME	MOL %	WEIGHT %
UNKNOWN	0.0000	0.0000
2,2-DIMETHYLHEPTANE	0.0000	0.0000
2,4-DIMETHYLHEPTANE	0.0000	0.0000
1-methyl-c2-ETHYLCYCLOPENTANE		
2,2,3-TRIMETHYLHEXANE	0.0000	0.0000
1,c2-DIMETHYLCYCLOHEXANE	0.0000	0.0000
2,6-DIMETHYLHEPTANE		
N-PROPYLCYCLOPENTANE	0.0000	0.0000
1,c3,c5-TRIMETHYLCYCLOHEXANE		
2,5-DIMETHYLHEPTANE	0.0000	0.0000
3,5-DIMETHYLHEPTANE		
ETHYLCYCLOHEXANE		
1,1,3-TRIMETHYLCYCLOHEXANE	0.0000	0.0000
2,3,3-TRIMETHYLHEXANE		
3,3-DIMETHYLHEPTANE		
1,1,4-TRIMETHYLCYCLOHEXANE	0.0000	0.0000
UNKNOWN	0.0000	0.0000
2,3,4-TRIMETHYLHEXANE	0.0000	0.0000
ETHYLBENZENE	0.0000	0.0000
1,t2,t4-TRIMETHYLCYCLOHEXANE	0.0000	0.0000
1,c3,t5-TRIMETHYLCYCLOHEXANE		
2,3-DIMETHYLHEPTANE		
M-XYLENE	0.0000	0.0000
P-XYLENE		
3,4-DIMETHYLHEPTANE		
2-METHYLOCTANE	0.0000	0.0000
4-METHYLOCTANE		
UNKNOWN	0.0000	0.0000
3-METHYLOCTANE	0.0000	0.0000
UNKNOWN	0.0000	0.0000
1,t2,c3-TRIMETHYLCYCLOHEXANE	0.0000	0.0000
1,t2,c4-TRIMETHYLCYCLOHEXANE		
O-XYLENE	0.0000	0.0000
1,1,2-TRIMETHYLCYCLOHEXANE	0.0000	0.0000
UNKNOWN	0.0000	0.0000
ISOBUTYLCYCLOPENTANE	0.0000	0.0000
N-NONANE	0.0000	0.0000
UNKNOWN	0.0000	0.0000
1,c2,c3-TRIMETHYLCYCLOHEXANE	0.0000	0.0000
1,c2,t3-TRIMETHYLCYCLOHEXANE		
UNKNOWN	0.0000	0.0000
ISOPROPYLBENZENE	0.0000	0.0000
2,2-DIMETHYLOCTANE	0.0000	0.0000
ISOPROPYLCYCLOHEXANE	0.0000	0.0000
CYCLOOCTANE		
UNKNOWN	0.0000	0.0000



**CAPILLARY ANALYSIS - METHOD GPA 2286-95  
COMPONENT AS % OF TOTAL SAMPLE**

<b>COMPONENT NAME</b>	<b>MOL %</b>	<b>WEIGHT %</b>
N-BUTYLCYCLOPENTANE	0.0000	0.0000
N-PROPYLCYCLOHEXANE		
3,3-DIMETHYLOCTANE	0.0000	0.0000
UNKNOWN	0.0000	0.0000
N-PROPYLBENZENE	0.0000	0.0000
UNKNOWN	0.0000	0.0000
M-ETHYLTOLUENE	0.0000	0.0000
P-ETHYLTOLUENE	0.0000	0.0000
2,3-DIMETHYLOCTANE		
4-METHYLNONANE	0.0000	0.0000
5-METHYLNONANE		
1,3,5-TRIMETHYLBENZENE		
2-METHYLNONANE	0.0000	0.0000
3-ETHYLOCTANE	0.0000	0.0000
O-ETHYLTOLUENE	0.0000	0.0000
3-METHYLNONANE		
UNKNOWN	0.0000	0.0000
1,2,4-TRIMETHYLBENZENE	0.0000	0.0000
t-BUTYLBENZENE		
METHYLCYCLOOCTANE		
tert-BUTYLCYCLOHEXANE	0.0000	0.0000
ISO-BUTYLCYCLOHEXANE	0.0000	0.0000
N-DECANE	0.0000	0.0000
ISOBUTYLBENZENE	0.0000	0.0000
sec-BUTYLBENZENE	0.0000	0.0000
UNKNOWN	0.0000	0.0000
1-METHYL-3-ISOPROPYLBENZENE	0.0000	0.0000
1,2,3-TRIMETHYLBENZENE	0.0000	0.0000
1-METHYL-4-ISOPROPYLBENZENE		
UNKNOWN	0.0000	0.0000
1-METHYL-2-ISOPROPYLBENZENE	0.0000	0.0000
UNKNOWN	0.0000	0.0000
N-BUTYLCYCLOHEXANE	0.0000	0.0000
UNKNOWN	0.0000	0.0000
1,3-DIETHYLBENZENE	0.0000	0.0000
1-METHYL-3-PROPYLBENZENE		
1,2-DIETHYLBENZENE	0.0000	0.0000
N-BUTYLBENZENE		
1-METHYL-4-PROPYLBENZENE		
1,4-DIETHYLBENZENE	0.0000	0.0000
1-METHYL-2-PROPYLBENZENE	0.0000	0.0000
1,4-DIMETHYL-2-ETHYLBENZENE	0.0000	0.0000
UNKNOWN	0.0000	0.0000

