RAILROAD COMMISSION OF TEXAS

Form G-1

1701 N. Congress
P.O. Box 12967
Austin, Texas 78701-2967

Status: Approved
Date: 03/15/2018
Tracking No.: 181945

GAS WELL BACK PRESSURE TEST, COMPLETION OR RECOMPLETION REPORT, AND LOG

OPERATOR INFORMATION

Operator Name: ELEVATION RESOURCES LLC **Operator No.:** 247756
Operator Address: 200 N LORAINE STE 1010 MIDLAND, TX 79701-0000

WELL INFORMATION

API No.: 42-003-47118 **County:** ANDREWS
Well No.: 5H **RRC District No.:** 08
Lease Name: UNIVERSITY 1-26 UNIT **Field Name:** EMMA (DEVONIAN)
RRC Gas ID No.: 283482 **Field No.:** 28899166
Location: Section: 26, Block: 1, Survey: UL, Abstract: U26

Latitude: **Longitude:**
This well is located 10 **miles in a** SOUTH-SOUTHEASTERLY **direction from** ANDREWS, TEXAS, **which is the nearest town in the county.**

FILING INFORMATION

Purpose of filing: Reclass Oil to Gas
Type of completion: Other/Recompletion
Well Type: Producing **Completion or Recompletion Date:** 01/15/2017

Type of Permit	Date	Permit No.
Permit to Drill, Plug Back, or Deepen	04/24/2015	805597
Rule 37 Exception		
Fluid Injection Permit		
O&G Waste Disposal Permit		
Other:		

COMPLETION INFORMATION

Spud date: 07/04/2016 **Date of first production after rig released:** 01/15/2017
Date plug back, deepening, recompletion, or drilling operation commenced: 07/04/2016 **Date plug back, deepening, recompletion, or drilling operation ended:** 11/27/2016
Number of producing wells on this lease in this field (reservoir) including this well: 3 **Distance to nearest well in lease & reservoir (ft.):** 1226.0
Total number of acres in lease: 728.22 **Elevation (ft.):** 3145 GL
Total depth TVD (ft.): 11117 **Total depth MD (ft.):** 17770
Plug back depth TVD (ft.): **Plug back depth MD (ft.):**
Was directional survey made other than inclination (Form W-12)? Yes **Rotation time within surface casing (hours):** 108.0
Is Cementing Affidavit (Form W-15) attached? Yes
Recompletion or reclass? Yes **Multiple completion?** No
Type(s) of electric or other log(s) run: Gamma Ray (MWD)
Electric Log Other Description:
Location of well, relative to nearest lease boundaries of lease on which this well is located: **Off Lease:** No
500.0 **Feet from the** North **Line and**
400.0 **Feet from the** West **Line of the**
UNIVERSITY 1-26 UNIT **Lease.**

FORMER FIELD (WITH RESERVOIR) & GAS ID OR OIL LEASE NO.

Field & Reservoir	Gas ID or Oil Lease No.	Well No.	Prior Service Type

G1:	N/A			
PACKET	EMMA (DEVONIAN)	47300	5H	Producing

FOR NEW DRILL OR RE-ENTRY, SURFACE CASING DEPTH DETERMINED BY:

GAU Groundwater Protection Determination **Depth (ft.):** 1575.0 **Date:** 03/27/2015

SWR 13 Exception **Depth (ft.):**

GAS MEASUREMENT DATA

Date of test: 05/18/2017 **Gas measurement method(s):**

Gas production during test (MCF): 4107 Orifice Meter

Was the well preflowed for 48 hours? Yes

Run No.	Line size	Orif. or Choke Size (in.)	24 hr. Coeff. Orif. Or Choke (in.)	Static Pm or Choke (in.)	Diff (hw)	Flow Temp (°F)	Temp. (Ftf)	Gravity (Fg)	Compress (Fpv)	Volume (MCF/day)
1	3.000	1.5	12.39	65.0	143.0	89.0	1.3000	0.7980	1.008	1369.0

FIELD DATA AND PRESSURE CALCULATIONS

Gravity (dry gas): 0.798 **Gravity (liquid hydrocarbons) (Deg. API):** 49.4

Gas-Liquid Hydro Ratio (CF/Bbl): 4373 **Gravity (mixture): Gmix=** 1.345

Avg. shut in temp. (°F): 89.0 **Bottom hole temp. and depth:** 165.0 **°F@** 11117.0 **FT**

Run No.	Time of Run (Min.)	Choke Size (in.)	Wellhead Pressure (PSIA)	Wellhead Flow Temp (°F)
SHUT-IN	720	64/64	300	93.0
1	4320	64/64	150	90.0

CASING RECORD

Row	Type of Casing	Casing Size (in.)	Hole Size (in.)	Setting Depth (ft.)	Multi - Stage Tool Depth (ft.)	Multi - Stage Shoe Depth (ft.)	Cement Class	Cement Amount (sacks)	Slurry Volume (cu. ft.)	Top of Cement (ft.)	TOC Determined By
1	Surface	13 3/8	17 1/2	1629			CLASS "C"	1460	2708.2	0	Circulated to Surface
2	Intermediate	9 5/8	12 1/4	7121			TRANSTEX MULTI	2600	5744.0	3112	Calculation
3	Intermediate	9 5/8	12 1/4	7121	3112		TRANSTEX MULTI C	1400	2840.0	0	Calculation
4	Intermediate	7	8 3/4	11399			TRANSTEX MULTI	900	1942.0	6910	Calculation
5	Intermediate	7	8 3/4	11399	6910		TRANSTEX MULTI	700	1458.0	0	Circulated to Surface

LINER RECORD

Row	Liner Size (in.)	Hole Size (in.)	Liner Top (ft.)	Liner Bottom (ft.)	Cement Class	Cement Amount (sacks)	Slurry Volume (cu. ft.)	Top of Cement (ft.)	TOC Determined By
1	4 1/2	6 1/8	10254	17753	ULTRA "C"	550	946.0	10254	Calculation

TUBING RECORD

Row	Size (in.)	Depth Size (ft.)	Packer Depth (ft.)/Type
1	2 7/8	9900	/

PRODUCING/INJECTION/DISPOSAL INTERVAL

Row	Open hole?	From (ft.)	To (ft.)
1	No	L1 11450	17704

ACID, FRACTURE, CEMENT SQUEEZE, CAST IRON BRIDGE PLUG, RETAINER, ETC.

Was hydraulic fracturing treatment performed? Yes

Is well equipped with a downhole actuation sleeve? No

If yes, actuation pressure (PSIG):

Production casing test pressure (PSIG) prior to hydraulic fracturing treatment: 8500

Actual maximum pressure (PSIG) during hydraulic fracturing: 8269

Has the hydraulic fracturing fluid disclosure been reported to FracFocus disclosure registry (SWR29)? Yes

Row	Type of Operation	Amount and Kind of Material Used	Depth Interval (ft.)	
1	Fracture	PLEASE SEE FRAC FOCUS FOR DETAILS	11450.0	17704.0
2	Other	520 SX CMT PLUG SET IN 8-3/4" WELLBORE	7284.0	7500.0
3	Other	520 SX CMT PLUG SET IN 8-3/4" WELLBORE	6152.0	7278.0

FORMATION RECORD

Formations	Encountered	Depth TVD (ft.)	Depth MD (ft.)	Is formation isolated?	Remarks
YATES	Yes	3157.0	3157.0	Yes	ESTIMATED - NOT LOGGED
SEVEN RIVERS	Yes	3271.0	3271.0	Yes	ESTIMATED - NOT LOGGED
QUEEN	Yes	3380.0	3380.0	Yes	ESTIMATED - NOT LOGGED
GRAYBURG	Yes	4750.0	4750.0	Yes	ESTIMATED - NOT LOGGED
SAN ANDRES - CO2 FLOOD, HIGH FLOWS, H2S, CORROSIVE	Yes	4915.0	4915.0	Yes	ESTIMATED - NOT LOGGED
HOLT	No			No	NOT GEOLOGICALLY PRESENT
GLORIETA	Yes	5720.0	5720.0	Yes	ESTIMATED - NOT LOGGED
TUBB	No			No	NOT GEOLOGICALLY PRESENT
CLEARFORK	Yes	6715.0	6715.0	Yes	ESTIMATED - NOT LOGGED
PERMIAN DETRITAL	No			No	NOT GEOLOGICALLY PRESENT
LEON	No			No	NOT GEOLOGICALLY PRESENT
WICHITA ALBANY	Yes	7830.0	7830.0	Yes	ESTIMATED - NOT LOGGED
SPRABERRY	No			No	NOT GEOLOGICALLY PRESENT
DEAN	No			No	NOT GEOLOGICALLY PRESENT
WOLFCAMP	Yes	8557.0	8557.0	Yes	ESTIMATED TOP - NO LOG
CANYON	No			No	NOT GEOLOGICALLY PRESENT
PENNSYLVANIAN	Yes	8780.0	8780.0	Yes	
MCKEE	No			No	WELL NOT DRILLED DEEP ENOUGH
STRAWN	Yes	9736.0	9736.0	Yes	
FUSSELMAN	No			No	WELL NOT DRILLED DEEP ENOUGH

DEVONIAN	Yes	11023.0	11023.0	Yes	
SILURIAN	No			No	WELL NOT DRILLED DEEP ENOUGH
ELLENBURGER	No			No	WELL NOT DRILLED DEEP ENOUGH

Do the producing interval of this well produce H2S with a concentration in excess of 100 ppm (SWR 36)? No

Is the completion being downhole commingled (SWR 10)? No

REMARKS

KOP @ 10,650'

RRC REMARKS

PUBLIC COMMENTS:

[RRC Staff 2017-11-08 11:38:20.069] EDL=6254 feet, max acres=260

CASING RECORD :

TUBING RECORD:

PRODUCING/INJECTION/DISPOSAL INTERVAL :

ACID, FRACTURE, CEMENT SQUEEZE, CAST IRON BRIDGE PLUG, RETAINER, ETC. :

FISH STUCK IN HOLE, ON 7/23/16 2 CMT PLUGS WERE SET TO ABANDON WELLBORE AND CEMENT OFF WATER FLOW. RE-ENTERED 11/2/16 TO FINISH DRILLING. PLUGS WERE LEFT IN PLACE, JUST SIDETRACKED AROUND TO CONTINUE

GAS MEASUREMENT DATE REMARK:

OPERATOR'S CERTIFICATION

Printed Name: Curtis Flanagan **Title:** Eng. Tech

Telephone No.: (432) 688-3380 **Date Certified:** 02/13/2018

RAILROAD COMMISSION OF TEXAS
Oil and Gas Division

GAS WELL CLASSIFICATION REPORT

Form G-5

This facsimile G-5 was generated electronically from data submitted to the RRC.

Tracking No.: 181945

1. OPERATOR NAME (Exactly as shown on Form P5 Organization Report)	3. RRC DISTRICT NO.	4. OIL LEASE NO OR GAS WELL ID NO.
ELEVATION RESOURCES LLC	08	283482
2. MAILING ADDRESS	**5. WELL NO.**	**6. API NO.**
200 N LORAINE STE 1010 MIDLAND, TX 79701	5H	**42-** 003-47118
	7. COUNTY OF WELL SITE	
	ANDREWS	

8. FIELD NAME (as per RRC Records)	9. LEASE NAME
EMMA (DEVONIAN)	UNIVERSITY 1-26 UNIT
10. LOCATION (Section, Block and Survey)	**11. PIPELINE CONNECTION OR USE OF GAS**
26 , 1 , UL , A-U26	JAMES LAKE MIDSTREAM LLC (429665)

PRODUCTION TEST AT RATE ELECTED BY OPERATOR
(data on 24-hour basis)

A. Date of Test	05/18/2017	
B. Gas Volume	1369.0	(Mcf)
C. Oil or Condensate Volume	313.0	(Bbl)
D. Water Volume	1381.0	(Bbl)
E. Gas/Liquid Hydrocarbon Ratio	4373	(Cf/Bbl)
F. Flowing Tubing Pressure	150	(psia)
G. Choke Size	64/64	(in.)
H. Casing Pressure	180.0	(psia)
I. Shut-in Wellhead Pressure--Tubing	300	(psia)
J. Separator Operating Pressure	65.0	(psia)
K. Color of Stock Tank Liquid	Dark Straw	
L. Gravity of Separator Liquid	44.6	^{o}API
M. Gravity of Stock Tank Liquid	45.0	^{o}API
N. Specific Gravity of the Gas (Air = 1)	0.798	

A.S.T.M. DISTILLATION OF LIQUID SAMPLE. Distillation test is required for gas wells ONLY if the producing gas-liquid hydrocarbon ratio is less than 100,000 CF/barrel.

Date Liquid Sample Obtained: 09/13/2017

Where Obtained: [X] Separator [ ] Stock Tank

% Over	Temp. (deg. F)	% Over	Temp. (deg. F)
Initial Boiling Temp.	94.0	60	543.0
10	205.0	70	637.0
20	256.0	80	721.0
30	309.0	90	
40	377.0	95	
50	462.0	End Point	726.0

Total Recovery	81.9	percent
Residue	16.3	percent
Loss	1.8	percent

I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this report, that this report was prepared by me or under my supervision and direction, and that data and facts stated therein are true, correct, and complete to the best of my knowledge.

