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Company : Origin Energy Resources Limited
Well : Trefoil # 1

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SUMMARY OF RESULTS

SATURATED VAPOUR:

Reservoir Temperature (°F)	:	252
Dew Point Pressure (psig)	:	3530
Gas Formation Volume Factor (Bg)	:	0.00530
Gas Expansion Factor (E)	:	188.81
Gas Deviation Factor (Z)	:	0.933
Specific Volume (CFT/LB)	:	0.09527
Density (gm/cc)	:	0.1681
Viscosity (centipoise)	:	0.0224
Molecular Weight	:	21.44
Gas Gravity (Air = 1.000)	:	0.742
Gross Heating Value (BTU/ft3)	:	1257

Total Plant Products in Dew Point Fluid (GPMM):

Ethane	:	1935
Propane	:	819
Butanes	:	514
Pentanes Plus	:	1237

FLASH DATA:

1st Separator Pressure (psig)	:	756
1st Separator Temperature (°F)	:	86
2nd Separator Pressure (psig)	:	--
2nd Separator Temperature (°F)	:	--
Stock Tank Pressure (psig)	:	0
Stock Tank Temperature (°F)	:	60
1st Separator GOR (scf/bbl)	:	37509
2nd Separator GOR (scf/bbl)	:	0
Stock Tank GOR (scf/bbl)	:	567
Total GOR (scf/bbl)	:	38076
1st Sep. Gas / Prod. WS (mscf/mmmscf)	:	964
2nd Sep. Gas / Prod. WS (mscf/mmmscf)	:	0
STT Gas / Prod. WS (mscf/mmmscf)	:	15
ST T Liq / Produced W/S (stb/mmmscf)	:	26

Total Plant Products in Primary Separator Gas (GPMM):

Ethane	:	1864
Propane	:	742
Butanes	:	409
Pentanes Plus	:	273

Total Plant Products in Secondary Separator Gas (GPMM):

Ethane	:	0
Propane	:	0
Butanes	:	0
Pentanes Plus	:	0

Total Plant Products in Stock Tank Gas (GPMM):

Ethane	:	62
Propane	:	60
Butanes	:	59
Pentanes Plus	:	49



Company : Origin Energy Resources Limited
Well : Trefoil # 1

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FIELD CHARACTERISTICS :

Field Name	:	Trefoil
Formation Name	:	EVCM
Date first well completed	:	Trefoil 1
Original reservoir pressure (psia)	:	4285.5
@ MPP (mAHBKB)	:	3028.0 mMD

WELL CHARACTERISTICS :

Depth datum (m)	:	3028.0 mMD
Elevation above MSL (m)	:	39.9 m
Total depth (m KBMD)	:	3545 mMD
Producing interval (mAHBKB)	:	-
Perforated intervals (mAHBKB)	:	-
Tubing size (inch)	:	3 1/2"
Tubing shoe (m)	:	-
Casing size (inch)	:	9 5/8" & 6 5/8"
Reservoir temperature (°F)	:	252
Last reservoir pressure (psia)	:	4285.5
date	:	December 2004
Status of well	:	Cased & Suspended



CONSTANT MASS STUDY

@ 252 °F

Using Bottom Hole Sample in Cylinder # L - 017 ex MPSR # 310 @ Depth 3028.0 mMD

Pressure (psig)	Relative Volume (V/Vsat) (1)	Formation Volume Factor (Bg) (2)	Gas Expansion Factor (E) (3)	Deviation Factor (Z)	Specific Volume (CFT/LB)	Gas Viscosity (Centipoise) (4)	
5000	0.7667	0.00406	246.26	1.012	0.07305	0.0274	
4800	0.7883	0.00418	239.51	0.999	0.07510	0.0267	
4600	0.8126	0.00430	232.35	0.987	0.07742	0.0261	
4400	0.8399	0.00445	224.79	0.976	0.08002	0.0254	
4271	*	0.8608	0.00456	219.34	0.971	0.08201	0.0249
4000	0.9037	0.00479	208.92	0.955	0.08610	0.0240	
3800	0.9412	0.00498	200.61	0.945	0.08967	0.0233	
3700	0.9624	0.00510	196.18	0.941	0.09169	0.0230	
3600	0.9842	0.00521	191.84	0.936	0.09377	0.0226	
3530	**	1.0000	0.00530	188.81	0.933	0.09527	0.0224

* Reservoir Pressure
** Dew Point Pressure

- (1) Cubic feet of gas at indicated pressure and temperature per cubic foot at reservoir pressure
- (2) Cubic feet of gas at indicated pressure and temperature per cubic foot at 14.696 psia and 60 °F
- (3) Cubic feet of gas at 14.696 psia and 60 °F per cubic foot at indicated pressure and temperature
- (4) Calculated from correlation of Lee, Gonzales and Eakin



CONSTANT MASS STUDY
@ 252 °F

Using Bottom Hole Sample in Cylinder # L - 017 ex MPSR # 310 @ Depth 3028.0 mMD

Pressure (psig)	Relative Volume (V/Vsat) (1)	Retrograde Liquid Deposit (Bb/MMSCF) (2)	(Volume%) (3)
3530 *	1.0000	0.00	0.000
3300	1.0602	0.95	0.006
3100	1.1210	0.19	0.020
2900	1.1914	0.43	0.046
2600	1.3208	0.98	0.104
2300	1.4904	1.72	0.132
2000	1.7104	2.58	0.273
1700	2.0141	3.58	0.380
1400	2.4546	4.08	0.433
1100	3.1288	4.22	0.447
800	4.3370	4.21	0.446
500	6.9903	4.10	0.435

* Dew Point Pressure

- (1) Cubic feet of gas at indicated pressure and temperature per cubic foot at saturation pressure
- (2) Barrels of liquid at indicated pressure and temperature per MMSCF of original reservoir fluid
- (3) Percent of reservoir hydrocarbon pore space at dew point



CONSTANT VOLUME DEPLETION STUDY
@ 252 °F

Using Bottom Hole Sample in Cylinder # L - 017 ex MPSR # 310 @ Depth 3028.0 mMD

Pressure (psig)	Cumulative Produced Fluid (1)	Deviation Factor (Z)		Gas Viscosity (Centipoise)	Retrograde Liquid		
		Liberated Gas	Two Phase		(Bbl/MMSCF) (2)	(Vol.%) (3)	
3530	*	0.000	0.933	0.933	0.0224	0.00	0.000
3300		5.651	0.927	0.920	0.0217	0.06	0.007
2900		16.145	0.919	0.905	0.0202	0.45	0.048
2500		27.187	0.914	0.896	0.0189	1.21	0.128
2100		38.647	0.912	0.891	0.0178	2.38	0.252
1700		50.296	0.914	0.889	0.0168	3.14	0.332
1300		62.135	0.921	0.890	0.0159	3.60	0.382
900		73.995	0.934	0.892	0.0151	3.62	0.384
500		85.671	0.956	0.885	0.0145	3.37	0.357

* Dew Point Pressure

- (1) Wellstream produced : Cumulative volume percent of initial fluid
- (2) Barrels of liquid at indicated pressure and temperature per MMSCF of original reservoir fluid
- (3) Percent of reservoir hydrocarbon pore space at dew point



COMPOSITIONS OF WELL STREAMS
PRODUCED DURING CONSTANT VOLUME DEPLETION

Pressure (psig):	3530 **	3300	2900
Component	Mol %	Mol %	Mol %
Hydrogen Sulphide	H2S 0.00	0.00	0.00
Carbon Dioxide	CO2 1.35	1.35	1.35
Nitrogen	N2 0.90	0.90	0.90
Methane	C1 83.20	83.28	83.37
Ethane	C2 7.23	7.23	7.23
Propane	C3 2.97	2.97	2.97
Iso-Butane	iC4 0.81	0.81	0.81
N-Butane	nC4 0.79	0.79	0.79
Iso-Pentane	iC5 0.41	0.41	0.41
N-Pentane	nC5 0.30	0.30	0.30
Hexanes	C6 0.49	0.49	0.48
Heptanes	C7 0.59	0.58	0.57
Octanes	C8 0.26	0.25	0.24
Nonanes	C9 0.22	0.21	0.20
Decanes	C10 0.17	0.16	0.14
Undecanes	C11 0.10	0.09	0.09
Dodecanes Plus	C12+ 0.21	0.18	0.15
TOTAL	100.00	100.00	100.00

Stream Properties

Molecular Weight	:	21.44	21.34	21.24
Gravity (AIR = 1.000)	:	0.742	0.739	0.736
Gross HV (BTU/SCF)	:	1257	1252	1247
Nett HV (BTU/SCF)	:	1141	1136	1131
Wobbe Index	:	1459	1457	1454
Critical Pressure (psia)	:	662.5	662.8	663.2
Critical Temperature (°R)	:	393.2	392.7	392.1

G P M Content

Ethane Plus	:	4.505	4.464	4.417
Propane Plus	:	2.570	2.529	2.482
Butanes Plus	:	1.751	1.710	1.663
Pentanes Plus	:	1.237	1.196	1.149

Hexanes Plus Properties

Mol %	:	2.04	1.96	1.87
Molecular Weight	:	117.8	112.1	110.9
Density (gm/cc @ 60 °F)	:	0.7375	0.7557	0.7542
Gravity (°API @ 60 °F)	:	60.2	55.6	55.9

Heptanes Plus Properties

Mol %	:	1.55	1.47	1.39
Molecular Weight	:	127.2	121.4	120.0
Density (gm/cc @ 60 °F)	:	0.7549	0.7666	0.7650
Gravity (°API @ 60 °F)	:	55.8	52.9	53.3

Decanes Plus Properties

Mol %	:	0.48	0.43	0.38
Molecular Weight	:	167.9	163.3	161.5
Density (gm/cc @ 60 °F)	:	0.8094	0.8084	0.8069
Gravity (°API @ 60 °F)	:	43.2	43.4	43.7

Undecanes Plus Properties

Mol %	:	0.31	0.27	0.24
Molecular Weight	:	182.8	180.0	176.4
Density (gm/cc @ 60 °F)	:	0.8228	0.8227	0.8197
Gravity (°API @ 60 °F)	:	40.3	40.3	41.0