**CAPILLARY ANALYSIS - METHOD GPA 2286-95**  
**COMPONENT AS % OF TOTAL SAMPLE**

<b>COMPONENT NAME</b>	<b>MOL %</b>	<b>WEIGHT %</b>
1,2-DIMETHYL-4-ETHYLBENZENE	0.0000	0.0000
1,3-DIMETHYL-2-ETHYLBENZENE	0.0000	0.0000
UNKNOWN	0.0000	0.0000
1,2-DIMETHYL-3-ETHYLBENZENE	0.0000	0.0000
UNKNOWN	0.0000	0.0000
N-UNDECANE	0.0000	0.0000
UNKNOWN	0.0000	0.0000
1,2,4,5-TETRAMETHYLBENZENE	0.0000	0.0000
1,2,3,5-TETRAMETHYLBENZENE	0.0000	0.0000
UNKNOWN	0.0000	0.0000
1,2,3,4-TETRAMETHYLBENZENE CYCLODECANE	0.0000	0.0000
UNKNOWN	0.0000	0.0000
NAPHTHALENE	0.0000	0.0000
N-DODECANE	0.0000	0.0000
ISOTRIDECANES PLUS	0.0000	0.0000
<b>Total:</b>	0.0000	0.0000

TOTAL HEXANES	0.0000	0.0000
TOTAL HEPTANES	0.0000	0.0000
TOTAL OCTANES	0.0000	0.0000
TOTAL NONANES	0.0000	0.0000
TOTAL DECANES PLUS	0.0000	0.0000

**BTEX COMPONENTS**

N-HEXANE	0.0000	0.0000
BENZENE		
TOLUENE	0.0000	0.0000
ETHYLBENZENE		
XYLENE	0.0000	0.0000



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**Analysis Report No:** 237804-2-5

**Date:** 4/17/2018

**For:** COVEYPARK ENERGY  
 Attn: KENT WAKELEY  
 4591 FIRE TOWER ROAD  
 GRAND CANE, LA 71032

**Sample Identification:**  
**Company:** COVEYPARK ENERGY  
**Field:** BETHANY LONGSTREET  
**Lease:** DERBONNE 22-15-1  
**STA # :** 0335010106

**Sample Data:** **Date:** 04/13/2018  
**PSIG:** 210

**By:** K. WAKELY  
**Temp:** 95 DEG. F.

**Remarks:** SURFACE CASING

CYL # 12

**Sample Type:** SPOT

**Effective Date:** 04/01/2018

**SULFUR ANALYSIS (GPA-2199/ASTM-5504)**

<u>SULFIDES</u>		<u>MERCAPTANS</u>		<u>DISULFIDES</u>	
	PPM (WT.)		PPM (WT.)		PPM (WT.)
HYDROGEN	N/D	METHYL	N/D	CARBON	0.1
CARBONYL	N/D	ETHYL	N/D	DIMETHYL	N/D
DIMETHYL	N/D	ISOPROPYL	N/D	METHYL-ETHYL	N/D
METHYL-ETHYL	N/D	N-PROPYL	N/D	DIETHYL	N/D
DIETHYL	N/D	ISOBUTYL	N/D	DIISOPROPYL	N/D
DIISOPROPYL	N/D	SEC-BUTYL	N/D	DI-N-PROPYL	N/D
DI-N-PROPYL	N/D	TERT-BUTYL	N/D	DIISOBUTYL	N/D
DIISOBUTYL	N/D	N-BUTYL	N/D	DI-SEC-BUTYL	N/D
DI-SEC-BUTYL	N/D	ISOAMYL	N/D	DI-TERT-BUTYL	N/D
DI-TERT-BUTYL	N/D	PRI-AMYL	N/D	DI-N-BUTYL	N/D
DI-N-BUTYL	N/D	N-AMYL	N/D		

TOTAL SULFUR (GPA-2199/ASTM-5504)

0.1 PPM BY WT

**OTHERS**

N/D = Non Detected

PPM (WT.)