11/08/2017
DATE

ELEVATION RESOURCES LLC
NAME (Type or Print)

Curtis Flanagan
SIGNATURE

Eng. Tech
TITLE

(432) 688-3380
CONTACT PERSON PHONE NUMBER

RRC USE ONLY

Tracking No.: 181945

OPERATOR NAME AND ADDRESS including city, state and zip

ELEVATION RESOURCES LLC

200 N LORAINE STE 1010
MIDLAND, TX 79701

GAS WELL STATUS REPORT

RAILROAD COMMISSION OF TEXAS
Oil and Gas Division
P.O. Box 12967
Austin, Texas 78711-2967

This facsimile G-10 was generated electronically from data submitted to the RRC.

Reason for Filing
☐ Survey ☐ Retest
☒ Initial Test ☐ Correction

Operator P-5 Organization No.: 247756

RRC Dist. No.: 08

Test Period:
Due Date:
Effective Date:

G-10

FIELD NAME / * LEASE NAME	RRC IDENT NO. / WELL NO.	DATE TESTED MO/DAY/YR / MARK X FOR SHUT-IN WELL	GAS PRODUCED MCF/DAY ** / GAS SPEC. GRAVITY	CONDENSATE PRODUCED / CONDENSATE GRAVITY (API)	WATER PROD BBL/DAY / X BOTTOMHOLE PRESSURE PSIA	***SIWH PRESSURE PSIA / ***FLOWING PRESSURE PSIA
EMMA (DEVONIAN)	283482	05/18/2017	1369 MCF	313.0 BBL	1381.0 BBL	300
UNIVERSITY 1-26 UNIT	5H		0.798	49.4		150
			MCF	BBL	BBL	
			MCF	BBL	BBL	
			MCF	BBL	BBL	
			MCF	BBL	BBL	
			MCF	BBL	BBL	
			MCF	BBL	BBL	
			MCF	BBL	BBL	

CERTIFICATION: I declare under penalties prescribed in Texas Natural Resources Code, Sec. 91.143, that I am authorized to make this report, that this report was prepared by me or under my supervision and direction, and that data and facts stated herein are true, correct, and complete to the best of my knowledge.

ELEVATION RESOURCES LLC

Signature: LEONARD STICKEL **Title:** **Phone:** (432)686-7500 **Date:** 11/08/2017

* AN ASTERISK PREPRINTED ON A SURVEY IDENTIFIES WELL SUBJECT TO COMMINGLING TEST REQUIREMENT

** GAS PRODUCTION RATE, IN MCF, IS TO BE REPORTED FULL-WELL STREAM, INCLUDING CONDENSATE *** PRESSURE FOR THE TEXAS HUGOTON FIELD IS REPORTED IN PSIG

X AN 'X' PREPRINTED ON A SURVEY IN THE BOTTOMHOLE PRESSURE BOX INDICATES A BOTTOMHOLE PRESSURE MUST BE REPORTED FOR THE WELL

Retrograde Gas PVT Fluid Study
for
Elevation Resources LLC
University 1-26 Unit No. 5H
Andrews County, Texas

FESCO, Ltd.

Petroleum Engineers

Table of Contents

FESCO, Ltd.
Petroleum Engineers

CORPORATE HEADQUARTERS: 1000 FESCO AVE. • ALICE, TEXAS 78332-7318 • (361) 661-7000

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ALICE LAB.....(361) 661-7015
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VICTORIA.....(361) 575-7533

September 26, 2017

Mr. Mark Solari
Elevation Resources LLC
200 N. Loraine, Suite 1010
Midland, Texas 79701

Re:	Well:	University 1-26 Unit No. 5H
	Field:	Emma (Devonian)
	Location:	Andrews County, Texas
	Formation:	Devonian
	Lateral:	11450 - 17704 ft MD
	Test Type:	Retrograde Gas PVT Fluid Study

Dear Mr. Solari:

The attached report contains results from a laboratory study performed on the recombined separator fluids from the subject well. The study determined the type and character of the reservoir fluid. The fluid study was performed using first-stage separator gas and hydrocarbon (HC) liquid samples obtained from the well on September 13, 2017 by FESCO, Ltd. FESCO then delivered the separator samples to its PVT laboratory in Alice, Texas. Extended compositional analyses were performed on the separator gas (C_{11+}) and on the separator HC liquid (C_{31+}) samples. Tables 1-A through 1-D list the compositional analyses of the separator gas, separator HC liquid and mathematically recombined wellstream fluid through C_{7+}, C_{11+} and C_{31+}, respectively. The Appendix contains the ASTM D-86 distillation conducted on the stock tank HC liquid. Table 2 reports the fluid properties measured as the separator HC liquid was flashed from separator conditions to ambient laboratory conditions.

The separator gas and HC liquid were physically recombined in a visual PVT cell at the reservoir temperature of 165 °F and at the reported gas-oil ratio of 8628 Scf/Sep Bbl (8981 Scf/STB). The recombined fluid was evaluated during a Constant Composition Expansion (CCE) process at pressures ranging from 9015 to 1103 psia. The resulting CCE data is reported in Table 3. ***A retrograde dew point was observed at 8420 psia.*** The static reservoir pressure is lower than the observed retrograde dew point pressure. Therefore, the reservoir fluid exists as saturated (two-phase)

gas at static reservoir conditions of 4815 psia and 165 °F. Figures 1 through 7 illustrate the data reported in Table 3.

Thank you for this opportunity to serve Elevation Resources LLC. Please call me if you have any questions or concerns regarding this report.

Sincerely,

FESCO, Ltd.

Raj K. Lahoti, E.I.T.
Petroleum Engineer
Alice, Texas
Phone: 361-661-7015
Email: raj.lahoti@fescoinc.com

Bobby Mandel, P. E.
Vice - President
Alice, Texas
Phone: 361-661-7000 Ext. 141
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FESCO, Ltd.

Petroleum Engineers

SAMPLE SUMMARY

Company:	Elevation Resources LLC
Well:	University 1-26 Unit No. 5H
Sample Date:	09/13/17
Sample Time:	9:15 AM

Separator Conditions

Pressure:	110 psia
Temperature:	88 °F

Laboratory Quality Test

Separator Gas:	Pressure	Temperature
Cylinder ID No. G-3512P*	120 psia	130 °F
Cylinder ID No. G-3519	119 psia	130 °F

Separator HC Liquid:	BP Pressure	Temperature
Cylinder ID No. W-2873*	100 psia	70 °F
Cylinder ID No. W-1518	100 psia	70 °F

Report Date: 9/26/2017

* Samples used in fluid study

TABLE 1-A

COMPOSITIONAL ANALYSIS OF THE SEPARATOR GAS, HC LIQUID AND MATHEMATICALLY RECOMBINED WELLSTREAM THROUGH C_{7+}

HC LIQUID AND GAS CYLINDERS.....: W-2873* and G-3512P*
SEPARATOR GLR.....: 8628 Scf/Sep Bbl
SEPARATOR PRESSURE.....: 110 psia
SEPARATOR TEMPERATURE.....: 88 °F
STL TOTAL SAMPLE SG .....: 0.7821 (Water = 1.000)

	SEPARATOR GAS			SEPARATOR HC LIQUID			WELLSTREAM			COMP. PROPERTIES	
Component	Weight %	Mole%	* GPM	Weight %	Mole %	Liquid Volume %	Weight %	Mole %	GPM	MW lb/lb-mole	SG H20=1.000
Hydrogen Sulfide	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	34.081	0.7989
Nitrogen	1.332	1.094	0.000	0.004	0.023	0.004	0.877	1.016	0.000	28.013	0.8069
Carbon Dioxide	1.522	0.796	0.000	0.019	0.065	0.018	1.006	0.743	0.000	44.010	0.8172
Methane	49.652	71.217	0.000	0.255	2.437	0.665	32.707	66.218	0.000	16.043	0.3000
Ethane	19.282	14.755	3.924	0.574	2.926	1.260	12.865	13.896	3.695	30.069	0.3563
Propane	13.660	7.128	1.953	1.344	4.670	2.072	9.435	6.949	1.904	44.096	0.5072
Iso-butane	1.877	0.743	0.242	0.406	1.070	0.564	1.372	0.767	0.250	58.122	0.5628
N-butane	5.802	2.297	0.720	1.843	4.861	2.468	4.444	2.483	0.778	58.122	0.5842
2-2 Dimethylpropane	0.016	0.005	0.002	0.039	0.083	0.051	0.024	0.011	0.004	72.149	0.5967
Iso-pentane	1.536	0.490	0.178	1.161	2.465	1.452	1.407	0.633	0.230	72.149	0.6251
N-pentane	2.038	0.650	0.234	2.060	4.377	2.555	2.046	0.921	0.332	72.149	0.6307
2-2 Dimethylbutane	0.015	0.004	0.002	0.020	0.036	0.024	0.017	0.006	0.003	86.177	0.6540
Cyclopentane	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	70.135	0.7504
2-3 Dimethylbutane	0.146	0.039	0.016	0.207	0.369	0.243	0.167	0.063	0.026	86.177	0.6664
2 Methylpentane	0.446	0.119	0.049	0.850	1.511	1.010	0.584	0.220	0.091	86.177	0.6579
3 Methylpentane	0.240	0.064	0.026	0.514	0.914	0.601	0.334	0.126	0.051	86.177	0.6689
Other Hexanes	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	84.000	0.6850
n-Hexane	0.712	0.190	0.078	1.838	3.270	2.165	1.098	0.414	0.169	86.175	0.6641
Heptanes Plus	1.724	0.408	0.170	88.866	70.923	84.847	31.616	5.534	3.966	See Below	
TOTAL	100.000	100.000	7.593	100.000	100.000	100.000	100.000	100.000	11.499	---	---

HEPTANES PLUS (C_{7+}) FRACTION CHARACTERISTICS

	Specific Gravity		Molecular Weight	Vapor Volume	Gross Heating Value
COMPONENT	°API	**	lb/lb-mole	Scf/Gal	***
Separator Gas	N/A	3.3569	97.225	24.030	5,090
Separator HC Liquid	41.232	0.8192	192.053	13.537	131,390
Wellstream	N/A	0.8159	185.569	13.954	N/A

TOTAL SAMPLE CHARACTERISTICS

	Specific Gravity		Molecular Weight	Vapor Volume	GHV	
					Dry	Saturated
COMPONENT	°API	**	lb/lb-mole	Scf/Gal	***	***
Separator Gas	N/A	0.7980	23.010	131.700	1,348	1,325
Separator HC Liquid	49.413	0.7821	153.275	16.195	N/A	126,787
Wellstream	N/A	1.1214	32.479	86.968	N/A	N/A

* GPM (gallons per Mscf) determined at 14.65 psia and 60°F

** Gas specific gravity determined relative to air (SG=1.000).
HC Liquid and wellstream specific gravity determined relative to water (SG=1.000).
SG values determined mathematically using the compositional analysis.

*** Gross Heating Value units for gas (real basis) and HC liquid are BTU/Scf and BTU/Gal, respectively.

TABLE 1-B

COMPOSITIONAL ANALYSIS OF THE SEPARATOR GAS, HC LIQUID AND MATHEMATICALLY RECOMBINED WELLSTREAM THROUGH C_{11+}

HC LIQUID AND GAS CYLINDERS.....: W-2873* and G-3512P*
SEPARATOR GLR.....: 8628 Scf/Sep Bbl
SEPARATOR PRESSURE.....: 110 psia
SEPARATOR TEMPERATURE.....: 88 °F
STL TOTAL SAMPLE SG .....: 0.7821 (Water = 1.000)