Dodecanes Plus Properties

Molecular Weight	:	197.1	195.6	191.9
Density (gm/cc @ 60 °F)	:	0.8362	0.8351	0.8322
Gravity (°API @ 60 °F)	:	37.6	37.8	38.4

Recovery Factor*

* at 500 psi abandonment pressure	:	0.8627	0.8542	0.8356
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** Original Reservoir Fluid



COMPOSITIONS OF WELL STREAMS
PRODUCED DURING CONSTANT VOLUME DEPLETION

Pressure (psig):	2500	2100	1700
Component	Mol %	Mol %	Mol %
Hydrogen Sulphide	H2S 0.00	0.00	0.00
Carbon Dioxide	CO2 1.35	1.35	1.35
Nitrogen	N2 0.90	0.90	0.90
Methane	C1 83.43	83.45	83.50
Ethane	C2 7.24	7.24	7.24
Propane	C3 2.97	2.97	2.97
Iso-Butane	iC4 0.81	0.81	0.81
N-Butane	nC4 0.79	0.79	0.79
Iso-Pentane	iC5 0.41	0.41	0.41
N-Pentane	nC5 0.30	0.30	0.30
Hexanes	C6 0.48	0.48	0.48
Heptanes	C7 0.57	0.57	0.57
Octanes	C8 0.24	0.24	0.24
Nonanes	C9 0.19	0.18	0.17
Decanes	C10 0.12	0.11	0.10
Undecanes	C11 0.08	0.08	0.07
Dodecanes Plus	C12+ 0.12	0.12	0.10
TOTAL	100.00	100.00	100.00
Stream Properties			
Molecular Weight	21.16	21.11	21.04
Gravity (AIR = 1.000)	0.733	0.731	0.729
Gross HV (BTU/SCF)	1243	1240	1236
Nett HV (BTU/SCF)	1127	1125	1121
Wobbe Index	1452	1450	1448
Critical Pressure (psia)	663.5	663.5	663.7
Critical Temperature (°R)	391.7	391.4	391.0
G P M Content			
Ethane Plus	4.382	4.363	4.331
Propane Plus	2.444	2.425	2.393
Butanes Plus	1.625	1.606	1.574
Pentanes Plus	1.111	1.092	1.060
Hexanes Plus Properties			
Mol %	1.80	1.78	1.73
Molecular Weight	109.2	108.3	106.8
Density (gm/cc @ 60 °F)	0.7521	0.7510	0.7491
Gravity (*API @ 60 °F)	56.5	56.7	57.2
Heptanes Plus Properties			
Mol %	1.32	1.30	1.25
Molecular Weight	118.1	117.1	115.4
Density (gm/cc @ 60 °F)	0.7629	0.7617	0.7596
Gravity (*API @ 60 °F)	53.8	54.1	54.6
Decanes Plus Properties			
Mol %	0.32	0.31	0.27
Molecular Weight	160.3	158.9	157.0
Density (gm/cc @ 60 °F)	0.8058	0.8045	0.8028
Gravity (*API @ 60 °F)	43.9	44.2	44.6
Undecanes Plus Properties			
Mol %	0.20	0.20	0.17
Molecular Weight	174.0	171.3	169.1
Density (gm/cc @ 60 °F)	0.8177	0.8155	0.8136
Gravity (*API @ 60 °F)	41.4	41.9	42.3
Dodecanes Plus Properties			
Molecular Weight	188.4	185.2	182.0
Density (gm/cc @ 60 °F)	0.8295	0.8269	0.8244
Gravity (*API @ 60 °F)	38.9	39.4	40.0
Recovery Factor*			
* at 500 psi abandonment pressure :	0.8103	0.7747	0.7211



COMPOSITIONS OF WELL STREAMS
PRODUCED DURING CONSTANT VOLUME DEPLETION

Pressure (psig):	1300	900	500
Component	Mol %	Mol %	Mol %
Hydrogen Sulphide	H2S 0.00	0.00	0.00
Carbon Dioxide	CO2 1.35	1.35	1.35
Nitrogen	N2 0.90	0.90	0.90
Methane	C1 83.49	83.37	83.13
Ethane	C2 7.25	7.25	7.24
Propane	C3 2.97	2.98	2.98
Iso-Butane	iC4 0.81	0.81	0.82
N-Butane	nC4 0.79	0.79	0.80
Iso-Pentane	iC5 0.41	0.41	0.41
N-Pentane	nC5 0.30	0.30	0.30
Hexanes	C6 0.48	0.48	0.50
Heptanes	C7 0.58	0.62	0.70
Octanes	C8 0.24	0.26	0.30
Nonanes	C9 0.17	0.18	0.21
Decanes	C10 0.10	0.10	0.13
Undecanes	C11 0.07	0.07	0.09
Dodecanes Plus	C12+ 0.09	0.13	0.14
TOTAL	100.00	100.00	100.00
Stream Properties			
Molecular Weight	21.03	21.12	21.36
Gravity (AIR = 1.000)	0.728	0.732	0.740
Gross HV (BTU/SCF)	1236	1241	1254
Nett HV (BTU/SCF)	1120	1125	1137
Wobbe Index	1448	1450	1457
Critical Pressure (psia)	663.7	663.3	662.6
Critical Temperature (°R)	391.0	391.6	393.3
G P M Content			
Ethane Plus	4.329	4.376	4.496
Propane Plus	2.389	2.436	2.558
Butanes Plus	1.570	1.614	1.736
Pentanes Plus	1.056	1.100	1.216
Hexanes Plus Properties			
Mol %	1.73	1.84	2.07
Molecular Weight	106.1	106.6	107.5
Density (gm/cc @ 60 °F)	0.7483	0.7489	0.7500
Gravity (°API @ 60 °F)	57.4	57.3	57.0
Heptanes Plus Properties			
Mol %	1.25	1.36	1.57
Molecular Weight	114.4	114.6	114.9
Density (gm/cc @ 60 °F)	0.7585	0.7587	0.7591
Gravity (°API @ 60 °F)	54.9	54.8	54.7
Decanes Plus Properties			
Mol %	0.26	0.30	0.36
Molecular Weight	155.0	155.6	153.8
Density (gm/cc @ 60 °F)	0.8010	0.8015	0.7998
Gravity (°API @ 60 °F)	45.0	44.9	45.2
Undecanes Plus Properties			
Mol %	0.16	0.20	0.23
Molecular Weight	166.7	166.4	164.5
Density (gm/cc @ 60 °F)	0.8115	0.8112	0.8095
Gravity (°API @ 60 °F)	42.7	42.8	43.1
Dodecanes Plus Properties			
Molecular Weight	179.2	176.9	175.0
Density (gm/cc @ 60 °F)	0.8221	0.8202	0.8186
Gravity (°API @ 60 °F)	40.5	40.9	41.2
Recovery Factor*			
* at 500 psi abandonment pressure :	0.6325	0.4616	--



CALCULATED LIQUID COMPOSITIONS

Pressure (psig):	3300	2900	2500
Component	Mol %	Mol %	Mol %
Hydrogen Sulphide	H2S 0.00	0.00	0.00
Carbon Dioxide	CO2 0.92	0.87	0.81
Nitrogen	N2 0.57	0.49	0.41
Methane	C1 43.99	40.56	36.82
Ethane	C2 6.38	6.19	5.95
Propane	C3 3.79	3.82	3.82
Iso-Butane	iC4 1.37	1.42	1.46
N-Butane	nC4 1.47	1.53	1.59
Iso-Pentane	iC5 0.98	1.05	1.12
N-Pentane	nC5 0.78	0.84	0.90
Hexanes	C6 1.79	1.99	2.22
Heptanes Plus	C7+ 37.96	41.24	44.90
TOTAL	100.00	100.00	100.00

Stream Properties

Molecular Weight	:	72.4	79.9	88.5
Density @ P & T	:	0.569	0.593	0.616

Hexanes Plus Properties

Mol %	:	39.75	43.23	47.12
Molecular Weight	:	146.5	153.3	160.1
Density (gm/cc @ 60 °F)	:	0.792	0.799	0.805
Gravity (°API @ 60 °F)	:	46.9	45.4	44.0

Heptanes Plus Properties

Molecular Weight	:	149.4	156.7	163.9
Density (gm/cc @ 60 °F)	:	0.796	0.802	0.809
Gravity (°API @ 60 °F)	:	46.2	44.7	43.2



CALCULATED LIQUID COMPOSITIONS

Pressure (psig):	2100	1700	1300
Component	Mol %	Mol %	Mol %
Hydrogen Sulphide	H2S 0.00	0.00	0.00
Carbon Dioxide	CO2 0.75	0.66	0.56
Nitrogen	N2 0.32	0.23	0.15
Methane	C1 32.71	28.16	23.05
Ethane	C2 5.61	5.16	4.53
Propane	C3 3.76	3.62	3.35
Iso-Butane	iC4 1.48	1.48	1.42
N-Butane	nC4 1.64	1.66	1.61
Iso-Pentane	iC5 1.19	1.23	1.24
N-Pentane	nC5 0.96	1.01	1.03
Hexanes	C6 2.47	2.71	2.89
Heptanes Plus	C7+ 49.11	54.08	60.17
TOTAL	100.00	100.00	100.00

Stream Properties

Molecular Weight	:	98.5	110.2	124.3
Density @ P & T	:	0.639	0.661	0.683

Hexanes Plus Properties

Mol %	:	51.58	56.79	63.06
Molecular Weight	:	167.0	173.9	181.0
Density (gm/cc @ 60 °F)	:	0.812	0.818	0.824
Gravity (°API @ 60 °F)	:	42.7	41.4	40.1

Heptanes Plus Properties

Molecular Weight	:	171.1	178.4	185.6
Density (gm/cc @ 60 °F)	:	0.815	0.821	0.827
Gravity (°API @ 60 °F)	:	41.9	40.6	39.4