THIOPHENE N/D  
 UNKNOWN N/D  
 SULFUR DIOXIDE N/D

**SULFUR CONVERSIONS**

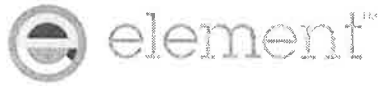
TOTAL SULFUR	0.02	ppm mole
TOTAL SULFUR	0.003	grains/100 cuft
HYDROGEN SULFIDE	0.00	ppm vol
HYDROGEN SULFIDE	0.000	grains/100 cuft
"ODORANT" CONCENTRATION	0.00	lbs/Mmcf
CO2 PARTIAL PRESSURE	0.38	psia

Quality Officer:

Tina Venable, Customer Service Representative

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**Gas Analysis Report No:** 237804-1-10

**Reported Date:** 4/17/2018

**For:** COVEYPARK ENERGY  
 Attn: KENT WAKELEY  
 4591 FIRETOWER ROAD  
 GRAND CANE, LA 71032

**Sample Identification:**  
**Company:** COVEYPARK ENERGY  
**Field:** BETHANY LONGSTREET  
**Lease:** DERBONNE 22-15-1  
**STA # :** 0335010106

**Sample Data:** **Date Collected:** 04/13/2018  
**PSIG:** 210

**Date Received:** 04/13/2018 **By:** K. WAKELY  
**Temp:** 95 **DEG. F.**

**Remarks:** SURFACE CASING

CYL # 12

**Sample Type:** SPOT **Effective Date:** 04/01/2018

**Analyst:** GG

**Hydrocarbon Analysis - GPA 2261-13**

Component Name	Mol Percent	GPM @ 14.730 PSIA
Carbon Dioxide (CO2)	0.168	
Nitrogen (N2)	2.820	
Methane (C1)	93.088	
Ethane (C2)	2.271	0.609
Propane (C3)	0.782	0.216
Iso-Butane (IC4)	0.259	0.085
N-Butane (NC4)	0.281	0.089
Iso-Pentane (IC5)	0.131	0.048
N-Pentane (NC5)	0.080	0.029
Hexanes Plus (C6+)	0.120	0.051
<b>Total</b>	<b>100.000</b>	

**Mol Weight:** 17.40  
**BTU/LB:** 22508.69

**Ethane + GPM:** 1.127  
**Propane + GPM:** 0.518  
**Iso-Pentane + GPM:** 0.128

**Compressibility Factor:** 0.9978

**Specific Gravity @ 60 Deg. F. (Air = 1) :** 0.602

BTU/Cuft. (Real) 60 Deg. F. - PSIA:	14.650	14.696	14.730	15.025
<b>Dry:</b>	1031.1	1034.3	1036.7	1057.5
<b>Sat:</b>	1013.4	1016.6	1019.0	1039.4

Reviewed By:   
 Tina Venable, Customer Service Representative  
 Data Reviewer

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Gas Analysis Report No: 237804

237804-1-22

Date: 4/17/2018

For: COVEYPARK ENERGY  
Attn: KENT WAKELEY  
4591 FIRETOWER ROAD  
GRAND CANE, LA 71032

Sample Identification:  
Company: COVEYPARK ENERGY  
Field: BETHANY LONGSTREET  
Lease: DERBONNE 22-15-1

STA # : 0335010106

237804-1

CAPILLARY ANALYSIS - METHOD GPA 2286-95  
COMPONENT AS % OF TOTAL SAMPLE

COMPONENT NAME	MOL %	WEIGHT %
METHANE	0.0000	0.0000
ETHANE	0.0000	0.0000
PROPANE	0.0000	0.0000
ISO-BUTANE	0.0000	0.0000
N-BUTANE	0.0000	0.0000
2,2-DIMETHYLPROPANE (NEOPENTANE)	0.0000	0.0000
ISOPENTANE	0.0000	0.0000
N-PENTANE	0.0000	0.0000
2,2-DIMETHYLBUTANE (NEOHEXANE)	0.0107	0.0513
2,3-DIMETHYLBUTANE	0.0079	0.0345
CYCLOPENTANE		
2-METHYLPENTANE	0.0260	0.1251
3-METHYLPENTANE	0.0128	0.0617
N-HEXANE	0.0201	0.0966
2,2-DIMETHYLPENTANE	0.0018	0.0099
METHYLCYCLOPENTANE	0.0030	0.0140
2,4-DIMETHYLPENTANE	0.0016	0.0089
2,2,3-TRIMETHYLBUTANE	0.0005	0.0027
BENZENE	0.0001	0.0004
3,3-DIMETHYLPENTANE	0.0006	0.0032
CYCLOHEXANE	0.0019	0.0091
2-METHYLHEXANE	0.0047	0.0264
2,3-DIMETHYLPENTANE	0.0011	0.0064
1,1-DIMETHYLCYCLOPENTANE	0.0040	0.0222
3-METHYLHEXANE		