	SEPARATOR GAS			SEPARATOR HC LIQUID			WELLSTREAM			COMP. PROPERTIES	
Component	Weight %	Mole%	* GPM	Weight %	Mole %	Liquid Volume %	Weight %	Mole %	GPM	MW lb/lb-mole	SG H20=1.000
Hydrogen Sulfide	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	34.081	0.7989
Nitrogen	1.332	1.094	0.000	0.004	0.023	0.004	0.877	1.016	0.000	28.013	0.8069
Carbon Dioxide	1.522	0.796	0.000	0.019	0.065	0.018	1.006	0.743	0.000	44.010	0.8172
Methane	49.652	71.217	0.000	0.255	2.437	0.665	32.707	66.218	0.000	16.043	0.3000
Ethane	19.282	14.755	3.924	0.574	2.926	1.260	12.865	13.896	3.695	30.069	0.3563
Propane	13.660	7.128	1.953	1.344	4.670	2.072	9.435	6.949	1.904	44.096	0.5072
Iso-butane	1.877	0.743	0.242	0.406	1.070	0.564	1.372	0.767	0.250	58.122	0.5628
N-butane	5.802	2.297	0.720	1.843	4.861	2.468	4.444	2.483	0.778	58.122	0.5842
2-2 Dimethylpropane	0.016	0.005	0.002	0.039	0.083	0.051	0.024	0.011	0.004	72.149	0.5967
Iso-pentane	1.536	0.490	0.178	1.161	2.465	1.452	1.407	0.633	0.230	72.149	0.6251
N-pentane	2.038	0.650	0.234	2.060	4.377	2.555	2.046	0.921	0.332	72.149	0.6307
2-2 Dimethylbutane	0.015	0.004	0.002	0.020	0.036	0.024	0.017	0.006	0.003	86.177	0.6540
Cyclopentanes	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	70.135	0.7504
2-3 Dimethylbutane	0.146	0.039	0.016	0.207	0.369	0.243	0.167	0.063	0.026	86.177	0.6664
2 Methylpentane	0.446	0.119	0.049	0.850	1.511	1.010	0.584	0.220	0.091	86.177	0.6579
3 Methylpentane	0.240	0.064	0.026	0.514	0.914	0.601	0.334	0.126	0.051	86.177	0.6689
Other Hexanes	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	84.000	0.6850
n-Hexane	0.712	0.190	0.078	1.838	3.270	2.165	1.098	0.414	0.169	86.175	0.6641
Methylcyclopentane	0.234	0.064	0.023	0.826	1.504	0.857	0.437	0.169	0.059	84.162	0.7536
Benzene	0.034	0.010	0.003	0.116	0.227	0.102	0.062	0.026	0.007	78.114	0.8844
Cyclohexane	0.161	0.044	0.015	0.705	1.284	0.704	0.348	0.134	0.045	84.162	0.7834
2-Methylhexane	0.100	0.023	0.011	0.664	1.015	0.760	0.293	0.095	0.044	100.205	0.6830
3-Methylhexane	0.113	0.026	0.012	0.627	0.959	0.709	0.289	0.094	0.043	100.205	0.6917
2,2,4 Trimethylpentane	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	114.232	0.6962
Other Heptanes	0.241	0.056	0.025	1.176	1.817	1.292	0.562	0.184	0.081	99.197	0.7122
n-Heptane	0.248	0.057	0.026	1.924	2.942	2.186	0.823	0.267	0.122	100.202	0.6882
Methylcyclohexane	0.192	0.045	0.018	1.697	2.649	1.715	0.708	0.234	0.094	98.189	0.7740
Toluene	0.044	0.011	0.004	0.542	0.901	0.486	0.215	0.076	0.025	92.143	0.8718
Other C8's	0.187	0.039	0.018	3.641	5.063	3.875	1.372	0.404	0.191	110.217	0.7349
n-Octane	0.065	0.013	0.007	1.743	2.338	1.929	0.640	0.182	0.093	114.229	0.7066
Ethylbenzene	0.005	0.001	0.000	0.154	0.222	0.138	0.056	0.017	0.007	106.168	0.8718
M&P-Xylene	0.023	0.005	0.002	0.733	1.058	0.661	0.266	0.082	0.031	106.168	0.8670
O-Xylene	0.005	0.001	0.000	0.334	0.482	0.295	0.118	0.036	0.014	106.168	0.8848
Other C-9's	0.055	0.010	0.005	3.268	3.967	3.391	1.157	0.298	0.157	126.243	0.7536
n-Nonane	0.011	0.002	0.001	1.564	1.869	1.694	0.544	0.138	0.077	128.255	0.7222
Other C10's	0.006	0.001	0.001	4.071	4.416	4.149	1.400	0.322	0.187	141.278	0.7675
n-Decane	0.000	0.000	0.000	1.203	1.296	1.281	0.413	0.094	0.057	142.282	0.7346
Undecanes Plus	0.000	0.000	0.000	63.881	36.912	58.624	21.913	2.683	2.631	See Below	
TOTAL	100.000	100.000	7.593	100.000	100.000	100.0000	100.000	100.000	11.499	N/A	N/A

UNDECANES PLUS (C_{11+}) FRACTION CHARACTERISTICS

	Specific Gravity		Molecular Weight	Vapor Volume	Gross Heating Value	
COMPONENT	°API	**	lb/lb-mole	Scf/Gal	***	****
Separator Gas	N/A	0.8523	265.300	10.196	8,400	
Separator HC Liquid	34.524	0.8523	265.265	10.197	133,468	
Wellstream	N/A	0.8523	265.265	10.197	N/A	

TOTAL SAMPLE CHARACTERISTICS

	Specific Gravity		Molecular Weight	Vapor Volume	GHV	
					Dry	Saturated
COMPONENT	°API	**	lb/lb-mole	Scf/Gal	***	***
Separator Gas	N/A	0.7980	23.010	131.700	1,348	1325
Separator HC Liquid	49.413	0.7821	153.275	16.195	N/A	126,787
Wellstream	N/A	1.1214	32.479	86.968	N/A	N/A

* GPM (gallons per Mscf) determined at 14.65 psia and 60°F

** Gas specific gravity determined relative to air (SG=1.000).
HC Liquid and wellstream specific gravity determined relative to water (SG=1.000).
SG values determined mathematically using the compositional analysis.

*** Gross Heating Value units for gas (real basis) and HC liquid are BTU/Scf and BTU/Gal, respectively.

TABLE 1-C

COMPOSITIONAL ANALYSIS OF THE SEPARATOR GAS, HC LIQUID AND MATHEMATICALLY RECOMBINED WELLSTREAM THROUGH C_{31+}

HC LIQUID AND GAS CYLINDERS.....: W-2873* and G-3512P*
SEPARATOR GLR.....: 8628 Scf/Sep Bbl
SEPARATOR PRESSURE.....: 110 psia
SEPARATOR TEMPERATURE.....: 88 °F
STL TOTAL SAMPLE SG .....: 0.7821 (Water = 1.000)

	SEPARATOR GAS			SEPARATOR HC LIQUID			WELLSTREAM			COMP. PROPERTIES	
Component	Weight %	Mole%	* GPM	Weight %	Mole %	Liquid Volume %	Weight %	Mole %	GPM	MW lb/lb-mole	SG H20=1.000
Hydrogen Sulfide	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	34.081	0.7989
Nitrogen	1.332	1.094	0.000	0.004	0.023	0.004	0.877	1.016	0.000	28.013	0.8069
Carbon Dioxide	1.522	0.796	0.000	0.019	0.065	0.018	1.006	0.743	0.000	44.010	0.8172
Methane	49.652	71.217	0.000	0.255	2.437	0.665	32.707	66.218	0.000	16.043	0.3000
Ethane	19.282	14.755	3.924	0.574	2.926	1.260	12.865	13.896	3.695	30.069	0.3563
Propane	13.660	7.128	1.953	1.344	4.670	2.072	9.435	6.949	1.904	44.096	0.5072
Iso-butane	1.877	0.743	0.242	0.406	1.070	0.564	1.372	0.767	0.250	58.122	0.5628
N-butane	5.802	2.297	0.720	1.843	4.861	2.468	4.444	2.483	0.778	58.122	0.5842
2-2 Dimethylpropane	0.016	0.005	0.002	0.039	0.083	0.051	0.024	0.011	0.004	72.149	0.5967
Iso-pentane	1.536	0.490	0.178	1.161	2.465	1.452	1.407	0.633	0.230	72.149	0.6251
N-pentane	2.038	0.650	0.234	2.060	4.377	2.555	2.046	0.921	0.332	72.149	0.6307
2-2 Dimethylbutane	0.015	0.004	0.002	0.020	0.036	0.024	0.017	0.006	0.003	86.177	0.6540
Cyclopentanes	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	70.135	0.7504
2-3 Dimethylbutane	0.146	0.039	0.016	0.207	0.369	0.243	0.167	0.063	0.026	86.177	0.6664
2 Methylpentane	0.446	0.119	0.049	0.850	1.511	1.010	0.584	0.220	0.091	86.177	0.6579
3 Methylpentane	0.240	0.064	0.026	0.514	0.914	0.601	0.334	0.126	0.051	86.177	0.6689
Other Hexanes	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	84.000	0.6850
n-Hexane	0.712	0.190	0.078	1.838	3.270	2.165	1.098	0.414	0.169	86.175	0.6641
Methylcyclopentane	0.234	0.064	0.023	0.826	1.504	0.857	0.437	0.169	0.059	84.162	0.7536
Benzene	0.034	0.010	0.003	0.116	0.227	0.102	0.062	0.026	0.007	78.114	0.8844
Cyclohexane	0.161	0.044	0.015	0.705	1.284	0.704	0.348	0.134	0.045	84.162	0.7834
2-Methylhexane	0.100	0.023	0.011	0.664	1.015	0.760	0.293	0.095	0.044	100.205	0.6830
3-Methylhexane	0.113	0.026	0.012	0.627	0.959	0.709	0.289	0.094	0.043	100.205	0.6917
2,2,4 Trimethylpentane	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	114.232	0.6962
Other Heptanes	0.241	0.056	0.025	1.176	1.817	1.292	0.562	0.184	0.081	99.197	0.7122
n-Heptane	0.248	0.057	0.026	1.924	2.942	2.186	0.823	0.267	0.122	100.202	0.6882
Methylcyclohexane	0.192	0.045	0.018	1.697	2.649	1.715	0.708	0.234	0.094	98.189	0.7740
Toluene	0.044	0.011	0.004	0.542	0.901	0.486	0.215	0.076	0.025	92.143	0.8718
Other C8's	0.187	0.039	0.018	3.641	5.063	3.875	1.372	0.404	0.191	110.217	0.7349
n-Octane	0.065	0.013	0.007	1.743	2.338	1.929	0.640	0.182	0.093	114.229	0.7066
Ethylbenzene	0.005	0.001	0.000	0.154	0.222	0.138	0.056	0.017	0.007	106.168	0.8718
M&P-Xylene	0.023	0.005	0.002	0.733	1.058	0.661	0.266	0.082	0.031	106.168	0.8670
O-Xylene	0.005	0.001	0.000	0.334	0.482	0.295	0.118	0.036	0.014	106.168	0.8848
Other C-9's	0.055	0.010	0.005	3.268	3.967	3.391	1.157	0.298	0.157	126.243	0.7536
n-Nonane	0.011	0.002	0.001	1.564	1.869	1.694	0.544	0.138	0.077	128.255	0.7222
Other C10's	0.006	0.001	0.001	4.071	4.416	4.149	1.400	0.322	0.187	141.278	0.7675
n-Decane	0.000	0.000	0.000	1.203	1.296	1.281	0.413	0.094	0.057	142.282	0.7346
Undecanes	0.000	0.000	0.000	4.521	4.714	4.543	1.551	0.343	0.204	147.000	0.7783
Dodecanes	0.000	0.000	0.000	3.974	3.783	3.939	1.363	0.275	0.177	161.000	0.7892
Tridecanes	0.000	0.000	0.000	4.070	3.564	3.979	1.396	0.259	0.179	175.000	0.8000
Tetradecanes	0.000	0.000	0.000	3.620	2.920	3.492	1.242	0.212	0.157	190.000	0.8109
Pentadecanes	0.000	0.000	0.000	3.319	2.470	3.163	1.139	0.180	0.142	206.000	0.8207
Hexadecanes	0.000	0.000	0.000	3.054	2.108	2.886	1.047	0.153	0.130	222.000	0.8276
Heptadecanes	0.000	0.000	0.000	2.712	1.754	2.539	0.930	0.128	0.114	237.000	0.8355
Octadecanes	0.000	0.000	0.000	2.678	1.636	2.493	0.919	0.119	0.112	251.000	0.8404
Nonadecanes	0.000	0.000	0.000	2.631	1.533	2.434	0.903	0.111	0.109	263.000	0.8454
Eicosanes	0.000	0.000	0.000	2.348	1.309	2.160	0.805	0.095	0.097	275.000	0.8503
Heneicosanes	0.000	0.000	0.000	1.939	1.021	1.773	0.665	0.074	0.080	291.000	0.8552
Docosanes	0.000	0.000	0.000	1.908	0.959	1.735	0.654	0.070	0.078	305.000	0.8602
Tricosanes	0.000	0.000	0.000	1.860	0.897	1.682	0.638	0.065	0.075	318.000	0.8651
Tetracosanes	0.000	0.000	0.000	1.675	0.776	1.508	0.575	0.056	0.068	331.000	0.8691
Pentacosanes	0.000	0.000	0.000	1.582	0.703	1.417	0.543	0.051	0.064	345.000	0.8730
Hexacosanes	0.000	0.000	0.000	1.253	0.535	1.117	0.430	0.039	0.050	359.000	0.8769
Heptacosanes	0.000	0.000	0.000	1.481	0.607	1.315	0.508	0.044	0.059	374.000	0.8809
Octacosanes	0.000	0.000	0.000	1.312	0.518	1.161	0.450	0.038	0.052	388.000	0.8839

TABLE 1-C

COMPOSITIONAL ANALYSIS OF THE SEPARATOR GAS, HC LIQUID AND MATHEMATICALLY RECOMBINED WELLSTREAM THROUGH C_{31+}

HC LIQUID AND GAS CYLINDERS.....: W-2873* and G-3512P*
SEPARATOR GLR.....:….....: 8628 Scf/Sep Bbl
SEPARATOR PRESSURE.....:.....: 110 psia
SEPARATOR TEMPERATURE.....: 88 °F
STL TOTAL SAMPLE SG .....: 0.7821 (Water = 1.000)