CALCULATED LIQUID COMPOSITIONS

Pressure (psig):	900	500 *	500 **
Component	Mol %	Mol %	Mol %
Hydrogen Sulphide	H2S 0.00	0.00	0.00
Carbon Dioxide	CO2 0.44	0.28	0.01
Nitrogen	N2 0.09	0.04	0.01
Methane	C1 17.21	10.45	10.00
Ethane	C2 3.65	2.40	2.16
Propane	C3 2.85	2.00	1.97
Iso-Butane	iC4 1.26	0.93	0.88
N-Butane	nC4 1.45	1.08	1.00
Iso-Pentane	iC5 1.16	0.91	0.80
N-Pentane	nC5 0.98	0.78	0.65
Hexanes	C6 2.90	2.46	2.46
Heptanes Plus	C7+ 68.01	78.67	80.06
TOTAL	100.00	100.00	100.00

Stream Properties

Molecular Weight	:	142.1	165.3	167.5
Density @ P & T	:	0.705	0.728	0.730

Hexanes Plus Properties

Mol %	:	70.91	81.13	82.52
Molecular Weight	:	188.4	196.6	196.6
Density (gm/cc @ 60 °F)	:	0.830	0.836	0.836
Gravity (°API @ 60 °F)	:	38.9	37.6	37.6

Heptanes Plus Properties

Molecular Weight	:	192.9	200.1	200.1
Density (gm/cc @ 60 °F)	:	0.833	0.839	0.839
Gravity (°API @ 60 °F)	:	38.2	37.1	37.1

- * Abandonment Pressure Liquid Composition from Material Balance
- ** Abandonment Pressure Liquid Composition Analysed



CALCULATED CUMULATIVE RECOVERY DURING DEPLETION
per MMSCF of Original Reservoir Fluid *

Reservoir Pressure		3530	3300	2900	2500	2100	1700	1300	900	500
	Initial in Place	Saturation Pressure								
Well Stream - MSCF	1000	0	56.5	161.4	271.9	386.5	503.0	621.3	739.9	856.7
Stock Tank Liquid - °API @ 60 °F		56.3	62.5	63.0	63.7	64.0	64.6	64.9	64.6	64.2
Cumulative Produced (Bbl)	0.00	0.00	1.24	3.41	5.58	7.79	9.93	12.10	14.44	17.08
Remaining in Vapor (Bbl)	25.70	25.70	20.68	17.23	14.23	11.74	9.05	6.86	5.06	3.20
Remaining in Liquid (Bbl)	0.00	0.00	3.78	5.06	5.89	6.18	6.72	6.75	6.21	5.42
Primary Separator Gas - MSCF	964.11	0.00	54.57	156.08	263.03	374.07	487.08	601.92	716.71	829.21
Second Stage Gas - MSCF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stock Tank Gas - MSCF	14.58	0.00	0.79	2.19	3.61	5.07	6.50	7.96	9.52	11.26
Total " Plant Products " - (Gallons) in Well Stream :										
Ethane	1935	0	109	312	526	748	974	1204	1434	1660
Propane	819	0	46	132	223	317	412	509	606	702
Butanes	514	0	29	83	140	199	259	319	380	441
Pentanes Plus	1237	0	66	188	311	436	559	684	815	957
Total " Plant Products " - (Gallons) in Primary Separator Gas :										
Ethane	1864	0	106	302	509	723	942	1165	1387	1605
Propane	742	0	42	121	203	289	377	466	556	642
Butanes	409	0	23	67	113	161	210	260	310	358
Pentanes Plus	273	0	16	45	76	109	143	177	210	242
Total " Plant Products " - (Gallons) in Secondary Separator Gas :										
Ethane	0	0	0	0	0	0	0	0	0	0
Propane	0	0	0	0	0	0	0	0	0	0
Butanes	0	0	0	0	0	0	0	0	0	0
Pentanes Plus	0	0	0	0	0	0	0	0	0	0
Total " Plant Products " - (Gallons) in Stock Tank Gss :										
Ethane	62	0	3	9	15	21	27	33	40	47
Propane	60	0	3	9	15	21	27	33	39	47
Butanes	59	0	3	9	15	21	26	32	39	46
Pentanes Plus	49	0	3	7	12	17	22	28	33	39
Gas Liquid Ratios *										
1st Sep. Gas/Stock Tank Liquid (SCF/BBL)		37509	43958	46848	49244	50272	52759	52948	49122	42520
1st+2nd Sep. Gas/Stock Tank Liquid (SCF/BBL)		37509	43958	46848	49244	50272	52759	52948	49122	42520
1st+2nd Sep.+STT Gas/Stock Tank Liquid (SCF/BBL)		38076	44595	47494	49899	50931	53428	53621	49790	43177
1st Sep. Gas/Produced WellStream (MSCF/MMSCF)		964	966	967	969	969	970	970	968	963
1st+2nd Sep. Gas/Produced WS (MSCF/MMSCF)		964	966	967	969	969	970	970	968	963
1st+2nd Sep.+STT Gas/Produced WS (MSCF/MMSCF)		979	980	981	981	982	982	982	981	978
Stock Tank Liquid/Produced WS (STB/MMSCF)		26	22	21	20	19	18	18	20	23

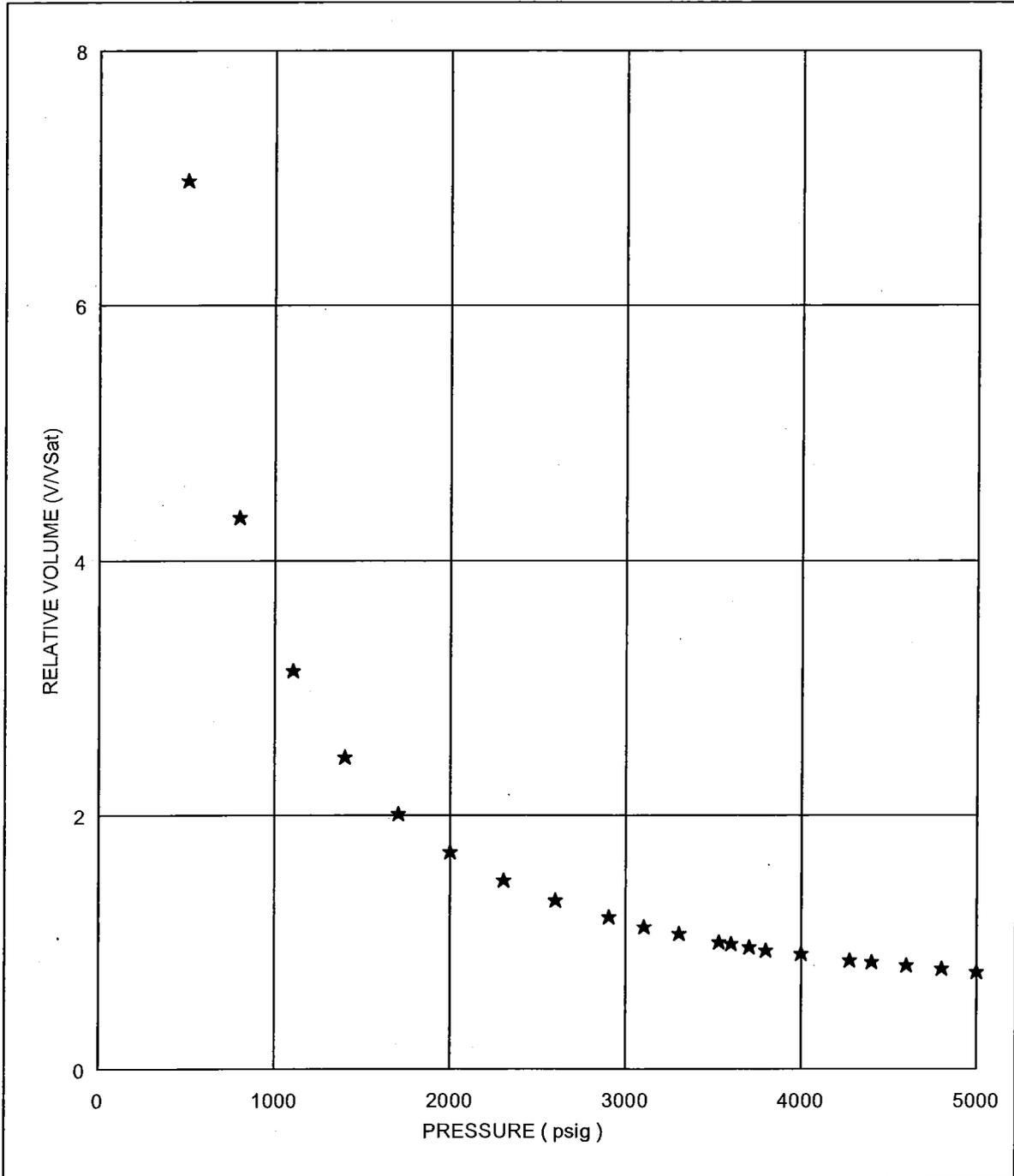
* Primary Separator @ 756 psig and 86 °F; No Secondary Separator; Stock Tank @ 14.696 psia and 60 °F