**CAPILLARY ANALYSIS - METHOD GPA 2286-95**  
**COMPONENT AS % OF TOTAL SAMPLE**

COMPONENT NAME	MOL %	WEIGHT %
1,t3-DIMETHYLCYCLOPENTANE	0.0002	0.0012
1,c3-DIMETHYLCYCLOPENTANE 3-ETHYLPENTANE	0.0004	0.0022
1,t2-DIMETHYLCYCLOPENTANE 2,2,4-TRIMETHYLPENTANE	0.0004	0.0021
N-HEPTANE	0.0043	0.0242
METHYLCYCLOHEXANE 1,1,3-TRIMETHYLCYCLOPENTANE 2,2-DIMETHYLHEXANE	0.0013	0.0070
1,C2-DIMETHYLCYCLOPENTANE	0.0001	0.0005
2,5-DIMETHYLHEXANE	0.0004	0.0024
2,4-DIMETHYLHEXANE 2,2,3-TRIMETHYLPENTANE ETHYLCYCLOPENTANE	0.0005	0.0030
1,t2,c4-TRIMETHYLCYCLOPENTANE 3,3-DIMETHYLHEXANE	0.0002	0.0010
1,t2,C3-TRIMETHYLCYCLOPENTANE	0.0000	0.0003
2,3,4-TRIMETHYLPENTANE	0.0000	0.0001
TOLUENE	0.0001	0.0003
2,3-DIMETHYLHEXANE	0.0001	0.0008
1,1,2-TRIMETHYLCYCLOPENTANE	0.0000	0.0001
2-METHYLHEPTANE	0.0010	0.0066
4-METHYLHEPTANE	0.0003	0.0018
3,4-DIMETHYLHEXANE	0.0000	0.0002
3-METHYLHEPTANE 3-ETHYLHEXANE	0.0007	0.0048
1,c3-DIMETHYLCYCLOHEXANE 1,c2,t3-TRIMETHYLCYCLOPENTANE 1,c2,t4-TRIMETHYLCYCLOPENTANE	0.0002	0.0013
1,t4-DIMETHYLCYCLOHEXANE	0.0001	0.0005
2,2,5-TRIMETHYLHEXANE	0.0000	0.0001
1,1-DIMETHYLCYCLOHEXANE 1,methyl-t3-ETHYLCYCLOPENTANE	0.0001	0.0004
1-methyl-C3-ETHYLCYCLOPENTANE	0.0000	0.0001
1-methyl-t2-ETHYLCYCLOPENTANE 2,2,4-TRIMETHYLHEXANE	0.0000	0.0003
1-methyl-1-ETHYLCYCLOPENTANE CYCLOHEPTANE	0.0012	0.0079
N-OCTANE		
1,T2-DIMETHYLCYCLOCHEXANE	0.0001	0.0009
UNKNOWN	0.0000	0.0002
1,t3-DIMETHYLCYCLOHEXANE 1,c4-DIMETHYLCYCLOHEXANE 1,c2,c3-TRIMETHYLCYCLOPENTANE	0.0001	0.0008
2,4,4-TRIMETHYLHEXANE	0.0000	0.0000
ISOPROPYLCYCLOPENTANE	0.0000	0.0002

