GAS ANALYSIS SERVICE

2030 Afton Place
Farmington, NM 87401
(505) 325-6622

30045-31651

Analysis No: TH150024
Cust No: 77000-10385

Well/Lease Information

Customer Name: THOMPSON ENGINEERING
Well Name: AP 11 #4-S; BHD
County/State: 11 #45
Location:
Field: 30-045-31651
Formation:
Cust. Stn. No.:

OIL CONS. DIV DIST. 3
OCT 08 2015

Source: BRADENHEAD
Pressure: 6 PSIG
Sample Temp: DEG. F
Well Flowing: N
Date Sampled: 09/25/2015
Sampled By: JENNER BEGG
Foreman/Engr.:

Remarks: PRESSURED WITH HELIUM TO 30#

Analysis

Component::	Mole%:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.090	0.0100	0.00	0.0009
CO2	1.210	0.2070	0.00	0.0184
Methane	93.916	15.9540	948.55	0.5202
Ethane	4.171	1.1180	73.81	0.0433
Propane	0.458	0.1260	11.52	0.0070
Iso-Butane	0.131	0.0430	4.26	0.0026
N-Butane	0.015	0.0050	0.49	0.0003
I-Pentane	0.009	0.0030	0.36	0.0002
N-Pentane	0.000	0.0000	0.00	0.0000
Hexane Plus	0.000	0.0000	0.00	0.0000
Total	100.000	17.4660	1039.00	0.5929

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBLITY FACTOR (1/Z): 1.0023
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1043.7
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1025.5
REAL SPECIFIC GRAVITY: 0.594

GPM, BTU, and SPG calculations as shown above are based on current GPA factors.

DRY BTU @ 14.650: 1038.0
DRY BTU @ 14.696: 1041.3
DRY BTU @ 14.730: 1043.7
DRY BTU @ 15.025: 1064.6

CYLINDER #: 7028
CYLINDER PRESSURE: PSIG
DATE RUN: 9/29/15 7:18 AM
ANALYSIS RUN BY: PATRICIA KING

30-045-31651

THOMPSON ENGINEERING

WELL ANALYSIS COMPARISON

Lease:	AP 11 #4-5; BHD	BRADENHEAD	10/01/2015
Stn. No.:	11#45		77000-10385
Mtr. No.:			

Smpl Date:	09/25/2015
Test Date:	09/29/2015
Run No:	TH150024
Nitrogen:	0.090
CO2:	1.210
Methane:	93.916
Ethane:	4.171
Propane:	0.458
I-Butane:	0.131
N-Butane:	0.015
I-Pentane:	0.009
N-Pentane:	0.000
Hexane+:	0.000
BTU:	1043.7
GPM:	17.4660
SPG:	0.5940

OIL CONS. DIV DIST. 3

OCT 08 2015

30-045-31651

2030 Afton Place
Farmington, NM 87401
(505) 325-6622

Analysis No: TH150025
Cust No: 77000-10390

Well/Lease Information

Customer Name: THOMPSON ENGINEERING
Well Name: AP 11 #4S; CSG
County/State: 11 #4S
Location:
Field:
Formation:
Cust. Stn. No.:

Source: CASING
Pressure: 21 PSIG
Sample Temp: DEG. F
Well Flowing: N
Date Sampled: 09/25/2015
Sampled By: JENNER BEGG
Foreman/Engr.:

OIL CONS. DIV DIST. 3
OCT 08 2015

Remarks:

Analysis

Component::	Mole%:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.081	0.0090	0.00	0.0008
CO2	1.285	0.2200	0.00	0.0195
Methane	93.463	15.8770	943.98	0.5177
Ethane	4.482	1.2010	79.32	0.0465
Propane	0.510	0.1410	12.83	0.0078
Iso-Butane	0.149	0.0490	4.85	0.0030
N-Butane	0.018	0.0060	0.59	0.0004
I-Pentane	0.012	0.0040	0.48	0.0003
N-Pentane	0.000	0.0000	0.00	0.0000
Hexane Plus	0.000	0.0000	0.00	0.0000
Total	100.000	17.5070	1042.04	0.5959

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBLITY FACTOR (1/Z): 1.0023
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1046.9
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1028.7
REAL SPECIFIC GRAVITY: 0.5971

GPM, BTU, and SPG calculations as shown above are based on current GPA factors.