	SEPARATOR GAS			SEPARATOR HC LIQUID			WELLSTREAM			COMP. PROPERTIES	
Component	Weight %	Mole%	* GPM	Weight %	Mole %	Liquid Volume %	Weight %	Mole %	GPM	MW lb/lb-mole	SG H20=1.000
Nonacosanes	0.000	0.000	0.000	1.244	0.474	1.097	0.427	0.034	0.049	402.000	0.8868
Triacontanes	0.000	0.000	0.000	1.029	0.379	0.904	0.353	0.028	0.041	416.000	0.8898
Hentriacontanes Plus	0.000	0.000	0.000	15.672	4.251	13.287	5.376	0.309	0.596	565.000	0.9225
TOTALS	100.000	100.000	7.593	100.000	100.000	100.000	100.000	100.000	11.499	N/A	N/A

HENTRIACONTANES PLUS (C_{31+}) FRACTION CHARACTERISTICS

	Specific Gravity		Molecular Weight	
COMPONENT	°API	**	lb/lb-mole	
Separator Gas	N/A	N/A	N/A	
Separator HC Liquid	21.888	0.9225	565.000	
Wellstream	21.888	0.9225	565.000	

TOTAL SAMPLE CHARACTERISTICS

	Specific Gravity		Molecular Weight	Vapor Volume	GHV	
					Dry	Saturated
COMPONENT	°API	**	lb/lb-mole	Scf/Gal	***	***
Separator Gas	N/A	0.7980	23.010	131.700	1,348	1325
Separator HC Liquid	49.413	0.7821	153.275	16.195	N/A	126,787
Wellstream	N/A	1.1214	32.479	86.968	N/A	N/A

* GPM (gallons per Mscf) determined at 14.65 psia and 60°F

** Gas specific gravity determined relative to air (SG=1.000).
HC Liquid and wellstream specific gravity determined relative to water (SG=1.000).
SG values determined mathematically using the compositional analysis.

*** Gross Heating Value units for gas (real basis) and HC liquid are BTU/Scf and BTU/Gal, respectively.

TABLE 1-D

COMPOSITIONAL SCN ANALYSIS OF THE SEPARATOR GAS, HC LIQUID AND MATHEMATICALLY RECOMBINED WELLSTREAM THROUGH C_{31+}

HC LIQUID AND GAS CYLINDERS.....: W-2873* and G-3512P*
SEPARATOR GLR.....: 8628 Scf/Sep Bbl
SEPARATOR PRESSURE.....: 110 psia
SEPARATOR TEMPERATURE.....: 88 °F
STL TOTAL SAMPLE SG .....: 0.7821 (Water = 1.000)

	SEPARATOR GAS			SEPARATOR HC LIQUID			WELLSTREAM			COMP. PROPERTIES	
Component	Weight %	Mole%	* GPM	Weight %	Mole %	Liquid Volume %	Weight %	Mole %	GPM	MW lb/lb-mole	SG H20=1.000
Hydrogen Sulfide	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	34.081	0.7989
Nitrogen	1.332	1.094	0.000	0.004	0.023	0.004	0.879	1.016	0.000	28.013	0.8069
Carbon Dioxide	1.522	0.796	0.000	0.019	0.065	0.018	1.009	0.743	0.000	44.010	0.8172
Methane	49.658	71.217	0.000	0.257	2.437	0.676	32.793	66.218	0.000	16.043	0.3000
Ethane	19.284	14.755	3.924	0.578	2.926	1.280	12.898	13.896	3.695	30.069	0.3563
Propane	13.662	7.128	1.953	1.354	4.670	2.105	9.460	6.949	1.904	44.096	0.5072
Iso-Butane	1.877	0.743	0.242	0.409	1.070	0.573	1.376	0.767	0.250	58.122	0.5628
n-Butane	5.803	2.297	0.720	1.857	4.861	2.507	4.456	2.483	0.778	58.122	0.5842
Iso-Pentanes	1.552	0.495	0.184	1.208	2.548	1.560	1.435	0.644	0.240	72.149	0.6109
n-Pentane	2.038	0.650	0.234	2.076	4.377	2.596	2.051	0.921	0.332	72.149	0.6307
Hexanes	1.559	0.416	0.171	3.455	6.100	4.115	2.206	0.829	0.340	86.177	0.6623
Heptanes	1.123	0.280	0.110	5.915	9.749	6.285	2.759	0.968	0.379	92.321	0.7424
Octanes	0.487	0.108	0.046	7.464	10.952	7.628	2.869	0.896	0.379	103.694	0.7718
Nonanes	0.095	0.019	0.008	5.724	7.599	5.506	2.017	0.570	0.251	114.600	0.8199
Decanes	0.006	0.001	0.001	5.323	5.712	5.590	1.821	0.416	0.248	141.780	0.7510
Undecanes	0.000	0.000	0.000	4.555	4.714	4.616	1.555	0.343	0.204	147.000	0.7783
Dodecanes	0.000	0.000	0.000	4.004	3.783	4.001	1.367	0.275	0.177	161.000	0.7892
Tridecanes	0.000	0.000	0.000	4.100	3.564	4.042	1.400	0.259	0.179	175.000	0.8000
Tetradecanes	0.000	0.000	0.000	3.647	2.920	3.547	1.245	0.212	0.157	190.000	0.8109
Pentadecanes	0.000	0.000	0.000	3.344	2.470	3.214	1.142	0.180	0.142	206.000	0.8207
Hexadecanes	0.000	0.000	0.000	3.076	2.108	2.932	1.050	0.153	0.130	222.000	0.8276
Heptadecanes	0.000	0.000	0.000	2.733	1.754	2.580	0.933	0.128	0.114	237.000	0.8355
Octadecanes	0.000	0.000	0.000	2.698	1.636	2.532	0.921	0.119	0.112	251.000	0.8404
Nonadecanes	0.000	0.000	0.000	2.651	1.533	2.473	0.905	0.111	0.109	263.000	0.8454
Eicosanes	0.000	0.000	0.000	2.366	1.309	2.194	0.808	0.095	0.097	275.000	0.8503
Heneicosanes	0.000	0.000	0.000	1.953	1.021	1.801	0.667	0.074	0.080	291.000	0.8552
Docosanes	0.000	0.000	0.000	1.922	0.959	1.762	0.656	0.070	0.078	305.000	0.8602
Tricosanes	0.000	0.000	0.000	1.874	0.897	1.709	0.640	0.065	0.075	318.000	0.8651
Tetracosanes	0.000	0.000	0.000	1.688	0.776	1.532	0.576	0.056	0.068	331.000	0.8691
Pentacosanes	0.000	0.000	0.000	1.593	0.703	1.439	0.544	0.051	0.064	345.000	0.8730
Hexacosanes	0.000	0.000	0.000	1.262	0.535	1.135	0.431	0.039	0.050	359.000	0.8769
Heptacosanes	0.000	0.000	0.000	1.492	0.607	1.336	0.509	0.044	0.059	374.000	0.8809
Octacosanes	0.000	0.000	0.000	1.322	0.518	1.180	0.451	0.038	0.052	388.000	0.8839
Nonacosanes	0.000	0.000	0.000	1.253	0.474	1.114	0.428	0.034	0.049	402.000	0.8868
Triacontanes	0.000	0.000	0.000	1.037	0.379	0.919	0.354	0.028	0.041	416.000	0.8898
Hentriacontanes Plus	0.000	0.000	0.000	15.788	4.251	13.499	5.390	0.309	0.596	565.000	0.9225
TOTALS	100.000	100.000	7.592	100.000	100.000	100.000	100.000	100.000	11.427	---	---

SEPARATOR OIL PLUS FRACTION CHARACTERISTICS

COMPONENT	Specific Gravity °API	Specific Gravity **	Molecular Weight lb/lb-mole	
C_{7+}	39.3825	0.8281	190.456	
C_{11+}	34.5241	0.8523	265.265	
C_{20+}	26.892	0.8934	410.693	
C_{31+}	21.888	0.9225	565.000	

TOTAL SAMPLE CHARACTERISTICS

COMPONENT	Specific Gravity °API	Specific Gravity **	Molecular Weight lb/lb-mole	Vapor Volume Scf/Gal	GHV Dry ***	GHV Saturated ***
Separator Gas	N/A	0.7979	23.007	131.718	1,348	1325
Separator HC Liquid	47.903	0.7887	152.142	16.453	N/A	126,787
Wellstream	N/A	1.1185	32.394	87.510	N/A	N/A

* GPM (gallons per Mscf) determined at 14.65 psia and 60°F

** Gas specific gravity determined relative to air (SG=1.000).
HC Liquid and wellstream specific gravity determined relative to water (SG=1.000).
SG values determined mathematically using the compositional analysis.

*** Gross Heating Value units for gas (real basis) and HC liquid are BTU/Scf and BTU/Gal, respectively.

NOTE: MW and SG values for SCN groups C_6 through C_{30} taken from
"Katz, D. L., and Firoozabadi, A.: "Predicting Phase Behavior of Condensate/Crude
"Oil Systems Using Methane Interaction Coefficients; J. Pet, Tech., 228,(Nov.1978) 1649-1655.

Elevation Resources LLC
University 1-26 Unit No. 5H

HOFFMAN PLOT

EQUILIBRIUM CHECK of SEPARATOR HC LIQUID and GAS COMPOSITIONAL ANALYSES

Separator Pressure = 110 psia
Separator Temperature = 88 °F

Components	Gas (X) Mole %	HC Liquid (Y) Mole %	Equil. Ratio (K=Y/X)	K*Psep (psiA)	Normal BP (NBP) °R	$T_{NBP}^{-1} - T_{SEP}^{-1}$	Critical Pressure (Pc) psiA	Critical Temperature (Tc) °R	B-Factor	Graph Results B(1/Tb-1/Tsp)	Graph Results Log(K*Psep)
	0.000	0.000									
N2	1.094	0.023	48.459	5313.57	139	0.005353	493	227	551	2.947	3.725
CO2	0.796	0.065	12.150	1332.24	350	0.001028	1071	548	1811	1.862	3.125
C1	71.217	2.437	29.223	3204.35	201	0.003149	668	343	805	2.536	3.506
C2	14.755	2.926	5.043	553.01	332	0.001184	708	550	1413	1.673	2.743
C3	7.128	4.670	1.526	167.35	416	0.000578	616	666	1799	1.040	2.224
IC4	0.743	1.070	0.694	76.13	471	0.000299	529	735	2038	0.609	1.882
NC4	2.297	4.861	0.473	51.81	491	0.000211	551	765	2158	0.456	1.714
IC5	0.495	2.548	0.194	21.30	542	0.000020	490	829	2383	0.048	1.328
NC5	0.650	4.377	0.148	16.28	557	-0.000029	489	845	2483	-0.072	1.212
C6	0.416	6.100	0.068	7.48	615	-0.000201	437	913	2784	-0.560	0.874
C7+	0.408	70.923	0.006	0.63	763	-0.000516	332	1070	3607	-1.860	-0.200
Total	100.000	100.000									

(Note: C7+ Critical Properties as C9. The C6 composition includes iso-hexanes.)