RELATIVE VOLUME

Equation of best fit

$$V/V_{Sat} = +1.20E+01 -1.34E-02 * P +6.27E-06 * P^2 -1.30E-09 * P^3 +9.83E-14 * P^4$$

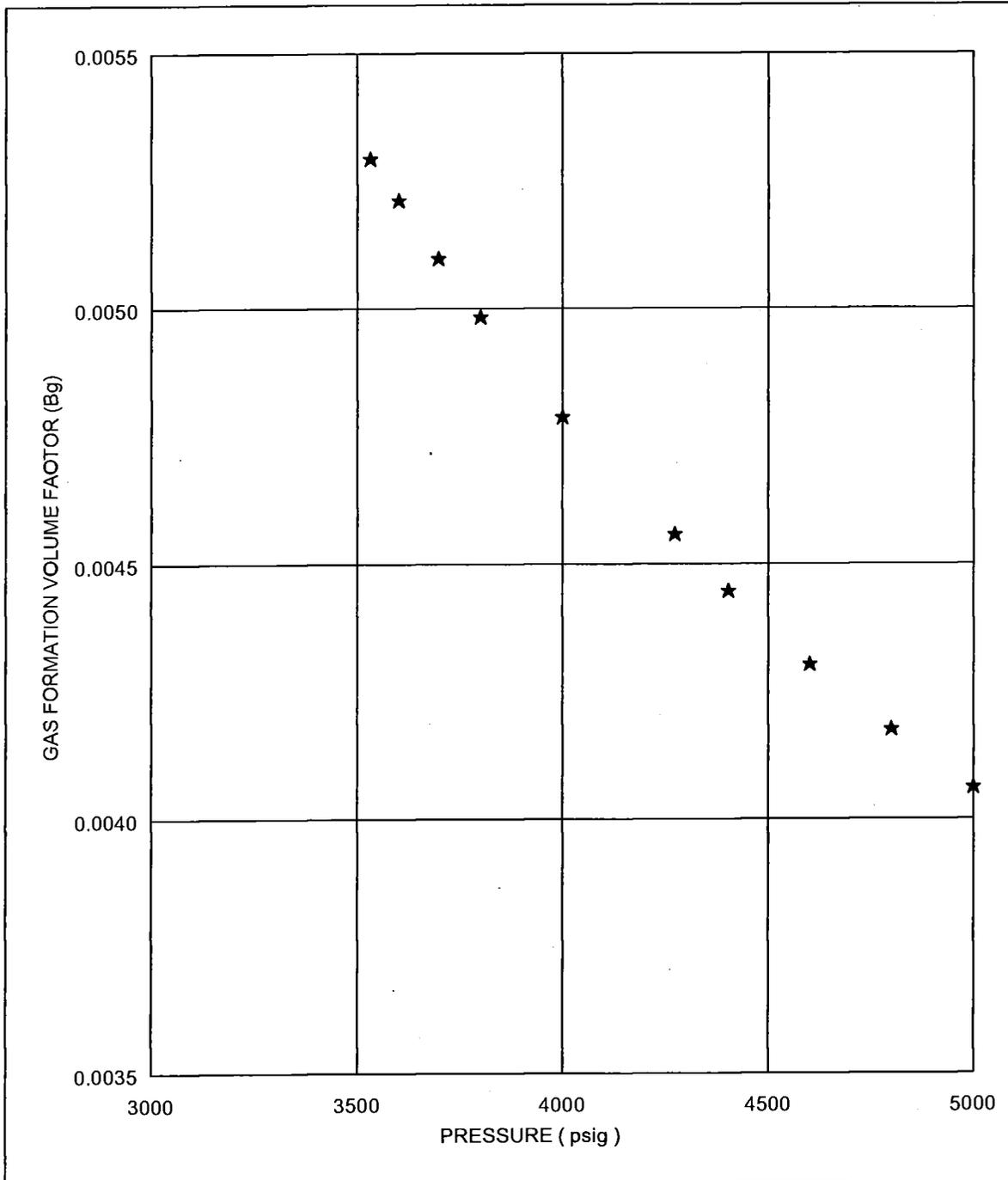




GAS FORMATION VOLUME FACTOR

Equation of best fit

$$B_g = +1.59E-02 - 5.38E-06 * P + 8.45E-10 * P^2 - 4.85E-14 * P^3 + 0.00E+00 * P^4$$

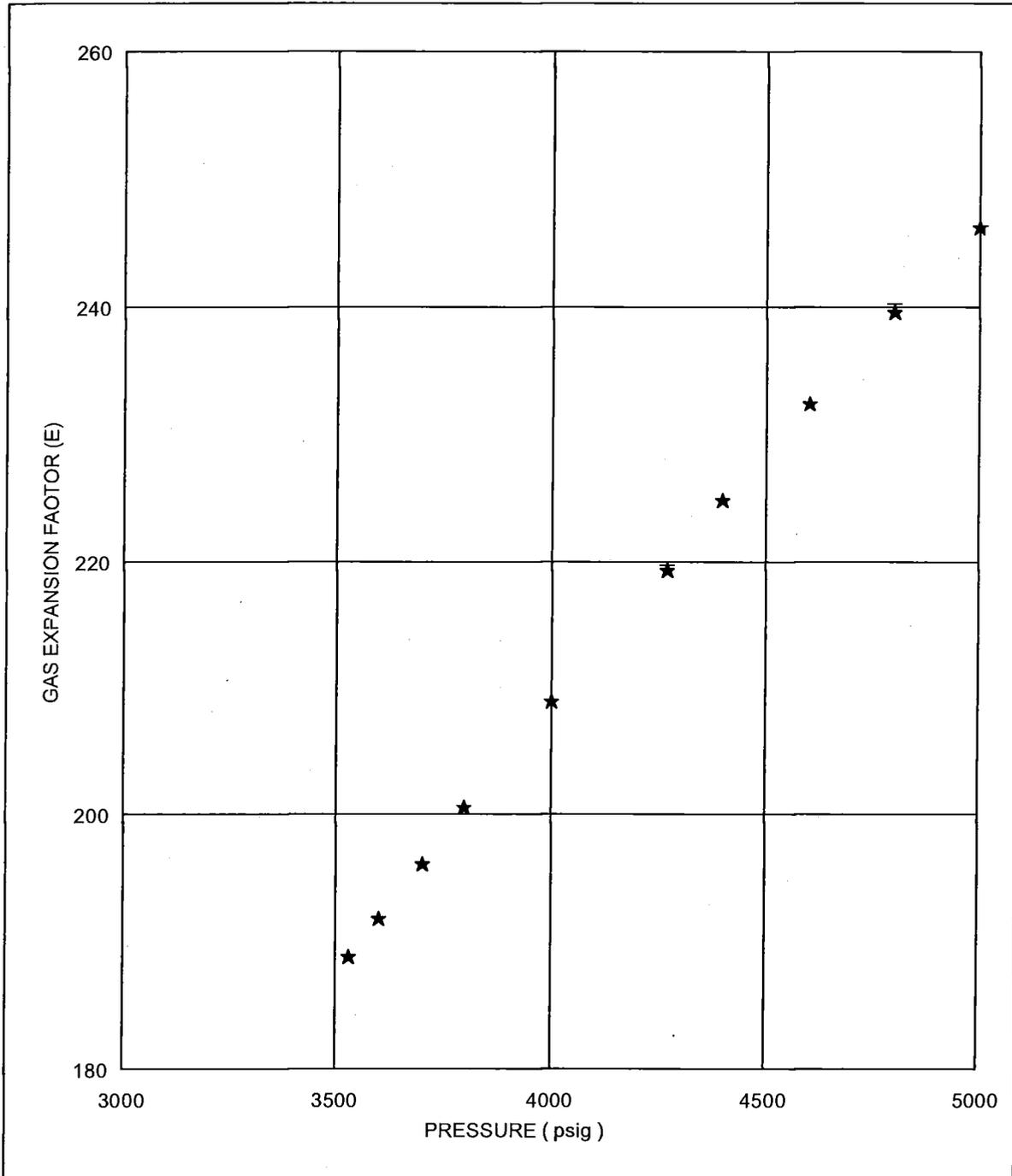




GAS EXPANSION FACTOR

Equation of best fit

$$E = +2.03E+01 + 4.65E-02 * P + 1.84E-06 * P^2 - 4.18E-10 * P^3 + 0.00E+00 * P^4$$





GAS DEVIATION FACTOR

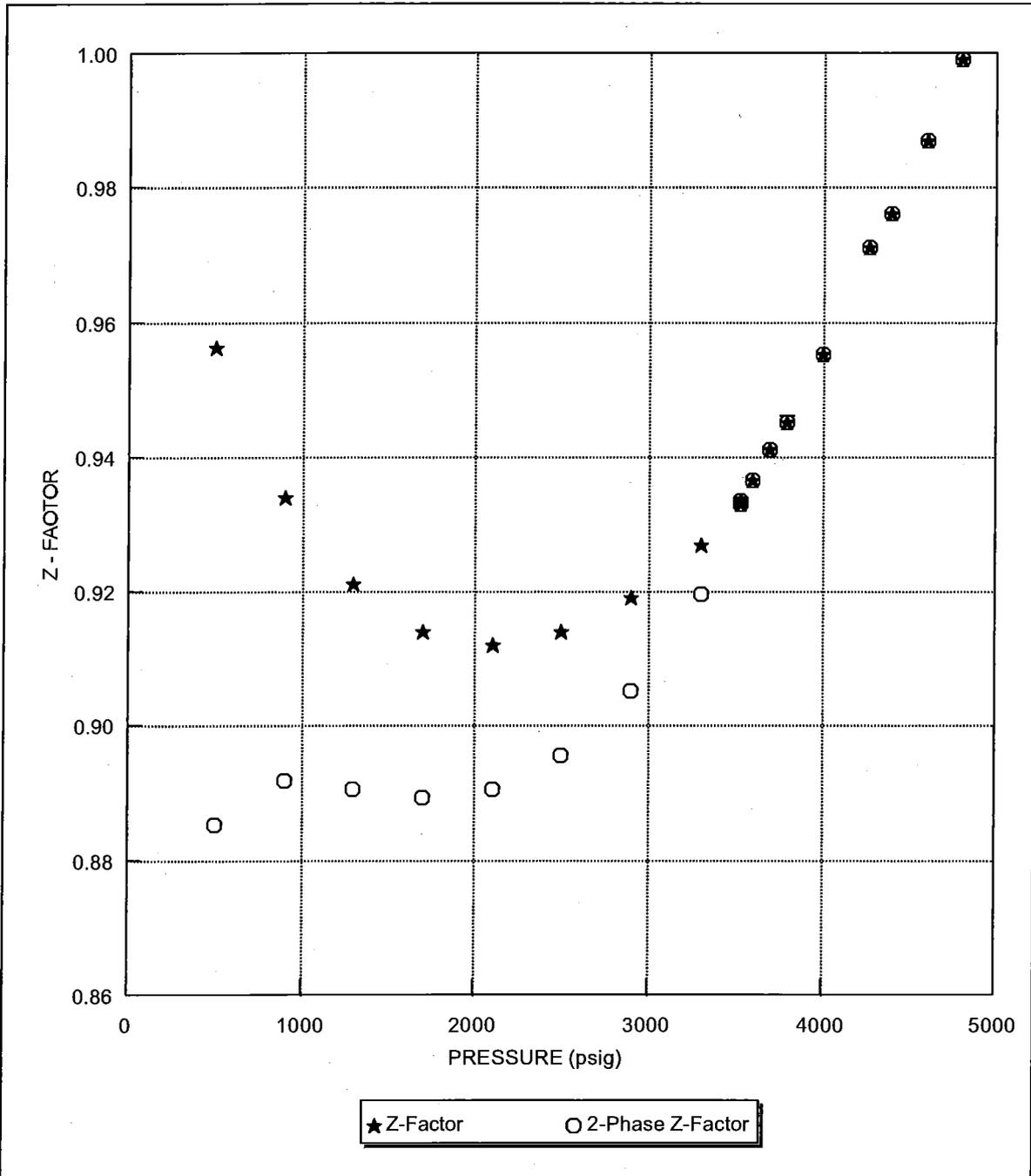
Equation of best fit