**CAPILLARY ANALYSIS - METHOD GPA 2286-95**  
**COMPONENT AS % OF TOTAL SAMPLE**

COMPONENT NAME	MOL %	WEIGHT %
UNKNOWN	0.0000	0.0002
2,2-DIMETHYLHEPTANE	0.0001	0.0006
2,4-DIMETHYLHEPTANE	0.0001	0.0009
1-methyl-c2-ETHYLCYCLOPENTANE		
2,2,3-TRIMETHYLHEXANE	0.0000	0.0001
1,c2-DIMETHYLCYCLOHEXANE	0.0003	0.0018
2,6-DIMETHYLHEPTANE		
N-PROPYLCYCLOPENTANE	0.0001	0.0006
1,c3,c5-TRIMETHYLCYCLOHEXANE		
2,5-DIMETHYLHEPTANE	0.0006	0.0039
3,5-DIMETHYLHEPTANE		
ETHYLCYCLOHEXANE		
1,1,3-TRIMETHYLCYCLOHEXANE	0.0002	0.0014
2,3,3-TRIMETHYLHEXANE		
3,3-DIMETHYLHEPTANE		
1,1,4-TRIMETHYLCYCLOHEXANE	0.0001	0.0004
UNKNOWN	0.0000	0.0002
2,3,4-TRIMETHYLHEXANE	0.0000	0.0001
ETHYLBENZENE	0.0001	0.0007
1,t2,t4-TRIMETHYLCYCLOHEXANE	0.0003	0.0022
1,c3,t5-TRIMETHYLCYCLOHEXANE		
2,3-DIMETHYLHEPTANE		
M-XYLENE	0.0003	0.0016
P-XYLENE		
3,4-DIMETHYLHEPTANE		
2-METHYLOCTANE	0.0007	0.0052
4-METHYLOCTANE		
UNKNOWN	0.0000	0.0000
3-METHYLOCTANE	0.0005	0.0036
UNKNOWN	0.0000	0.0003
1,t2,c3-TRIMETHYLCYCLOHEXANE	0.0001	0.0010
1,t2,c4-TRIMETHYLCYCLOHEXANE		
O-XYLENE	0.0001	0.0009
1,1,2-TRIMETHYLCYCLOHEXANE	0.0002	0.0013
UNKNOWN	0.0002	0.0014
ISOBUTYLCYCLOPENTANE	0.0001	0.0008
N-NONANE	0.0013	0.0093
UNKNOWN	0.0000	0.0000
1,c2,c3-TRIMETHYLCYCLOHEXANE	0.0000	0.0003
1,c2,t3-TRIMETHYLCYCLOHEXANE		
UNKNOWN	0.0000	0.0000
ISOPROPYLBENZENE	0.0000	0.0003
2,2-DIMETHYLOCTANE	0.0002	0.0017
ISOPROPYLCYCLOHEXANE	0.0002	0.0013
CYCLOOCTANE		
UNKNOWN	0.0000	0.0002

**CAPILLARY ANALYSIS - METHOD GPA 2286-95  
COMPONENT AS % OF TOTAL SAMPLE**

COMPONENT NAME	MOL %	WEIGHT %
N-BUTYLCYCLOPENTANE	0.0003	0.0021
N-PROPYLCYCLOHEXANE		
3,3-DIMETHYLOCTANE	0.0000	0.0004
UNKNOWN	0.0000	0.0000
N-PROPYLBENZENE	0.0006	0.0043
UNKNOWN	0.0002	0.0012
M-ETHYLTOLUENE	0.0000	0.0002
P-ETHYLTOLUENE	0.0003	0.0023
2,3-DIMETHYLOCTANE		
4-METHYLNONANE	0.0004	0.0026
5-METHYLNONANE		
1,3,5-TRIMETHYLBENZENE		
2-METHYLNONANE	0.0003	0.0021
3-ETHYLOCTANE	0.0001	0.0012
O-ETHYLTOLUENE	0.0002	0.0016
3-METHYLNONANE		
UNKNOWN	0.0000	0.0003
1,2,4-TRIMETHYLBENZENE	0.0001	0.0007
t-BUTYLBENZENE		
METHYLCYCLOOCTANE		
tert-BUTYLCYCLOHEXANE	0.0003	0.0020
ISO-BUTYLCYCLOHEXANE	0.0001	0.0006
N-DECANE	0.0007	0.0052
ISOBUTYLBENZENE	0.0001	0.0004
sec-BUTYLBENZENE	0.0001	0.0004
UNKNOWN	0.0001	0.0010
1-METHYL-3-ISOPROPYLBENZENE	0.0001	0.0010
1,2,3-TRIMETHYLBENZENE	0.0002	0.0011
1-METHYL-4-ISOPROPYLBENZENE		
UNKNOWN	0.0001	0.0005
1-METHYL-2-ISOPROPYLBENZENE	0.0001	0.0005
UNKNOWN	0.0000	0.0000
N-BUTYLCYCLOHEXANE	0.0001	0.0010
UNKNOWN	0.0000	0.0004
1,3-DIETHYLBENZENE	0.0001	0.0005
1-METHYL-3-PROPYLBENZENE		
1,2-DIETHYLBENZENE	0.0001	0.0004
N-BUTYLBENZENE		
1-METHYL-4-PROPYLBENZENE		
1,4-DIETHYLBENZENE	0.0001	0.0004
1-METHYL-2-PROPYLBENZENE	0.0001	0.0004
1,4-DIMETHYL-2-ETHYLBENZENE	0.0001	0.0006
UNKNOWN	0.0000	0.0000