DRY BTU @ 14.650: 1041.2
DRY BTU @ 14.696: 1044.5
DRY BTU @ 14.730: 1046.9
DRY BTU @ 15.025: 1067.9

CYLINDER #: 6189
CYLINDER PRESSURE: 22 PSIG
DATE RUN: 9/29/15 7:20 AM
ANALYSIS RUN BY: PATRICIA KING

30-045-31651

THOMPSON ENGINEERING

WELL ANALYSIS COMPARISON

Lease:	AP 11 #4~~5~~; CSG	CASING	10/01/2015
Stn. No.:	11 #45		77000-10390
Mtr. No.:			

Smpl Date:	09/25/2015
Test Date:	09/29/2015
Run No:	TH150025
Nitrogen:	0.081
CO2:	1.285
Methane:	93.463
Ethane:	4.482
Propane:	0.510
I-Butane:	0.149
N-Butane:	0.018
I-Pentane:	0.012
N-Pentane:	0.000
Hexane+:	0.000
BTU:	1046.9
GPM:	17.5070
SPG:	0.5971

OIL CONS. DIV DIST. 3

OCT 08 2015

30-045-31651

2030 Afton Place
Farmington, NM 87401
(505) 325-6622

Analysis No: TH150026
Cust No: 77000-10395

Well/Lease Information

Customer Name: THOMPSON ENGINEERING
Well Name: AP 11 #4S; TBG
County/State:
Location:
Field:
Formation:
Cust. Stn. No.:

OIL CONS. DIV DIST. 3
OCT 08 2015

Source: TUBING
Pressure: 21 PSIG
Sample Temp: DEG. F
Well Flowing: N
Date Sampled: 09/25/2015
Sampled By: JENNER BEGG
Foreman/Engr.:

Remarks:

Analysis

Component::	Mole%:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	4.123	0.4550	0.00	0.0399
CO2	0.714	0.1220	0.00	0.0108
Methane	77.911	13.2480	786.90	0.4315
Ethane	9.802	2.6290	173.47	0.1018
Propane	3.862	1.0670	97.17	0.0588
Iso-Butane	0.704	0.2310	22.89	0.0141
N-Butane	1.445	0.4570	47.14	0.0290
I-Pentane	0.501	0.1840	20.04	0.0125
N-Pentane	0.427	0.1550	17.12	0.0106
Hexane Plus	0.511	0.2290	26.94	0.0169
Total	100.000	18.7770	1191.67	0.7260

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBLITY FACTOR (1/Z): 1.0033
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1198.4
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1177.5
REAL SPECIFIC GRAVITY: 0.7281

GPM, BTU, and SPG calculations as shown above are based on current GPA factors.

DRY BTU @ 14.650: 1191.9
DRY BTU @ 14.696: 1195.6
DRY BTU @ 14.730: 1198.4
DRY BTU @ 15.025: 1222.4

CYLINDER #: 6028
CYLINDER PRESSURE: 16 PSIG
DATE RUN: 9/29/15 7:22 AM
ANALYSIS RUN BY: Kindra Anderson

30-045-31651

GAS ANALYSIS SERVICE

THOMPSON ENGINEERING

WELL ANALYSIS COMPARISON

11#45

Lease:	AP 11 #4S; TBG	TUBING	10/01/2015
Stn. No.:			77000-10395
Mtr. No.:			

Smpl Date:	09/25/2015
Test Date:	09/29/2015
Run No:	TH150026
Nitrogen:	4.123
CO2:	0.714
Methane:	77.911
Ethane:	9.802
Propane:	3.862
I-Butane:	0.704
N-Butane:	1.445
I-Pentane:	0.501
N-Pentane:	0.427
Hexane+:	0.511
BTU:	1198.4
GPM:	18.7770
SPG:	0.7281

OIL CONS. DIV DIST. 3

OCT 08 2015