Z

$$Z = +9.88E-01 - 7.70E-05 * P + 2.22E-08 * P^2 - 1.68E-12 * P^3 + 1.04E-16 * P^4$$

2 phase Z

$$2phZ = +9.96E-01 - 3.03E-04 * P + 2.71E-07 * P^2 - 9.63E-11 * P^3 + 1.20E-14 * P^4$$

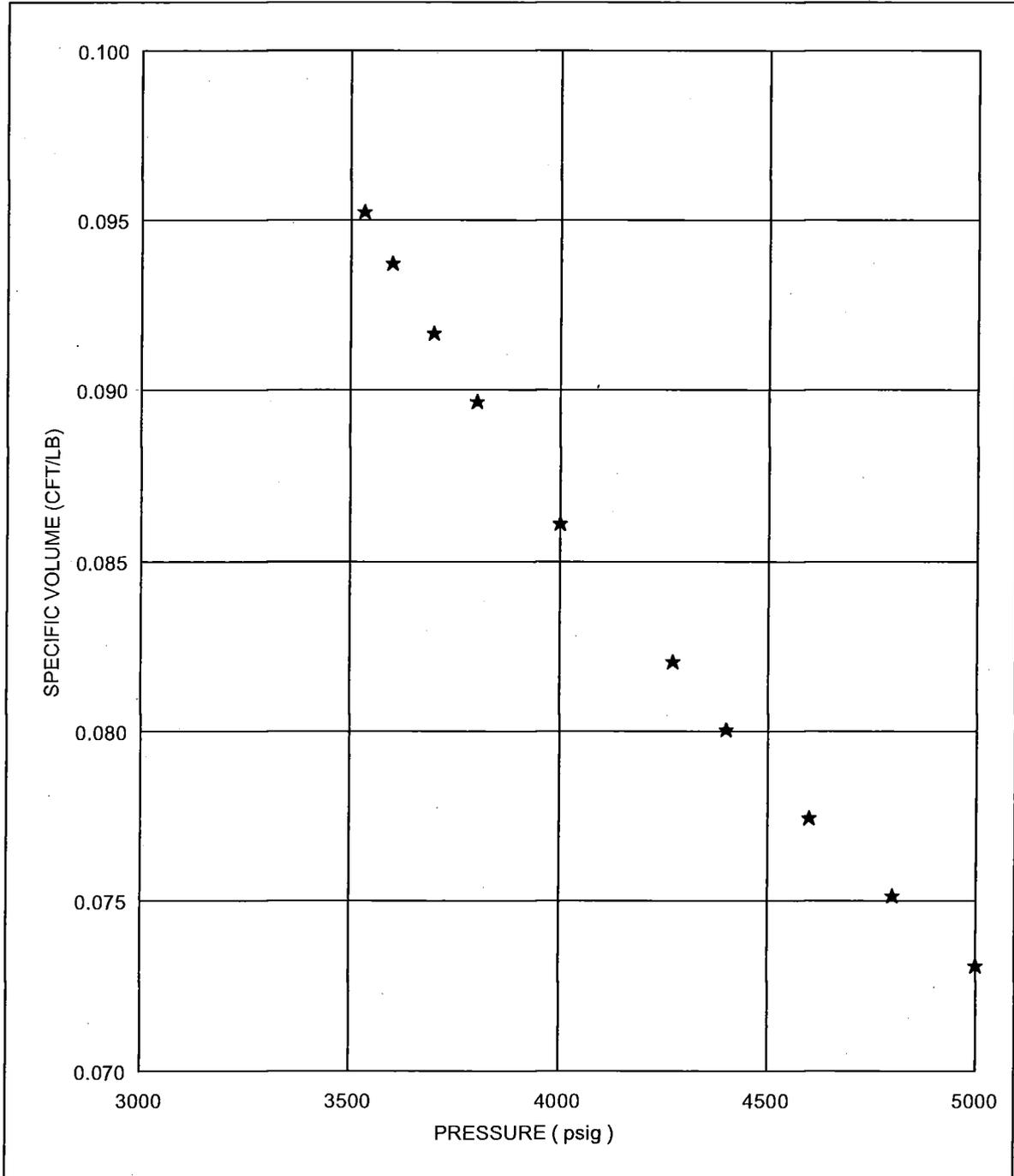




RESERVOIR FLUID SPECIFIC VOLUME

Equation of best fit

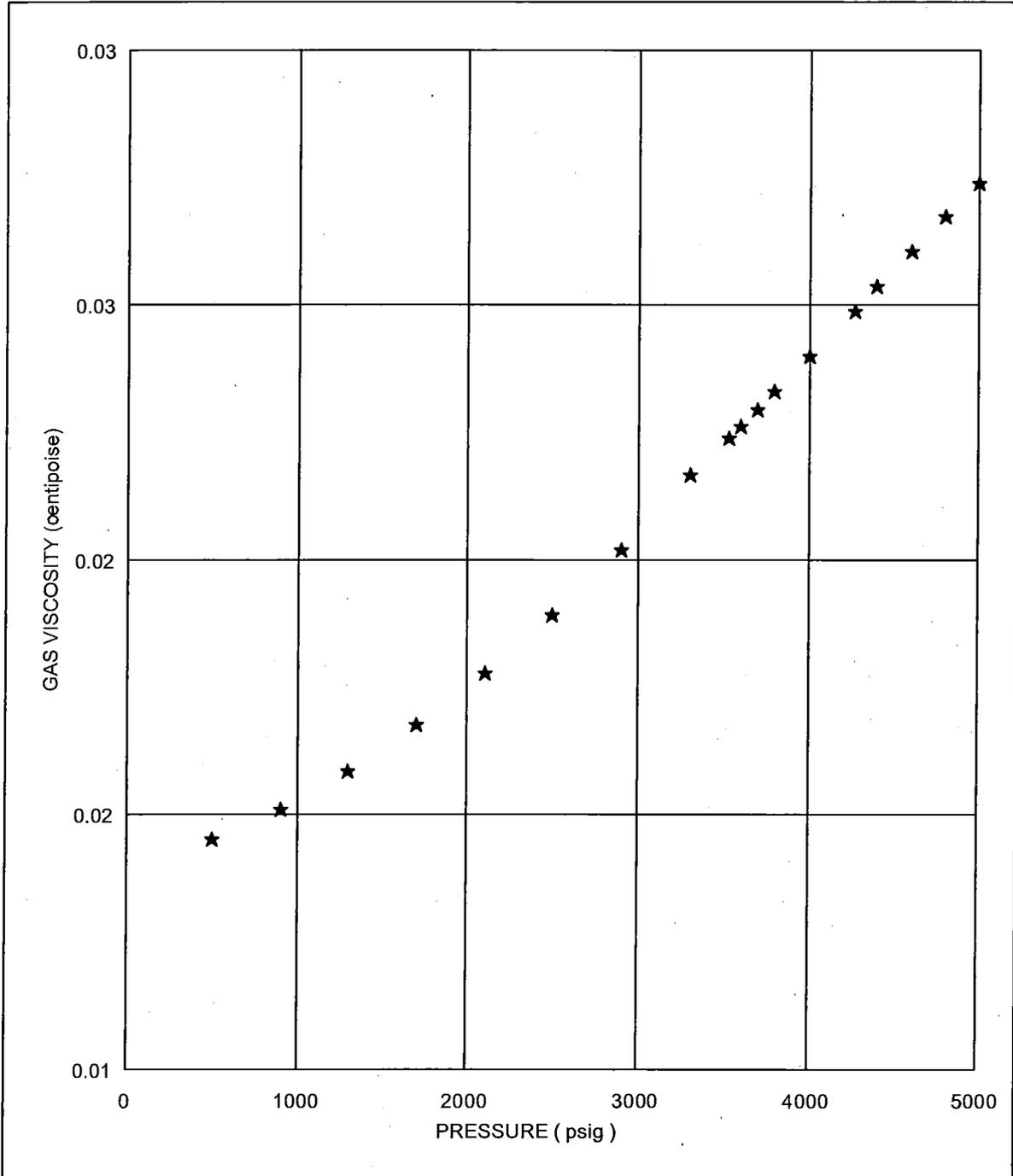
$$SV = +2.86E-01 -9.68E-05 * P +1.52E-08 * P^2 -8.72E-13 * P^3 +0.00E+00 * P^4$$





VISCOSITY OF RESERVOIR FLUID

Equation of best fit
 $\mu = +1.42E-02 + 4.09E-07 * P + 7.61E-10 * P^2 - 5.84E-14 * P^3 - 8.81E-19 * P^4$