**CAPILLARY ANALYSIS - METHOD GPA 2286-95**  
**COMPONENT AS % OF TOTAL SAMPLE**

COMPONENT NAME	MOL %	WEIGHT %
1,2-DIMETHYL-4-ETHYLBENZENE	0.0000	0.0000
1,3-DIMETHYL-2-ETHYLBENZENE	0.0000	0.0001
UNKNOWN	0.0000	0.0000
1,2-DIMETHYL-3-ETHYLBENZENE	0.0000	0.0002
UNKNOWN	0.0000	0.0000
N-UNDECANE	0.0001	0.0011
UNKNOWN	0.0000	0.0001
1,2,4,5-TETRAMETHYLBENZENE	0.0000	0.0001
1,2,3,5-TETRAMETHYLBENZENE	0.0000	0.0002
UNKNOWN	0.0000	0.0000
1,2,3,4-TETRAMETHYLBENZENE	0.0000	0.0001
CYCLODECANE		
UNKNOWN	0.0000	0.0002
NAPHTHALENE	0.0000	0.0000
N-DODECANE	0.0000	0.0001
ISOTRIDECANES PLUS	0.0000	0.0003
<b>Total:</b>	0.1200	0.6238

TOTAL HEXANES	0.0775	0.3691
TOTAL HEPTANES	0.0246	0.1330
TOTAL OCTANES	0.0066	0.0405
TOTAL NONANES	0.0057	0.0395
TOTAL DECANES PLUS	0.0056	0.0416

**BTEX COMPONENTS**

N-HEXANE	0.0201	0.0966
BENZENE	0.0001	0.0004
TOLUENE	0.0001	0.0003
ETHYLBENZENE	0.0001	0.0007
XYLENE	0.0004	0.0025

**237804-1**
**CAPILLARY ANALYSIS - METHOD GPA 2286-95  
 HEAVY END FRACTION**

COMPONENT NAME	MOL %	WEIGHT %
METHANE	0.000	0.000
ETHANE	0.000	0.000
PROPANE	0.000	0.000
ISO-BUTANE	0.000	0.000
N-BUTANE	0.000	0.000
2,2-DIMETHYLPROPANE (NEOPENTANE)	0.000	0.000
ISOPENTANE	0.000	0.000
N-PENTANE	0.000	0.000
2,2-DIMETHYLBUTANE (NEOHEXANE)	8.884	8.219
2,3-DIMETHYLBUTANE	6.587	5.527
CYCLOPENTANE		
2-METHYLPENTANE	21.682	20.059
3-METHYLPENTANE	10.692	9.891
N-HEXANE	16.731	15.479
2,2-DIMETHYLPENTANE	1.477	1.588
METHYLCYCLOPENTANE	2.480	2.241
2,4-DIMETHYLPENTANE	1.332	1.433
2,2,3-TRIMETHYLBUTANE	0.409	0.440
BENZENE	0.080	0.067
3,3-DIMETHYLPENTANE	0.475	0.511
CYCLOHEXANE	1.607	1.452
2-METHYLHEXANE	3.940	4.238
2,3-DIMETHYLPENTANE	0.952	1.024
1,1-DIMETHYLCYCLOPENTANE	3.316	3.560
3-METHYLHEXANE		
1,1,3-DIMETHYLCYCLOPENTANE	0.187	0.197
1,1,3-DIMETHYLCYCLOPENTANE	0.332	0.350
3-ETHYLPENTANE		
1,1,2-DIMETHYLCYCLOPENTANE	0.317	0.339
2,2,4-TRIMETHYLPENTANE		
N-HEPTANE	3.610	3.884
METHYLCYCLOHEXANE	1.049	1.122
1,1,3-TRIMETHYLCYCLOPENTANE		