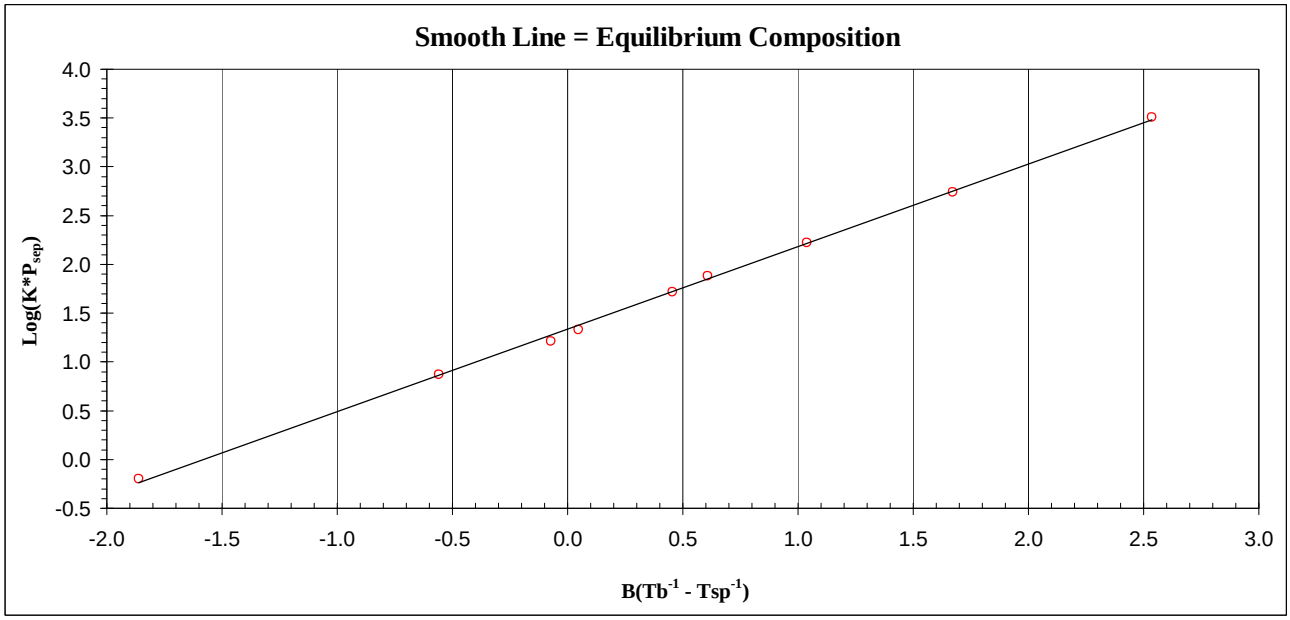


TABLE 2

FLASH LIBERATION OF 1st-STAGE SEPARATOR HC LIQUID

SEPARATOR CONDITIONS and FLUID PROPERTIES						
Conditions	**Pressure psia**	**Temperature °F**	**GLR (1)**	**Separator HC Liquid Volume Factor (2)**	**HC Liquid Specific Gravity (3)**	**Gas Specific Gravity (4)**
1st Stage Separator	110	88	N/A	1.0409	0.7821	0.7980
2nd Stage Separator	55	88	37	N/A	N/A	1.0780
Ambient Lab Conditions	14.84	70	37	1.0048	0.7994	1.2734
Standard Conditions	14.65	60	0	1.0000	0.8033	1.2734
TOTALS	-----	-----	74		-----	-----

Stock Tank HC Liquid Gravity: 44.65 °API at 60 °F

(1) Gas-HC Liquid Ratio (GLR) is the cubic feet of gas at standard conditions per barrel of HC liquid at standard conditions.
(2) Barrels of HC liquid at indicated separator conditions per barrel of HC liquid at standard conditions.
(3) Water = 1.000
(4) Air = 1.000
(5) Stock Tank = Standard Conditions

TABLE 3

PRESSURE-VOLUME RELATION OF A 8628 Scf/Sep Bbl RESERVOIR FLUID AT 165 °F (Constant Composition Expansion)

Pressure, (psia)	Relative Volume	Density, (g/cc)	Y-Function (1)	Retrograde HC Liquid Volume		Gas Deviation Factor, Z	Gas Expansion Factor, (4)
				% of HC Pore Volume (2)	Bbls / MMscf (3)		
9015	0.98538	0.45595	N/A	N/A	N/A	1.53889	1.85493
8797	0.99072	0.45350	N/A	N/A	N/A	1.50981	1.84495
8701	0.99300	0.45245	N/A	N/A	N/A	1.49677	1.84070
8420 Psat	1.00000	0.44929	N/A	0.00%	0.000	1.45864	1.82782
8055	1.00962	N/A	4.71191	0.64%	3.479	N/A	N/A
7699	1.01942	N/A	4.82128	0.93%	5.089	N/A	N/A
7295	1.03280	N/A	4.70144	1.22%	6.647	N/A	N/A
6906	1.04611	N/A	4.75501	1.72%	9.374	N/A	N/A
6201	1.07603	N/A	4.70671	3.71%	20.227	N/A	N/A
5894	1.09198	N/A	4.65955	5.07%	27.654	N/A	N/A
5611	1.10855	N/A	4.61217	6.57%	35.859	N/A	N/A
5112	1.14345	N/A	4.51136	9.66%	52.685	N/A	N/A
4815 Pres	1.16876	N/A	4.43688	12.00%	65.446	N/A	N/A
4339	1.21920	N/A	4.29120	14.92%	81.377	N/A	N/A
3792	1.30090	N/A	4.05649	18.44%	100.566	N/A	N/A
3397	1.38664	N/A	3.82477	20.66%	112.666	N/A	N/A
3097	1.47486	N/A	3.61990	22.11%	120.585	N/A	N/A
2762	1.61026	N/A	3.35719	23.47%	127.985	N/A	N/A
2373	1.84041	N/A	3.03259	24.65%	134.451	N/A	N/A
1896	2.30870	N/A	2.62975	25.45%	138.787	N/A	N/A
1386	3.25695	N/A	2.24919	25.18%	137.333	N/A	N/A
1103	4.21120	N/A	2.06647	24.26%	132.296	N/A	N/A

(1) Y - Function = Dimensionless Compressibility = $(P_{sat} - P_i) * [P_i * (RV_i - 1)]^{-1}$

(2) Retrograde HC liquid volume at the indicated pressure and reservoir temperature as a percent of the hydrocarbon pore volume at the dew point pressure and reservoir temperature.

(3) Retrograde HC liquid volume at the indicated pressure and reservoir temperature (Bbls) per volume of gas (MMscf) at the dew point pressure and reservoir temperature.

(4) Gas Expansion Factor = the volume of surface gas at standard conditions (Mscf) produced from one barrel of undersaturated gas at the indicated pressure and reservoir temperature.

Relative Volume = volume at indicated pressure per volume at the saturation pressure.

Psat = Saturation (Retrograde Dew Point) pressure at reservoir temperature.

Pres = Current static reservoir pressure.