RETROGRADE CONDENSATION

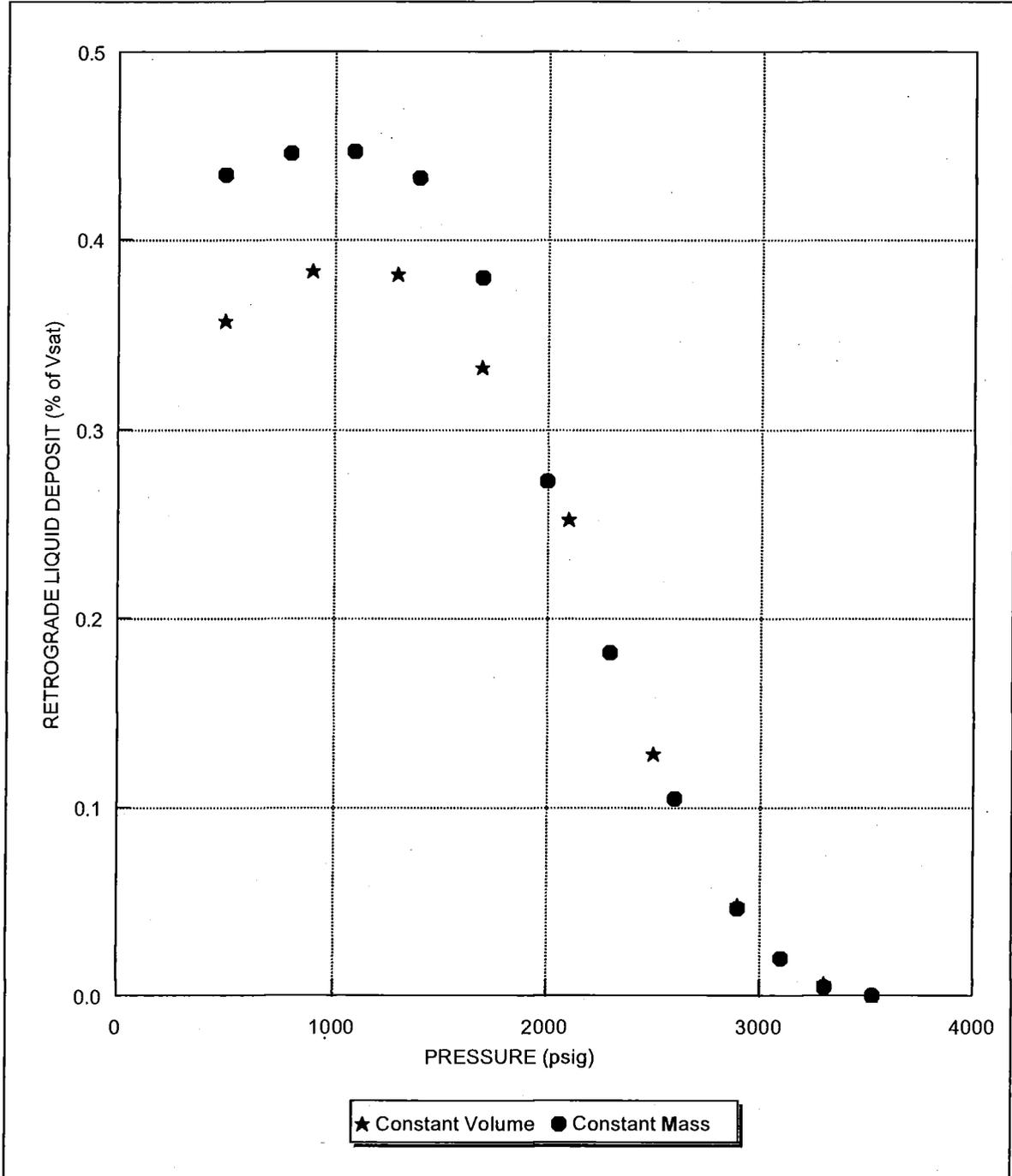
Equation of best fit

Constant Volume

$$RLD = +2.75E-01 + 1.86E-04 * P - 1.45E-08 * P^2 - 7.01E-11 * P^3 + 1.51E-14 * P^4$$

Constant Mass

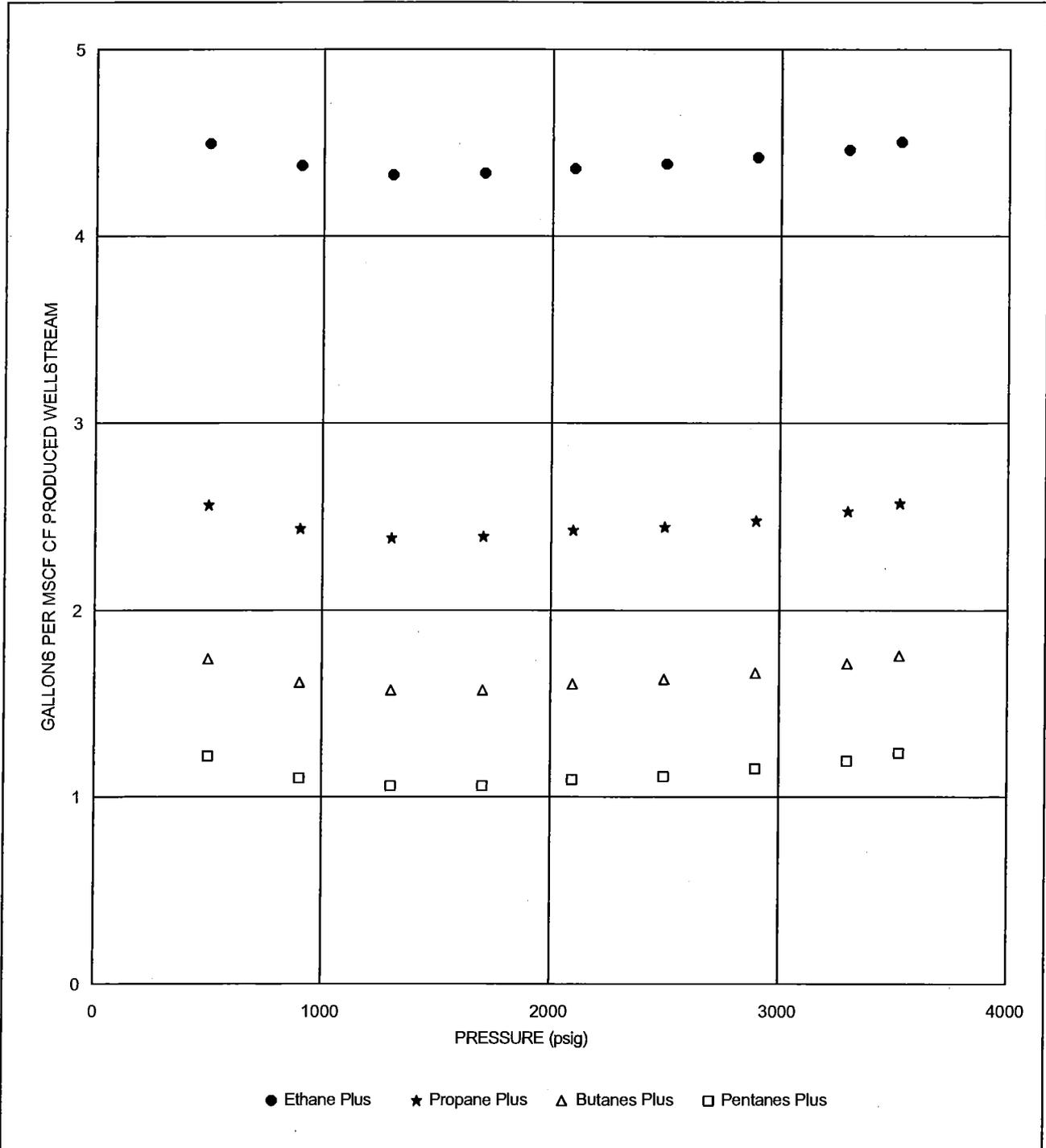
$$RLD = +2.79E-01 + 4.18E-04 * P - 2.49E-07 * P^2 + 6.50E-12 * P^3 + 6.89E-15 * P^4$$





GPM CONTENT IN PRODUCED WELL STREAM

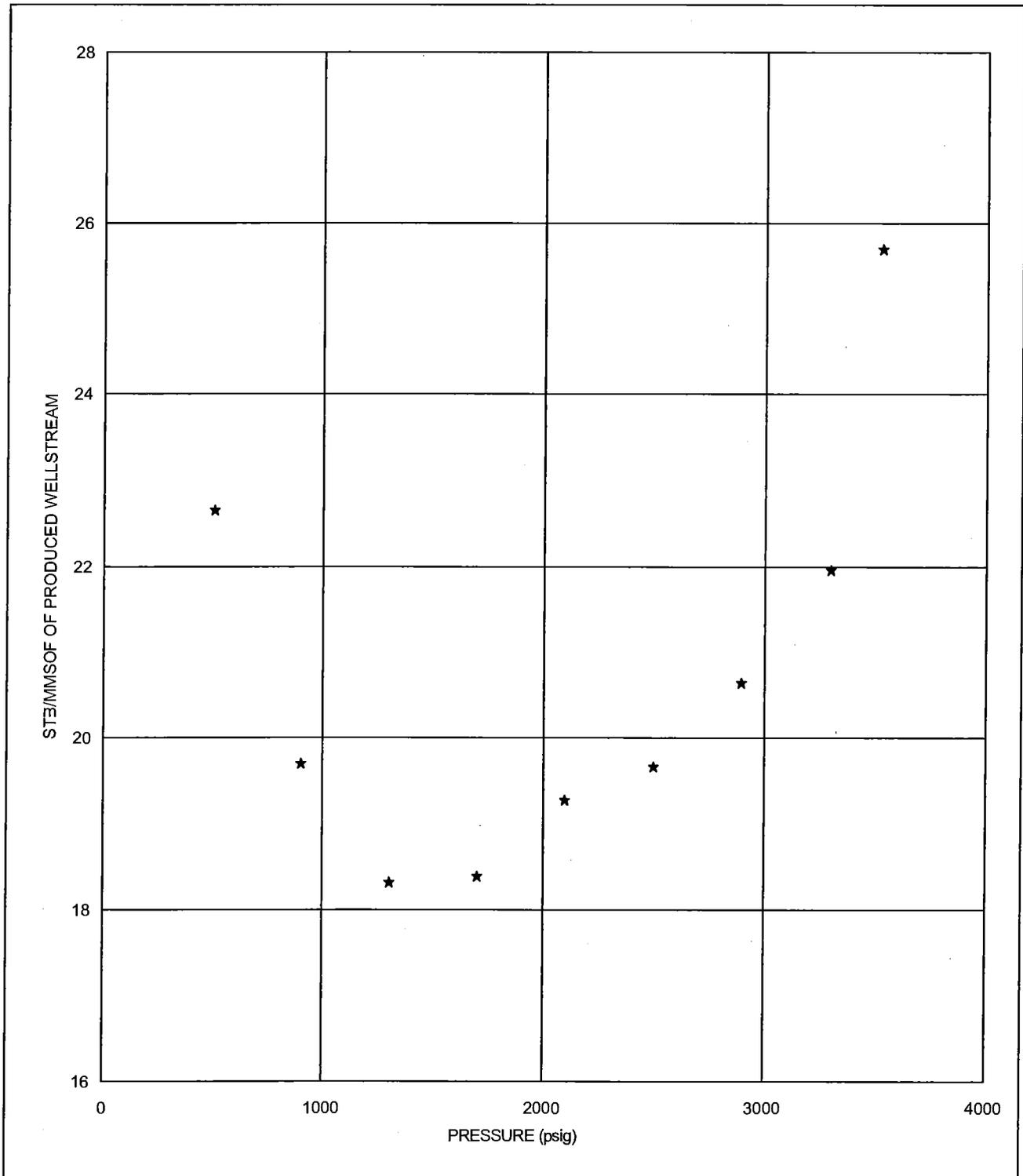
Ethane Plus GPM Content = $+4.84E+00 - 9.76E-04 * P + 6.53E-07 * P^2 - 1.83E-10 * P^3 + 1.94E-14 * P^4$
 Propane Plus GPM Content = $+2.91E+00 - 9.90E-04 * P + 6.62E-07 * P^2 - 1.85E-10 * P^3 + 1.96E-14 * P^4$
 Butanes Plus GPM Content = $+2.09E+00 - 9.92E-04 * P + 6.68E-07 * P^2 - 1.88E-10 * P^3 + 1.99E-14 * P^4$
 Pentanes Plus GPM Content = $+1.55E+00 - 9.45E-04 * P + 6.33E-07 * P^2 - 1.77E-10 * P^3 + 1.88E-14 * P^4$