**CAPILLARY ANALYSIS - METHOD GPA 2286-95  
HEAVY END FRACTION**

COMPONENT NAME	MOL %	WEIGHT %
2,2-DIMETHYLHEXANE		
1,C2-DIMETHYLCYCLOPENTANE	0.073	0.077
2,5-DIMETHYLHEXANE	0.314	0.385
2,4-DIMETHYLHEXANE	0.437	0.484
2,2,3-TRIMETHYLPENTANE		
ETHYLCYCLOPENTANE		
1,t2,c4-TRIMETHYLCYCLOPENTANE	0.137	0.166
3,3-DIMETHYLHEXANE		
1,t2,C3-TRIMETHYLCYCLOPENTANE	0.039	0.046
2,3,4-TRIMETHYLPENTANE	0.014	0.017
TOLUENE	0.046	0.045
2,3-DIMETHYLHEXANE	0.106	0.130
1,1,2-TRIMETHYLCYCLOPENTANE	0.019	0.023
2-METHYLHEPTANE	0.867	1.063
4-METHYLHEPTANE	0.236	0.290
3,4-DIMETHYLHEXANE	0.027	0.033
3-METHYLHEPTANE	0.623	0.764
3-ETHYLHEXANE		
1,c3-DIMETHYLCYCLOHEXANE	0.179	0.215
1,c2,t3-TRIMETHYLCYCLOPENTANE		
1,c2,t4-TRIMETHYLCYCLOPENTANE		
1,t4-DIMETHYLCYCLOHEXANE	0.067	0.081
2,2,5-TRIMETHYLHEXANE	0.013	0.018
1,1-DIMETHYLCYCLOHEXANE	0.050	0.061
1,methyl-t3-ETHYLCYCLOPENTANE		
1-methyl-C3-ETHYLCYCLOPENTANE	0.018	0.022
1-methyl-t2-ETHYLCYCLOPENTANE	0.031	0.040
2,2,4-TRIMETHYLHEXANE		
1-methyl-1-ETHYLCYCLOPENTANE	1.034	1.268
CYCLOHEPTANE		
N-OCTANE		
1,T2-DIMETHYLCYCLOCHEXANE	0.121	0.145
UNKNOWN	0.022	0.030
1,t3-DIMETHYLCYCLOHEXANE	0.106	0.128
1,c4-DIMETHYLCYCLOHEXANE		
1,c2,c3-TRIMETHYLCYCLOPENTANE		
2,4,4-TRIMETHYLHEXANE	0.000	0.000
ISOPROPYLCYCLOPENTANE	0.022	0.026
UNKNOWN	0.019	0.026
2,2-DIMETHYLHEPTANE	0.068	0.094
2,4-DIMETHYLHEPTANE	0.106	0.136
1-methyl-c2-ETHYLCYCLOPENTANE		
2,2,3-TRIMETHYLHEXANE	0.006	0.008

**CAPILLARY ANALYSIS - METHOD GPA 2286-95**  
**HEAVY END FRACTION**

COMPONENT NAME	MOL %	WEIGHT %
1,c2-DIMETHYLCYCLOHEXANE	0.239	0.296
2,6-DIMETHYLHEPTANE		
N-PROPYLCYCLOPENTANE	0.070	0.090
1,c3,c5-TRIMETHYLCYCLOHEXANE		
2,5-DIMETHYLHEPTANE	0.512	0.625
3,5-DIMETHYLHEPTANE		
ETHYLCYCLOHEXANE		
1,1,3-TRIMETHYLCYCLOHEXANE	0.165	0.225
2,3,3-TRIMETHYLHEXANE		
3,3-DIMETHYLHEPTANE		
1,1,4-TRIMETHYLCYCLOHEXANE	0.051	0.070
UNKNOWN	0.023	0.032
2,3,4-TRIMETHYLHEXANE	0.014	0.019
ETHYLBENZENE	0.092	0.105
1,t2,t4-TRIMETHYLCYCLOHEXANE	0.257	0.348
1,c3,t5-TRIMETHYLCYCLOHEXANE		
2,3-DIMETHYLHEPTANE		
M-XYLENE	0.228	0.261
P-XYLENE		
3,4-DIMETHYLHEPTANE		
2-METHYLOCTANE	0.607	0.836
4-METHYLOCTANE		
UNKNOWN	0.000	0.000
3-METHYLOCTANE	0.418	0.576
UNKNOWN	0.032	0.048
1,t2,c3-TRIMETHYLCYCLOHEXANE	0.115	0.156
1,t2,c4-TRIMETHYLCYCLOHEXANE		
O-XYLENE	0.125	0.142
1,1,2-TRIMETHYLCYCLOHEXANE	0.151	0.204
UNKNOWN	0.151	0.230
ISOBUTYLCYCLOPENTANE	0.089	0.121
N-NONANE	1.088	1.499
UNKNOWN	0.000	0.000
1,c2,c3-TRIMETHYLCYCLOHEXANE	0.031	0.042
1,c2,t3-TRIMETHYLCYCLOHEXANE		
UNKNOWN	0.000	0.000
ISOPROPYLBENZENE	0.036	0.046
2,2-DIMETHYLOCTANE	0.180	0.275
ISOPROPYLCYCLOHEXANE	0.159	0.203
CYCLOOCTANE		
UNKNOWN	0.025	0.035
N-BUTYLCYCLOPENTANE	0.244	0.331
N-PROPYLCYCLOHEXANE		
3,3-DIMETHYLOCTANE	0.040	0.062