FIGURE 1
Relative Volume vs Pressure

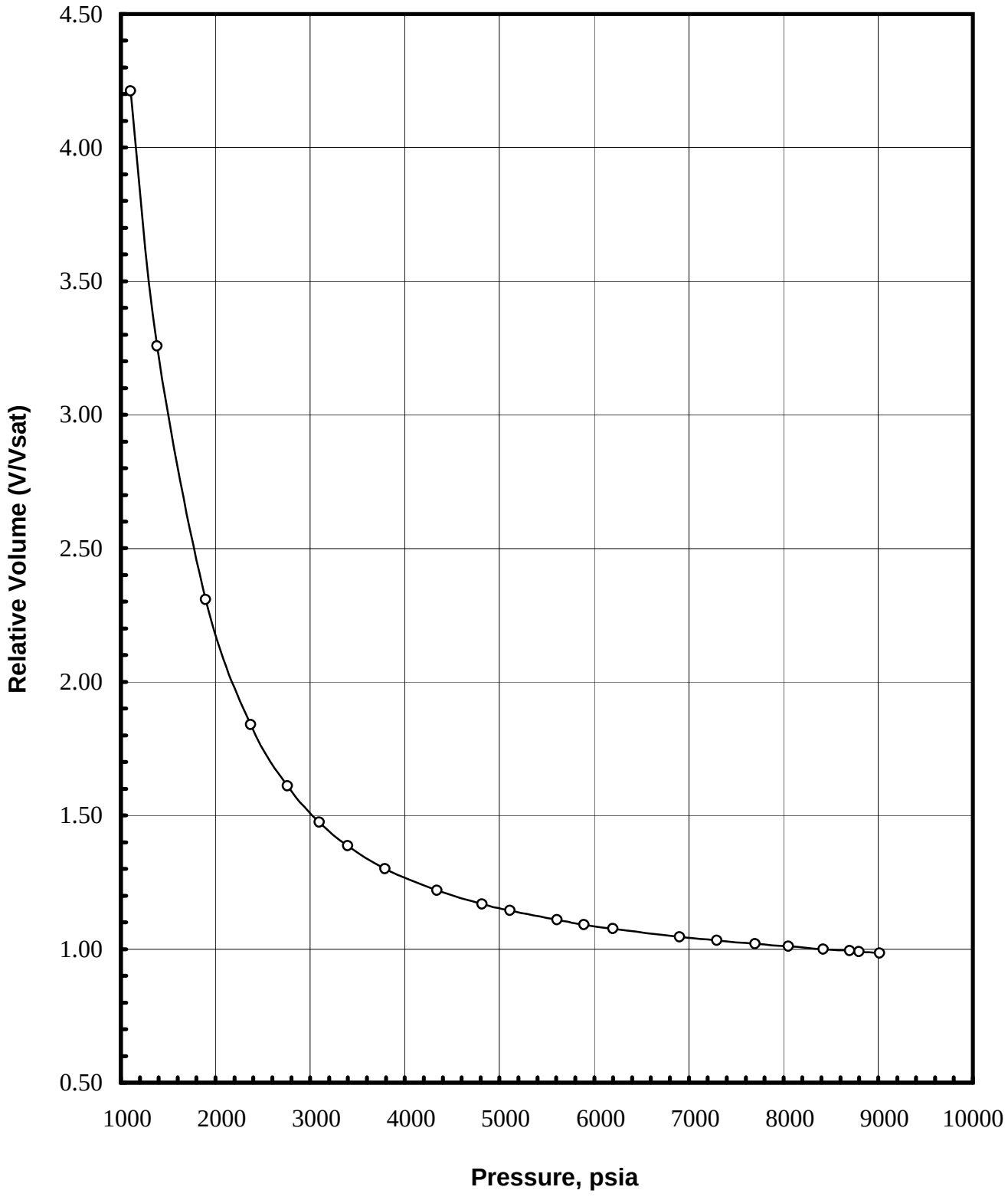


FIGURE 2
Density vs Pressure

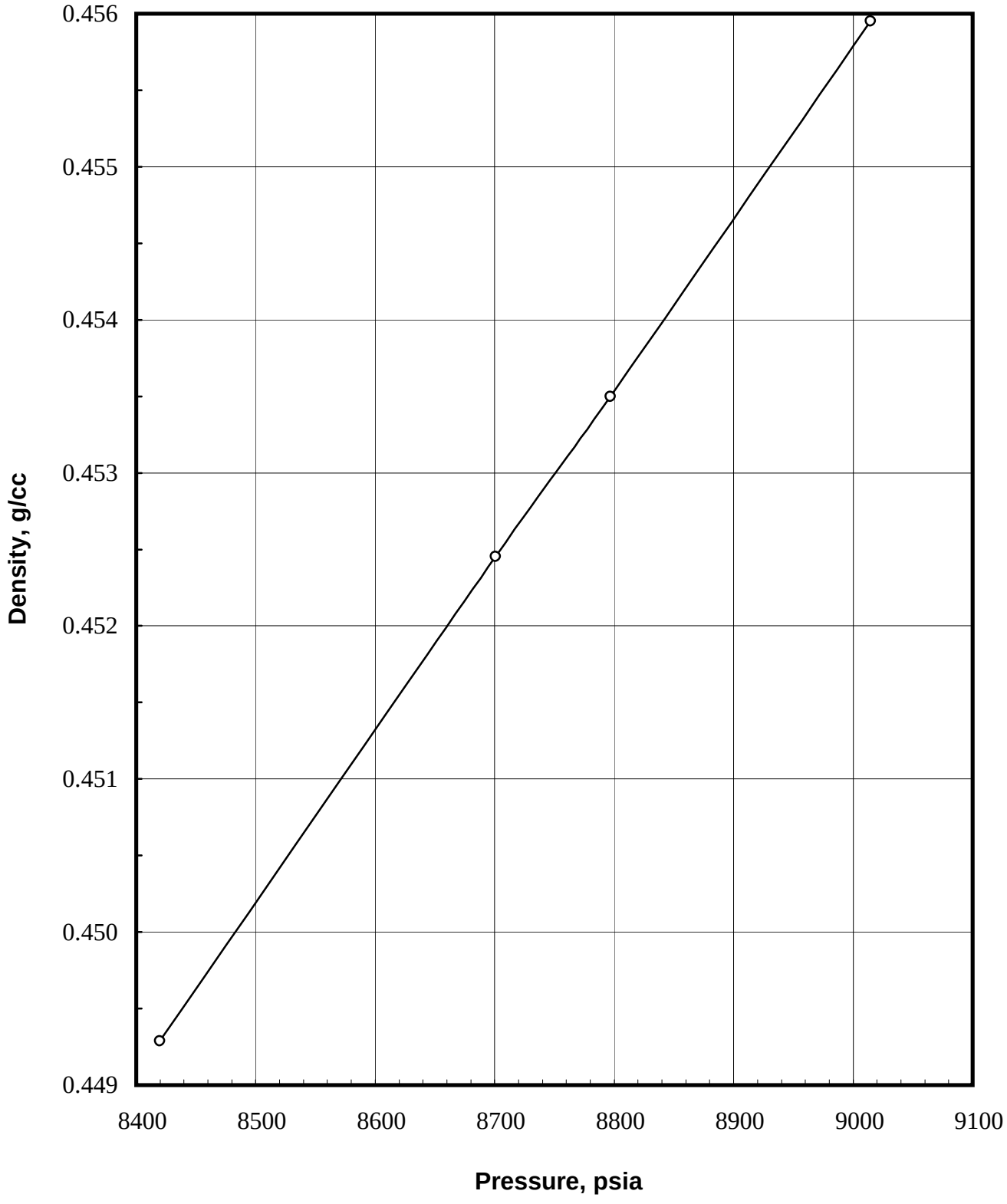


FIGURE 3
Y-Function vs Pressure

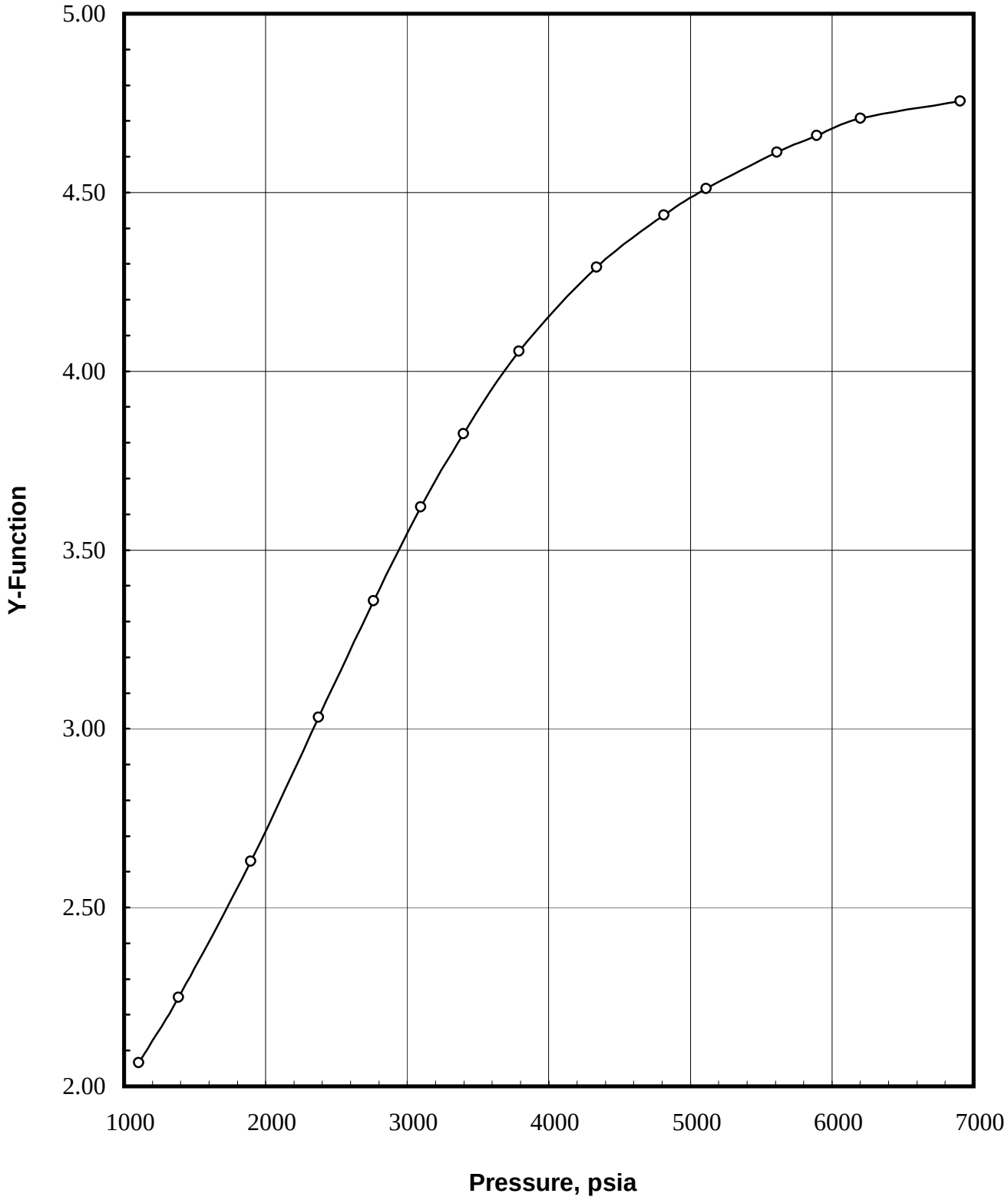


FIGURE 4
Retrograde HC Liquid Volume vs Pressure

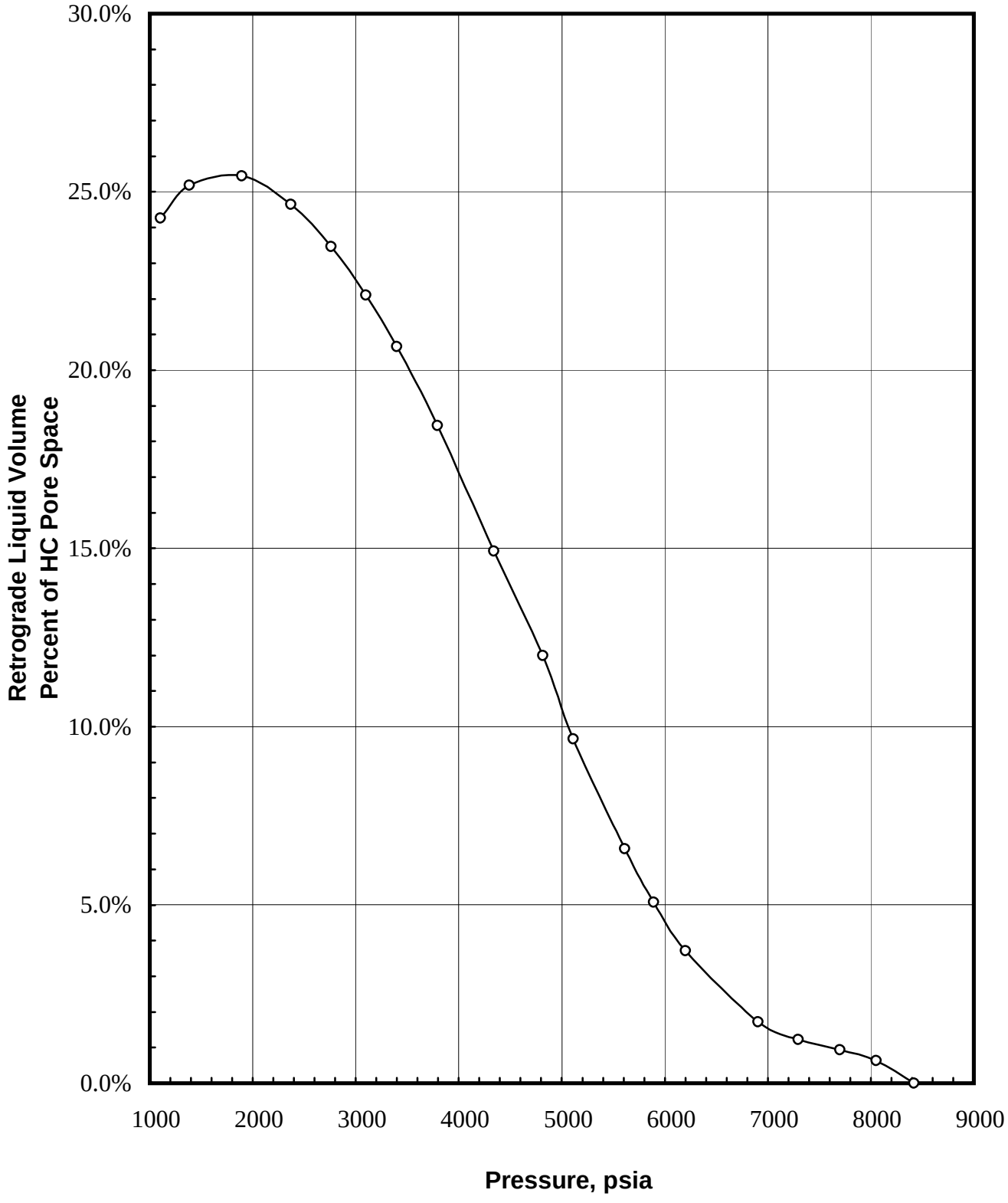


FIGURE 5
Retrograde HC Liquid Volume vs Pressure

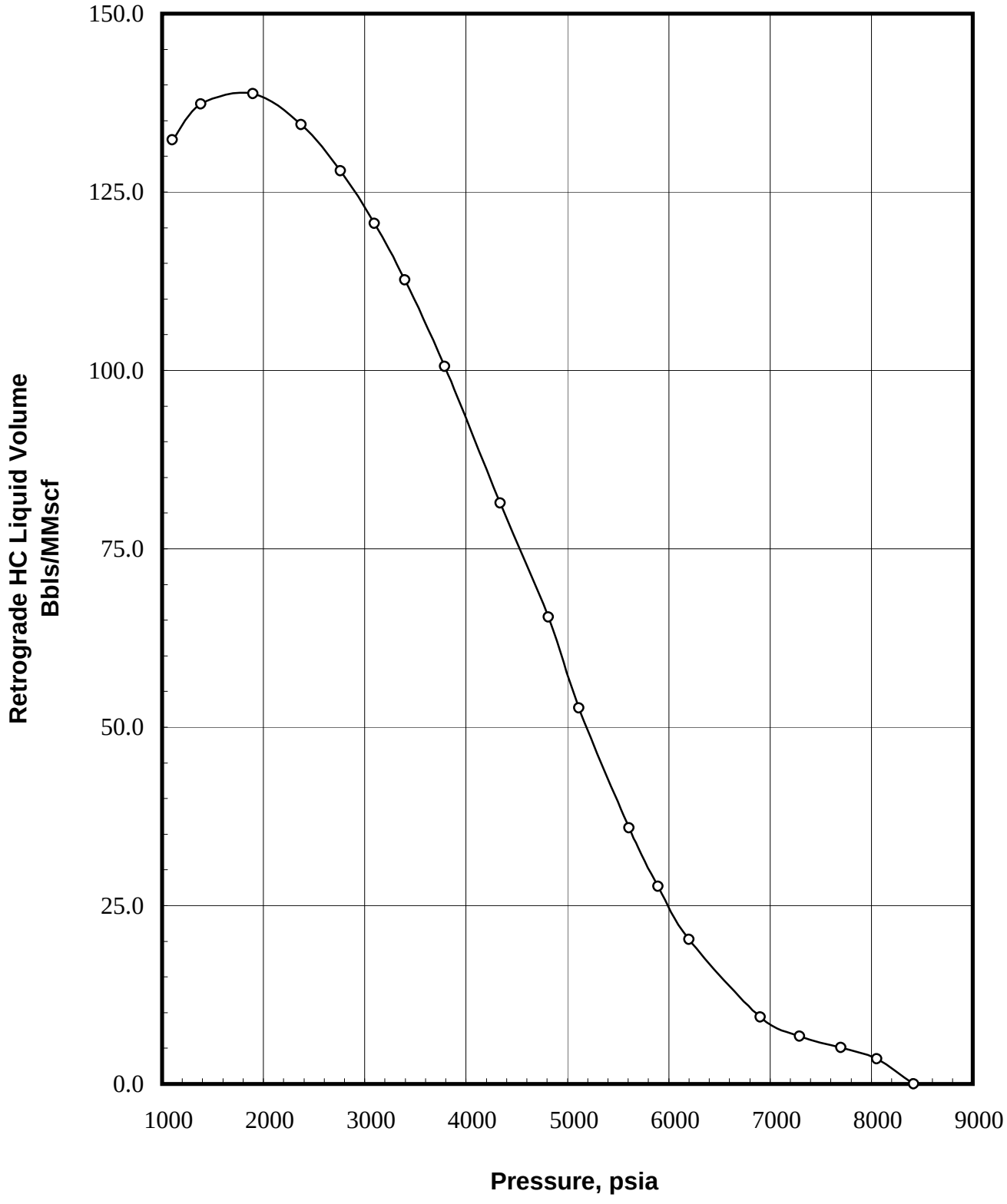


FIGURE 6
Gas Deviation Factor (Z) vs Pressure

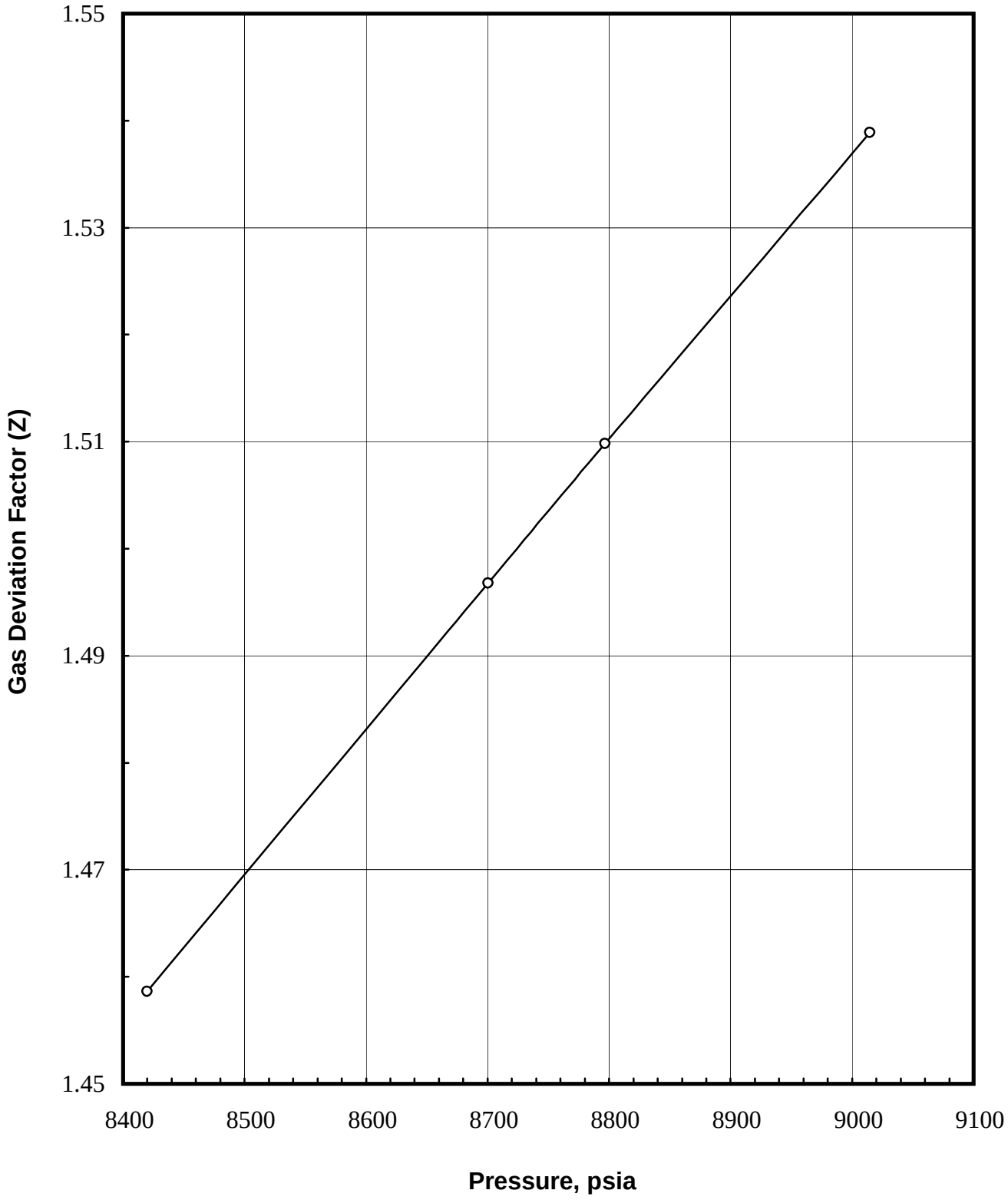
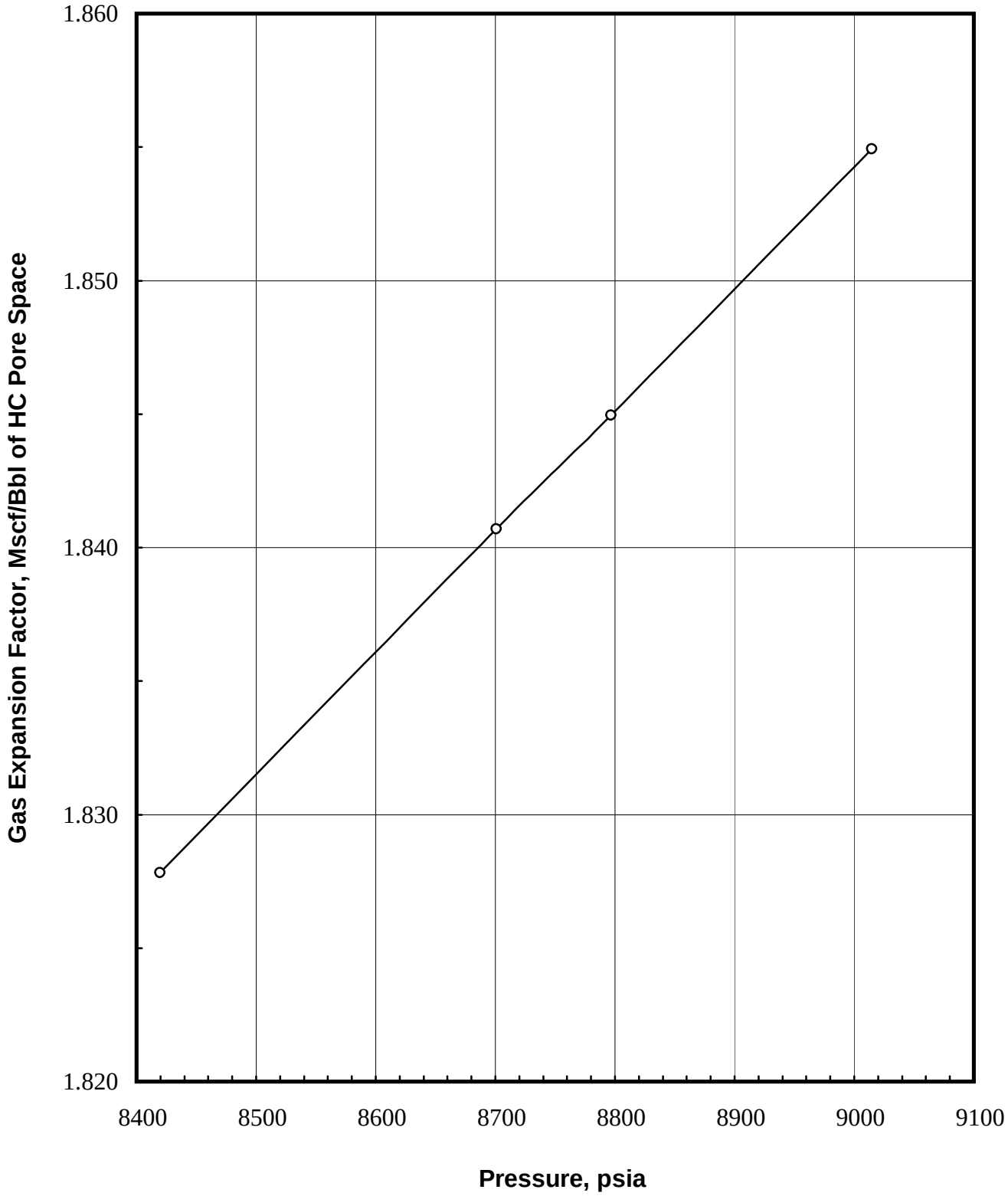


FIGURE 7
Gas Expansion Factor vs Pressure



APPENDIX

September 26, 2017

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

For: Elevation Resources LLC
200 N. Loraine, Suite 1010
Midland, Texas 79701

REPORT OF ASTM D-86 DISTILLATION

Oil/Condensate Sample: University 1-26 Unit No. 5H

Date Sampled: 9/13/2017

API Gravity @ 60 °F: 44.6°

Color: Dark Straw

Observed Initial Boiling Point: 94 °F

Percent Recovered	Temperature °F
10	205
20	256
30	309
40	377
50	462
60	543
70	637
80	721
90	---
95	---
End Point	726
Recovery:	81.9 %
Residue:	16.3 %
Loss:	1.8 %
Totals:	100.0 %

Remark: Thermal Decomposition @ 726 deg F and 81.9% recovery.

Certified: FESCO, Ltd. - Alice, Texas

David Dannhaus (361) 661-7015

Lab Job No.: 73282.003

RAILROAD COMMISSION OF TEXAS
Oil and Gas Division
PO Box 12967
Austin TX 78711-2967
www.rrc.texas.gov

CERTIFICATE OF COMPLIANCE AND TRANSPORTATION AUTHORITY

P-4

This facsimile P-4 was generated electronically from data submitted to the RRC.
A certification of the automated data is available in the RRC's Austin office.

Tracking No.: 181945

1. Field name exactly as shown on proration schedule	2. Lease name as shown on proration schedule			
EMMA (DEVONIAN)	UNIVERSITY 1-26 UNIT			
3. Current operator name exactly as shown on P-5 Organization Report	4. Operator P-5 no.	5. Oil Lse/Gas ID no	6. County	7. RRC district
ELEVATION RESOURCES LLC	247756	283482	ANDREWS	08
8. Operator address including city, state, and zip code	9. Well no(s) *(see instruction E)*			
200 N LORAINE STE 1010 MIDLAND, TX 79701	5H			
	10. Classification ☐ Oil ☒ Gas ☐ Other *(see instruction A)*			11. Effective Date 01/15/2017

12. Purpose of Filing. (Complete section a or b below.) *(See instructions B and G)*

a. Change of: ☐ operator ☐ oil or condensate gatherer ☐ gas gatherer ☐ gas purchaser ☐ gas purchaser system code
☐ field name from _____
☐ lease name from _____

OR

b. New RRC Number for: ☐ oil lease ☒ gas well ☐ other well (specify) _____ **Due to:** ☐ new completion or recompletion ☒ reclass oil to gas ☐ reclass gas to oil ☐ consolidation, unitization, or subdivision (oil lease only)

13. Authorized GAS WELL GAS or CASINGHEAD GAS Gatherer(s) and/or Purchaser(s). *(See instruction G).*

Gatherer	Purchaser	Name of GAS WELL GAS or CASINGHEAD GAS Gatherer(s) or Purchaser(s) As Indicated in Columns to the Left *(Attach an additional sheet in same format if more space is needed)*	Purchaser's RRC Assigned System Code	Percent of Take	Full-well stream
X	X	DCP MIDSTREAM, LP(195918)	0001	50.0	
X	X	JAMES LAKE MIDSTREAM LLC(429665)	0001	50.0	