STOCK TANK LIQUID IN PRODUCED WELLSTREAM

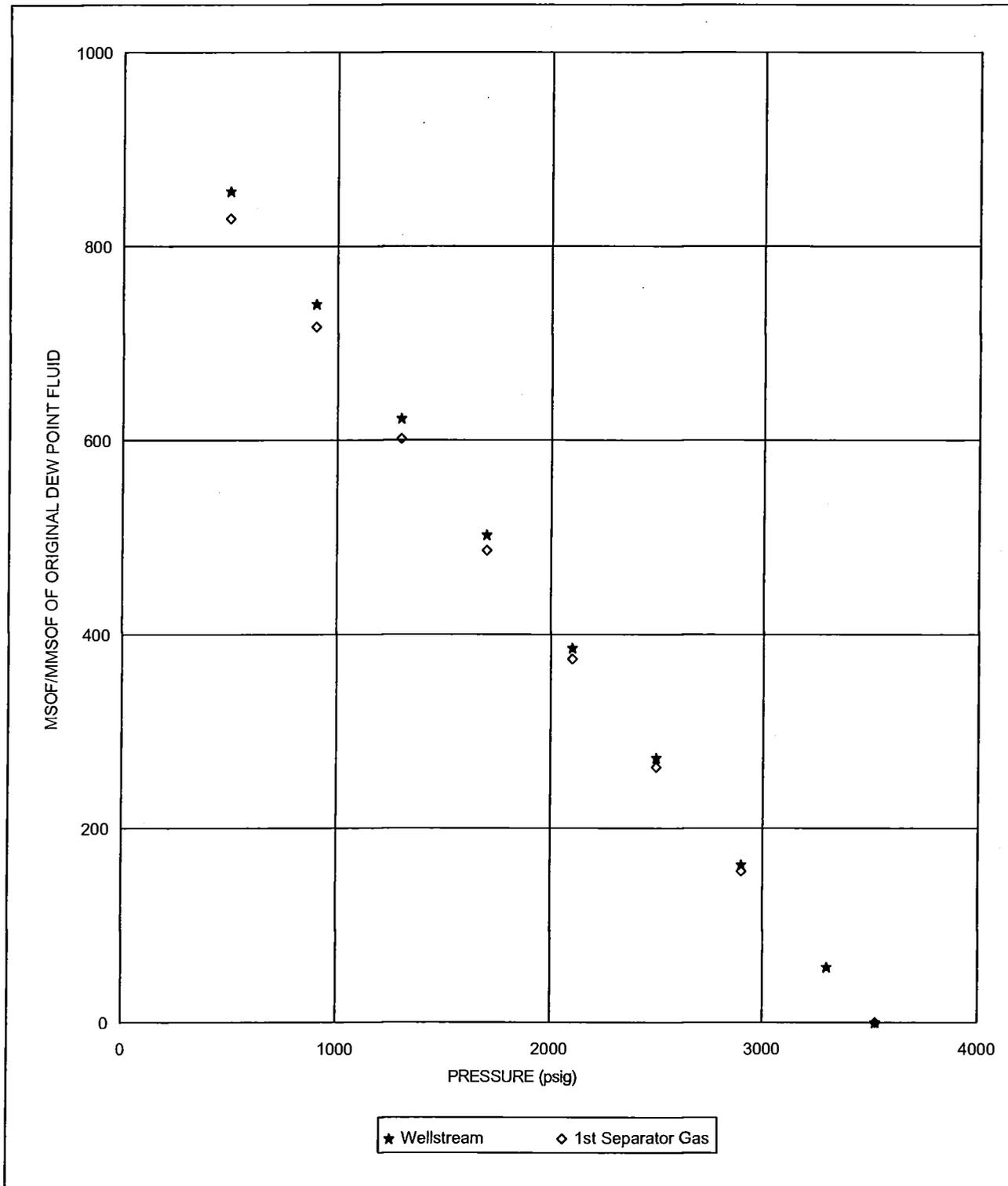
$$STL = +3.43E+01 -3.43E-02 * P +2.67E-05 * P^2 -8.88E-09 * P^3 +1.09E-12 * P^4$$





CUMULATIVE GAS PHASE PRODUCED

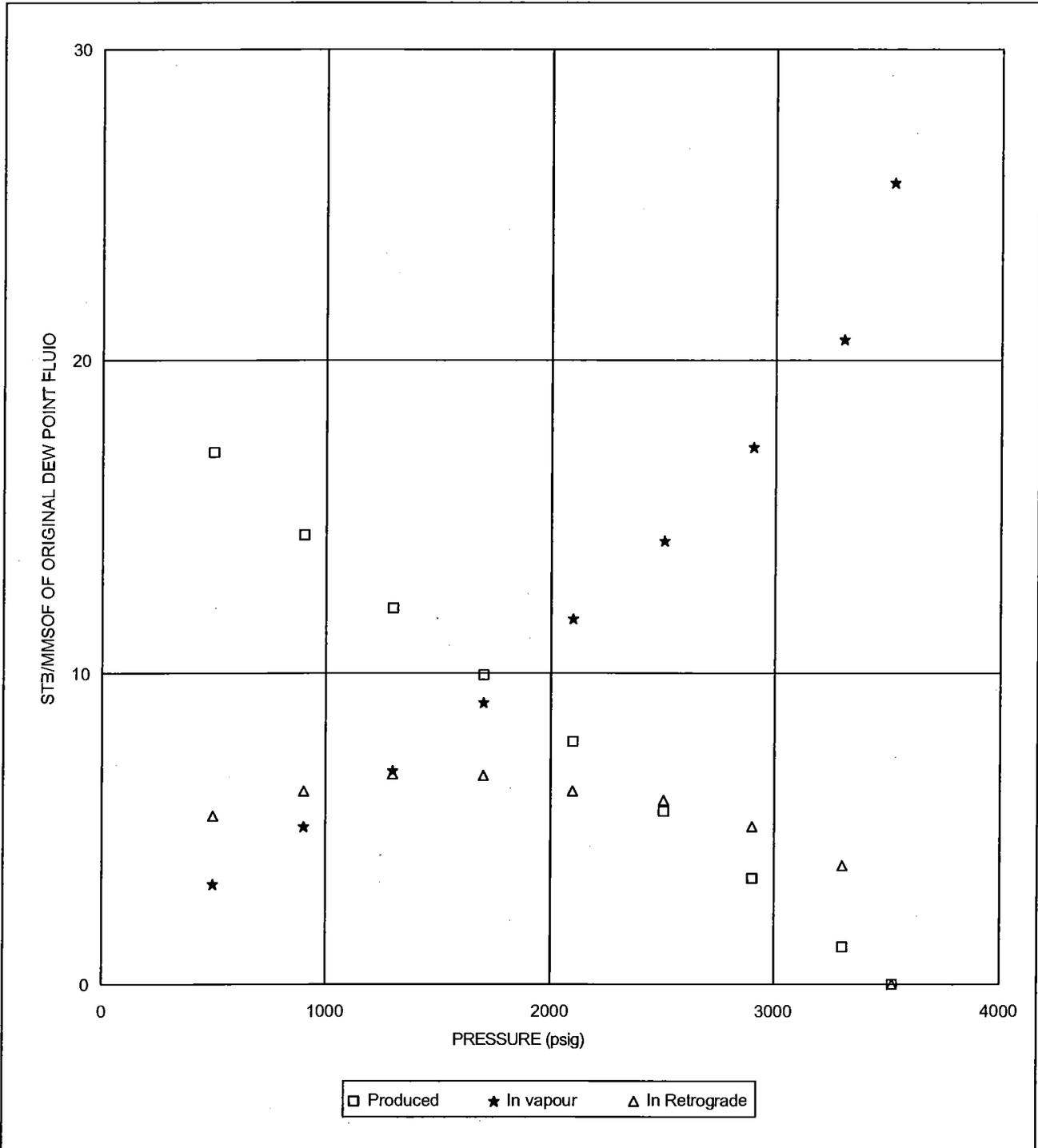
$$\text{Cum Vol W/S} = +1.00\text{E}+03 - 2.83\text{E}-01 * P - 9.27\text{E}-06 * P^2 + 1.75\text{E}-09 * P^3 + 2.36\text{E}-13 * P^4$$
$$\text{Cum Vol Sep Gas} = +9.66\text{E}+02 - 2.68\text{E}-01 * P - 1.32\text{E}-05 * P^2 + 2.88\text{E}-09 * P^3 + 1.14\text{E}-13 * P^4$$