**CAPILLARY ANALYSIS - METHOD GPA 2286-95**  
**HEAVY END FRACTION**

COMPONENT NAME	MOL %	WEIGHT %
UNKNOWN	0.000	0.000
N-PROPYLBENZENE	0.532	0.687
UNKNOWN	0.135	0.194
M-ETHYLTOLUENE	0.025	0.032
P-ETHYLTOLUENE	0.287	0.371
2,3-DIMETHYLOCTANE		
4-METHYLNONANE	0.295	0.409
5-METHYLNONANE		
1,3,5-TRIMETHYLBENZENE		
2-METHYLNONANE	0.221	0.337
3-ETHYLOCTANE	0.124	0.189
O-ETHYLTOLUENE	0.179	0.252
3-METHYLNONANE		
UNKNOWN	0.036	0.053
1,2,4-TRIMETHYLBENZENE	0.080	0.108
t-BUTYLBENZENE		
METHYLCYCLOOCTANE		
tert-BUTYLCYCLOHEXANE	0.210	0.316
ISO-BUTYLCYCLOHEXANE	0.064	0.097
N-DECANE	0.551	0.841
ISOBUTYLBENZENE	0.048	0.070
sec-BUTYLBENZENE	0.050	0.072
UNKNOWN	0.100	0.168
1-METHYL-3-ISOPROPYLBENZENE	0.111	0.161
1,2,3-TRIMETHYLBENZENE	0.126	0.170
1-METHYL-4-ISOPROPYLBENZENE		
UNKNOWN	0.046	0.077
1-METHYL-2-ISOPROPYLBENZENE	0.056	0.081
UNKNOWN	0.000	0.000
N-BUTYLCYCLOHEXANE	0.107	0.161
UNKNOWN	0.034	0.057
1,3-DIETHYLBENZENE	0.056	0.081
1-METHYL-3-PROPYLBENZENE		
1,2-DIETHYLBENZENE	0.047	0.068
N-BUTYLBENZENE		
1-METHYL-4-PROPYLBENZENE		
1,4-DIETHYLBENZENE	0.042	0.061
1-METHYL-2-PROPYLBENZENE	0.043	0.063
1,4-DIMETHYL-2-ETHYLBENZENE	0.067	0.096
UNKNOWN	0.000	0.000
1,2-DIMETHYL-4-ETHYLBENZENE	0.000	0.000

**CAPILLARY ANALYSIS - METHOD GPA 2286-95  
HEAVY END FRACTION**

<b>COMPONENT NAME</b>	<b>MOL %</b>	<b>WEIGHT %</b>
1,3-DIMETHYL-2-ETHYLBENZENE	0.007	0.010
UNKNOWN	0.000	0.000
1,2-DIMETHYL-3-ETHYLBENZENE	0.022	0.032
UNKNOWN	0.000	0.000
N-UNDECANE	0.107	0.180
UNKNOWN	0.005	0.009
1,2,4,5-TETRAMETHYLBENZENE	0.012	0.017
1,2,3,5-TETRAMETHYLBENZENE	0.026	0.037
UNKNOWN	0.000	0.000
1,2,3,4-TETRAMETHYLBENZENE	0.016	0.023
CYCLODECANE		
UNKNOWN	0.013	0.024
NAPHTHALENE	0.004	0.006
N-DODECANE	0.010	0.019
ISOTRIDECANES PLUS	0.022	0.049
<b>Total:</b>	<b>100.000</b>	<b>100.000</b>

<b>Specific Gravity @ 60 Deg. F. (Air = 1)</b>	3.2032
<b>Molecular Weight</b>	93.24
<b>Compressibility Factor</b>	0.8798
<b>Summation Factor</b>	0.0904
<b>Cu. Ft. Vapor/Gal @ 14.696 &amp; 60 Deg. F.</b>	23.792
<b>Cu. Ft. Vapor/Gal @ 14.730 &amp; 60 Deg. F.</b>	23.737
<b>Cu. Ft. Vapor/Gal @ 14.650 &amp; 60 Deg. F.</b>	23.866
<b>Btu/cu. Ft. @ 14.696 PSIA, Dry</b>	5084.58
<b>Btu/cu. Ft. @ 14.730 PSIA, Dry</b>	5096.34
<b>BTU/LB</b>	20754