14. Authorized OIL or CONDENSATE Gatherer(s). *(See instruction G).*

Name of OIL or CONDENSATE Gatherer(s) - List Highest Volume Gatherer First *(Attach an additional sheet in same format if more space is needed)*	Percent of Take
SUNOCO PTNRS. MKTG.&TERMINALS LP(829626)	100.0

RRC USE ONLY: Reviewer's initials: _____ Approval date: _____

15. PREVIOUS OPERATOR CERTIFICATION FOR CHANGE OF OPERATOR P-4 FILING. Being the PREVIOUS OPERATOR, I certify that operating responsibility for the well(s) designated in this filing, located on the subject lease has been transferred in its entirety to the above named Current Operator. I understand, as Previous Operator, that designation of the above named operator as Current Operator is not effective until this certificate is approved by the Commission.

Name of Previous Operator

Signature

Name (print)

☐ **Authorized Employee of previous operator**

☐ **Authorized agent of previous operator** *(see instruction G)*

Title

Date

Phone with area code

16. CURRENT OPERATOR CERTIFICATION. By signing this certificate as the Current Operator, I certify that all statements on this form are true and correct and I acknowledge responsibility for the regulatory compliance of the subject lease including plugging of well(s) pursuant to Rule 14. I further acknowledge that I assume responsibility for the physical operation, control, and proper plugging of each well designated in this filing. I also acknowledge that I will remain designated as the Current Operator until a new certificate designating a new Current Operator is approved by the Commission.

ELEVATION RESOURCES LLC
Name (print)

Curtis Flanagan
Signature

Eng. Tech
Title

☒ **Authorized Employee of current operator**

☐ **Authorized agent of current operator** *(see instruction G)*

cflanagan@elevationres.com
E-mail Address (optional)

10/31/2017
Date

(432) 688-3380
Phone with area code

RAILROAD COMMISSION OF TEXAS
Oil and Gas Division
PO Box 12967
Austin, Texas 78711-2967
www.rrc.state.tx.us

CERTIFICATE OF POOLING AUTHORITY

Revised 05/2001

P-12

1. Field Name(s)	2. Lease/ID Number *(if assigned)*	3. RRC District Number
All Fields		08
4. Operator Name	**5. Operator P-5 Number**	**6. Well Number**
Elevation Resources, LLC	247756	5H
7. Pooled Unit Name	**8. API Number**	**9. Purpose of Filing**
University 1-26 Unit		☑ Drilling Permit (W-1)
10. County	**11.Total acres in pooled unit**	☐ Completion Report
Andrews	728.22	

DESCRIPTION OF INDIVIDUAL TRACTS CONTAINED WITHIN THE POOLED UNIT

TRACT/PLAT IDENTIFIER	TRACT NAME	ACRES IN TRACT *(See inst. #7 below)*	INDICATE UNDIVIDED INTERESTS UNLEASED	NON-POOLED
*1	Tract 1	303.37	☐	☐
2	Tract 2	181.97	☐	☐
3	Tract 3	242.88	☐	☐
			☐	☐
			☐	☐
			☐	☐
			☐	☐
			☐	☐
			☐	☐
			☐	☐

CERTIFICATION:

I declare under penalties prescribed pursuant to the Sec. 91.143, Texas Natural Resources Code, that I am authorized to make the foregoing statements and that the information provided by me or under my direction on this Certificate of Pooling Authority is true, correct, and complete to the best of my knowledge.