CUMULATIVE STOCK TANK LIQUID PRODUCTION AND CONDENSATION

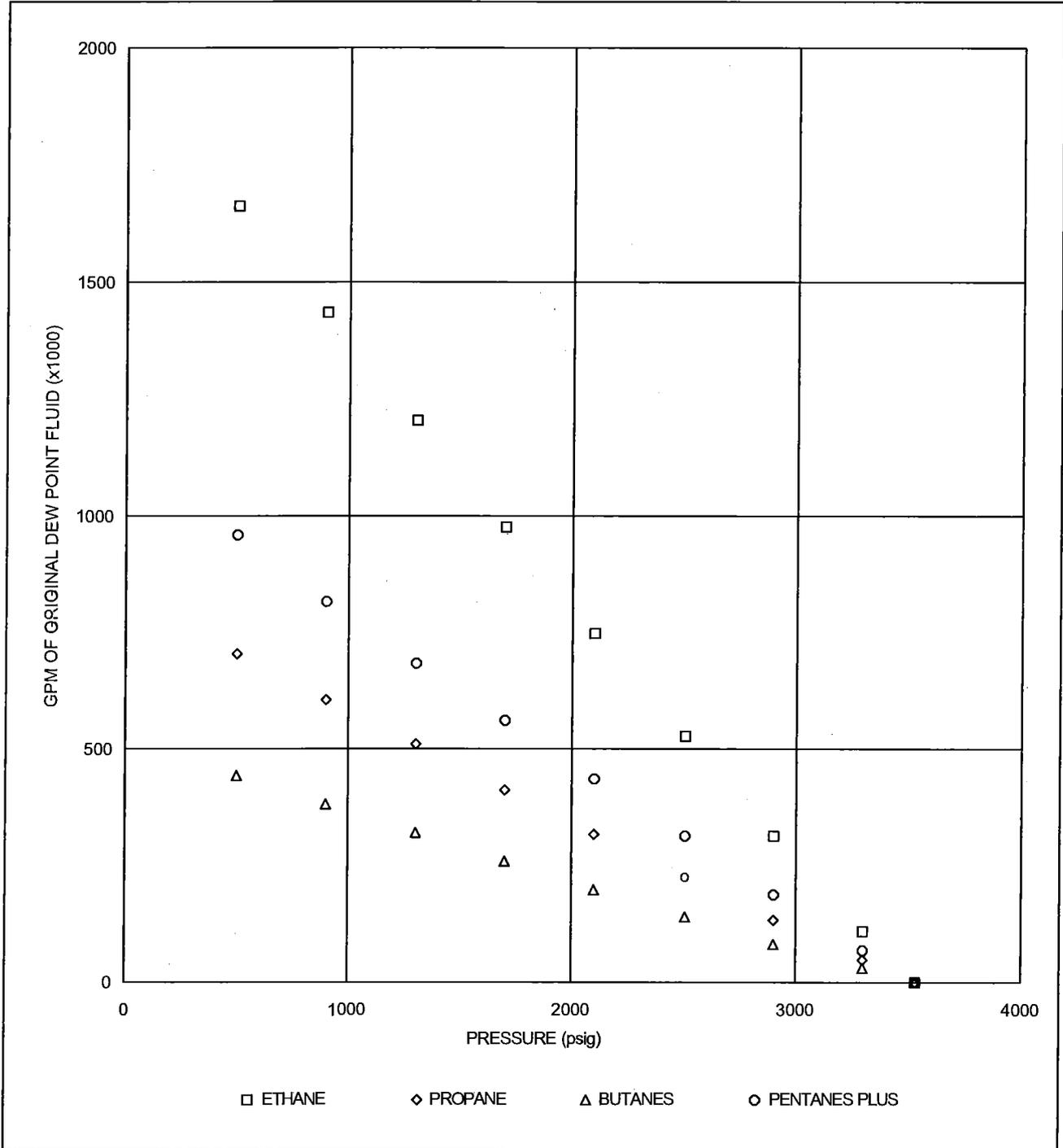
$$\begin{aligned} \text{Produced} &= +2.11\text{E}+01 -9.27\text{E}-03 * P +2.67\text{E}-06 * P^2 -7.86\text{E}-10 * P^3 +8.33\text{E}-14 * P^4 \\ \text{In Vapour} &= -8.98\text{E}-01 +1.26\text{E}-02 * P -1.22\text{E}-05 * P^2 +8.10\text{E}-09 * P^3 -2.32\text{E}-12 * P^4 \\ \text{In Retrograde} &= +2.97\text{E}+00 +6.68\text{E}-03 * P -4.23\text{E}-06 * P^2 +1.16\text{E}-09 * P^3 -1.44\text{E}-13 * P^4 \end{aligned}$$





PLANT PRODUCTS IN PRODUCED WELL STREAMS
PRODUCED DURING CONSTANT VOLUME DEPLETION

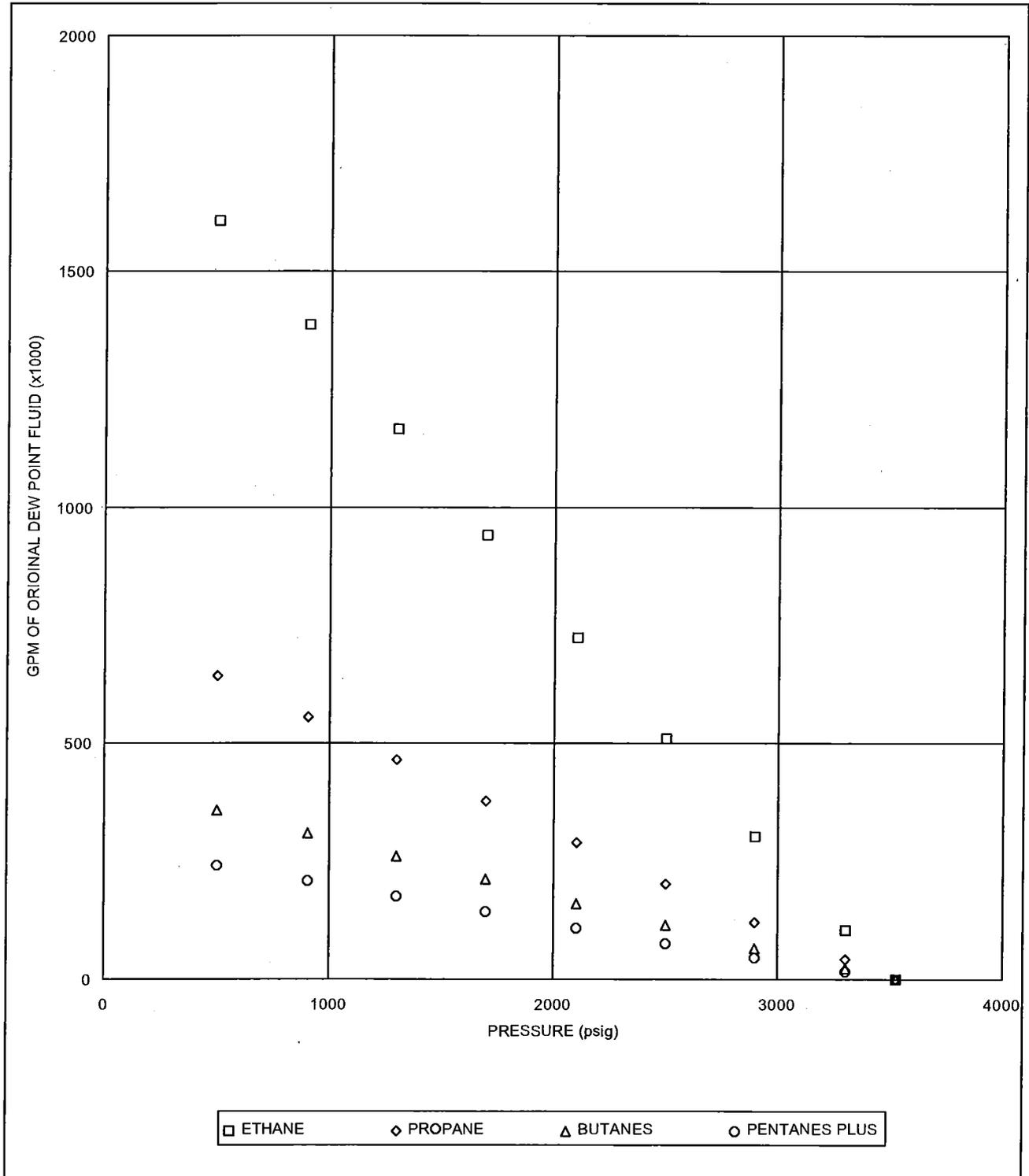
Ethane Plus GPM Content = $+1.94E+03 - 5.47E-01 * P - 1.93E-05 * P^2 + 3.83E-09 * P^3 + 4.14E-13 * P^4$
 Propane Plus GPM Content = $+8.21E+02 - 2.34E-01 * P - 6.25E-06 * P^2 + 1.13E-09 * P^3 + 2.17E-13 * P^4$
 Butanes Plus GPM Content = $+5.17E+02 - 1.51E-01 * P - 6.99E-07 * P^2 - 3.54E-10 * P^3 + 2.58E-13 * P^4$
 Pentanes Plus GPM Content = $+1.16E+03 - 4.51E-01 * P + 9.79E-05 * P^2 - 2.96E-08 * P^3 + 3.32E-12 * P^4$





PLANT PRODUCTS IN PRIMARY SEPARATOR GAS

Ethane Plus GPM Content = $+1.87E+03 - 5.18E-01 * P - 2.70E-05 * P^2 + 6.13E-09 * P^3 + 1.57E-13 * P^4$
Propane Plus GPM Content = $+7.47E+02 - 2.03E-01 * P - 1.41E-05 * P^2 + 3.45E-09 * P^3 - 3.68E-14 * P^4$
Butanes Plus GPM Content = $+4.15E+02 - 1.08E-01 * P - 1.19E-05 * P^2 + 3.09E-09 * P^3 - 1.33E-13 * P^4$
Pentanes Plus GPM Content = $+2.79E+02 - 6.84E-02 * P - 1.14E-05 * P^2 + 2.98E-09 * P^3 - 1.66E-13 * P^4$



GAS RECOVERY FACTOR

$$\text{Gas Recovery Factor} = -4.40E-01 + 1.59E-03 * P - 8.12E-07 * P^2 + 1.95E-10 * P^3 - 1.79E-14 * P^4$$