Signature	Print Name		
	Stewart Newton		
Title	**E-mail *(if available)***	**Date**	**Phone**
Regulatory Consultant	stewart.newton@pghengineers.com	04/13/2015	(512) 480-8800

INSTRUCTIONS — Reference: Statewide Rules 31, 38 and 40

1. When two or more tracts are pooled to form a unit to obtain a drilling permit, file completion paperwork, or reform a pooled unit pursuant to Rule 38(d)(3) the operator must file an original Certificate of Pooling Authority and certified plat.
2. The certified plat shall designate each tract with an outline and a tract identifier. The tract identifier on the plat shall correspond to the tract identifier and associated information listed on the Certificate.
3. If within an individual tract, a non-pooled and/or unleased interest exists, indicate by checking the appropriate box.
4. If the Purpose of Filing is to obtain a drilling permit, in box #1 list all applicable fields separately or enter "All Fields" if the Certificate pertains to all fields requested on Form W-1.
5. If the Purpose of Filing is to file completion paperwork, enter the applicable field name in box #1 for the completion.
6. Identify the drill site tract with an * to the left of the tract identifier.
7. The total number of acres in the pooled unit in #11 should equal the total of all acres in the individual tracts listed.

RAILROAD COMMISSION OF TEXAS

1701 N. Congress
P.O. Box 12967
Austin, Texas 78701-2967

Form P-16
Page 1
Rev. 01/2016

Acreage Designation

SECTION I. OPERATOR INFORMATION

Operator Name: Elevation Resources LLC	**Operator P-5 No.:** 247756
Operator Address: 200 N. Loraine, Ste. 1010, Midland, TX 79701	

SECTION II. WELL INFORMATION

District No.: 08	**County:** Andrews	**Purpose of Filing:**
Well No.: 5H	**API No.:** 42-003-47118	☐ Drilling Permit Application (Form W-1)
Total Lease Acres: 728.22	**Drilling Permit No.:** 805597	■ Completion Report (Form G-1/W-2)
Lease Name: University 1-26 Unit	**Lease No.:**	
Field Name: Emma (Devonian)	**Field No.:**	

Filer is the owner or lessee, or has been authorized by the owner or lessee, of all or an undivided portion of the mineral estate under each tract for which filer is listed as operator below. For all leases operated by other entities, the number of assigned acres shown are reflected on current Commission records or the filer has been authorized by the current operator to change the assigned acreage of that operator as shown below.

SECTION III. LISTING OF ALL WELLS IN THE APPLIED-FOR FIELD ON THE SAME ACREAGE AS THE LEASE, POOLED UNIT, OR UNITIZED TRACT DESIGNATED IN SECTION II ABOVE BY FILER

RRC ID No. or Lease No.	Well No.	H-Horizontal D-Directional V-Vertical	Lease Name	API No.	Acres Assigned	SWR 38 Except. (Y/N)	Operator Name and Operator No. (if different from filing operator)
804860	3H	H	University 1-26 Unit	42-003-47090	242.74	N	
805595	4H	H	University 1-26 Unit	42-003-47117	242.74	N	
805597	5H	H	University 1-26 Unit	42-003-47118	242.74	N	

Total Well Count >	3	728.22	< A. Total Assigned Horiz. Acreage	728.22	< C. Total Assigned Acreage
		0	< Total Remaining Horiz. Acreage	0	< Total Remaining Acreage
		0	< B. Total Assigned Vert./Dir. Acreage		
		0	< Total Remaining Vert./Dir. Acreage		

SECTION IV. REMARKS / PURPOSE OF FILING (see instructions)

Attach Additional Pages As Needed. ■ No additional pages ☐ Additional Pages: _____ (No. of additional pages)

CERTIFICATION: I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that this report was prepared by me or under my supervision or direction, that I am authorized to make this report, and that the information contained in this report is true, correct, and complete to the best of my knowledge.

Signature	Name and title (type or print)	Email (include email address *only* if you affirmatively consent to its public release)
Curtis Flanagan	Curtis Flanagan	cflanagan@elevationres.com

Address	City,	State,	Zip Code	Tel: Area Code	Number	Date: mo. day yr.
200 N. Loraine, Ste. 1010	Midland	Texas	79701	432	688-3380	02/16/2017

Groundwater Advisory Unit

GROUNDWATER PROTECTION DETERMINATION

Form GW-2

Date: March 27, 2015

GAU File No.: 17249

API Number: 00300000

Attention: STEWART NEWTON

RRC Lease No.: 000000

SC_247756_00300000_000000_17249.pdf

ELEVATION RESOURCES LLC
200 N LORAINE
STE 1010
MIDLAND TX 79701

P-5# 247756

--Measured--
2187 ft FEL
300 ft FNL
MRL:SECTION

Digital Map Location:
X-coord/Long: 446947
Y-coord/Lat: 225263
Datum: 27 Zone: NC

County: ANDREWS

Lease & Well No.: UNIVERSITY 1-26 UNIT #3H

Purpose: ND

Location: SUR-UNIVERSITY LAND,BLK-1,SEC-26,--[TD=12000],[RRC 08],

To protect usable-quality groundwater at this location, the Groundwater Advisory Unit of the Railroad Commission of Texas recommends:

The interval from the land surface to a depth of 250 feet and the ZN from 1275 feet to 1575 feet must be protected.

This recommendation is applicable to all wells drilled in this TRACT 1 OF SECTION 26 ON THIS LEASE.

Note: Unless stated otherwise, this recommendation is intended to apply only to the subject well and not for area-wide use. **This recommendation is intended for normal drilling, production, and plugging operations only. It does not apply to saltwater disposal operation into a nonproductive zone (RRC Form W-14).**

If you have any questions, please contact us at 512-463-2741, gau@rrc.state.tx.us, or by mail.

Sincerely,

George Dunfield, P.G.

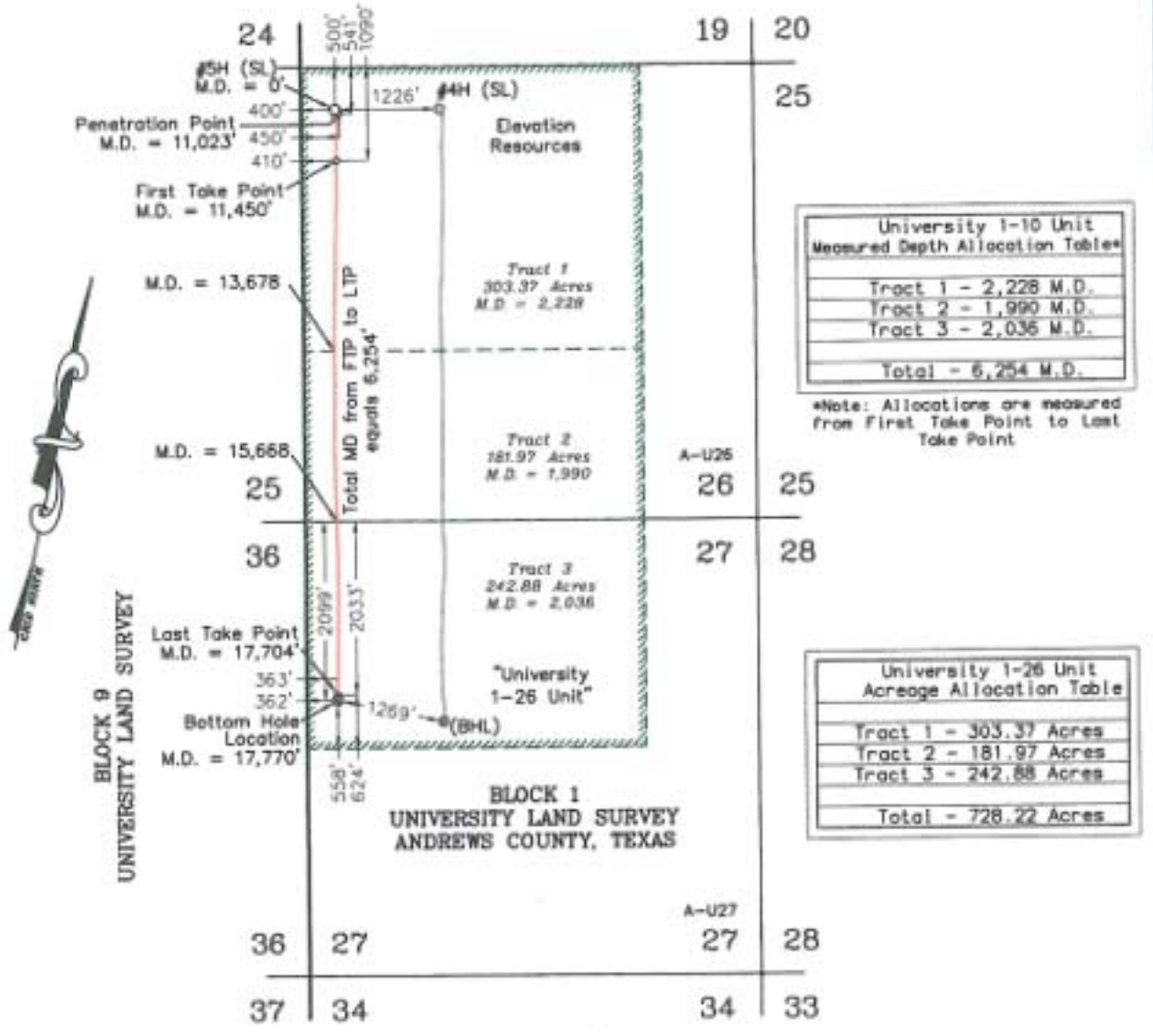
Geologist, Groundwater Advisory Unit
Oil & Gas Division

GEOLOGIST SEAL

STATE OF TEXAS
George Dunfield
Geology
413
LICENSED PROFESSIONAL GEOSCIENTIST

The seal appearing on this document was authorized by George Dunfield on 3/27/2015
Note: Alteration of this electronic document will invalidate the digital signature.

W.O.: 2014-1457-1



University 1-10 Unit Measured Depth Allocation Table*
Tract 1 - 2,228 M.D.
Tract 2 - 1,990 M.D.
Tract 3 - 2,036 M.D.
Total - 6,254 M.D.

*Note: Allocations are measured from First Take Point to Last Take Point

University 1-26 Unit Acreage Allocation Table
Tract 1 - 303.37 Acres
Tract 2 - 181.97 Acres
Tract 3 - 242.88 Acres
Total - 728.22 Acres

	State Plane Coordinate		Geodetic (D.M.S.)		Geodetic (D.D.)	
Surface Location	X = 444,329.80	Y = 224,479.38	Lat = 32°10'52.70" N	Long = 102°31'47.37" W	Lat = 32.18130583° N	Long = 102.52982580° W
Penetration Point	X = 444,387.93	Y = 224,449.94	Lat = 32°10'52.44" N	Long = 102°31'46.68" W	Lat = 32.18123265° N	Long = 102.52963359° W
First Take Point	X = 444,467.98	Y = 223,905.55	Lat = 32°10'47.09" N	Long = 102°31'45.45" W	Lat = 32.17974849° N	Long = 102.52929098° W
Last Take Point	X = 445,779.11	Y = 217,795.38	Lat = 32°09'47.32" N	Long = 102°31'26.81" W	Lat = 32.16314445° N	Long = 102.52411429° W
Bottom Hole Location	X = 445,791.88	Y = 217,730.76	Lat = 32°09'46.69" N	Long = 102°31'26.63" W	Lat = 32.16296877° N	Long = 102.52406308° W

The University 1-26 Unit #5H is located approximately 10 miles South-Southeast of Andrews, Texas.

Downhole Path based on Survey Report received from Elevation Resources on February 8, 2017.

Prepared From Survey Dated: November 3, 2014

2000 0 2000 4000

Graphic Scale in Feet

NOTE:
1) Plane Coordinates shown hereon are Lambert Grid and Conform to the "Texas Coordinate System", Texas North Central Zone, North American Datum of 1927, unless otherwise noted. Scale factor is 1.000169588.
2) Geodetic Coordinate shown hereon references the North American Datum of 1927, unless otherwise noted.
3) This plat is provided only for filing purposes with the Texas Railroad Commission and should not be construed as a boundary survey.
4) Measured Depth allocation is approximate and based on downhole report and take points as provided by client

Legend

- Denotes Downhole Directional Well Path
- Denotes Proposed Well Location
- Denotes Proposed Take Points
- Denotes Proposed Bottom Hole Location
- Denotes Unit Boundary
- Denotes Tract Line

CERTIFICATION:
I hereby certify that this plat was made from notes taken in the field in a bona fide survey made under my supervision.

STATE OF TEXAS REGISTERED LINDSAY GYGAX 6434 PROFESSIONAL LAND SURVEYOR

Lindsay Gygax Texas R.P.L.S. No. 6434

WEST COMPANY
Land Surveyors & Civil Engineers
110 W. Louisiana Ave., Suite 110, Midland, Texas 79701
(432) 687-0865 - FAX (432)687-0868
FIRM Registration Number: 100682-00

ELEVATION RESOURCES

UNIVERSITY 1-26 UNIT #5H
DOWNHOLE REPORT

Crossing Sections 26 and 27
Block 01
All in University Lands Survey
Andrews County, Texas

Scale: 1"= 2000'	W.O.: 2014-1457-1
Surveyed: 11/03/14	Drawn By: SC
File: J:\2017\2014-1457-1\2014-1457-1 University 1-26 5H As-Drilled.dwg	